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PUB-625
Vol. 6
January 1989

JOURNAL OF

GLENN T. SEABORG

Chairman, U.S. Atomic Energy Commission, 1961 - 1971

July 1, 1963 - November 22, 1963

Lawrence Berkeley Laboratory
University of California

Prepared for the U.S. Department of Energy under Contract DE-AC03-76SF00098

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PUB-625

JOURNAL

OF

GLENN T. SEABORG

Chairman of the U.S. Atomic Energy Commission

1961 - 1971

VOLUME 6

This work was supported by the U.S. Department of Energy
under Contract DE-AC03-76SF00098

PREFACE

During the ten years (1961– 1971) that I served as chairman of the U.S. Atomic Energy Commission I kept, on a daily basis, a rather complete journal. During the early years, off and on until 1969, I recorded my day's activities each evening at home in my study, in an unclassified, handwritten form in my large ledger type notebooks. This was augmented during each working day in my office by the dictation of memos to cover the content of telephone conversations, appointments, attendance at meetings, congressional hearings, etc. During my many trips within the United States and my visits to foreign countries (some 60 in all) I recorded my activities in little pocket notebooks which were transcribed when I returned home to my office. On some of these occasions, as well as for some appointments or meetings at home, my activities were covered by one of my able assistants or secretaries.

Finally, in 1969 I gave up altogether the laborious task of recording each day's activity by handwriting a summary at home during the evening. Rather, I covered each day's entire activity by producing memoranda during the day with the help of my secretaries and assistants. Thus, the journal began to be assembled each day on a current basis. In addition, the accumulated earlier material began to be assembled into daily journal form, a task that was soon completed. In both cases, the current and past material was augmented by daily attachments in numerous categories—selected incoming and outgoing correspondence and other relevant documents (deemed to be unclassified, with classified material placed in a separate file), and unclassified Summaries of Commission Meetings, and Commission Regulatory Meetings, and Notes on Information Meetings and Regulatory Information Meetings, so ably produced by Commission Secretary Woodford McCool and Director of Regulation Harold Price and their staffs.

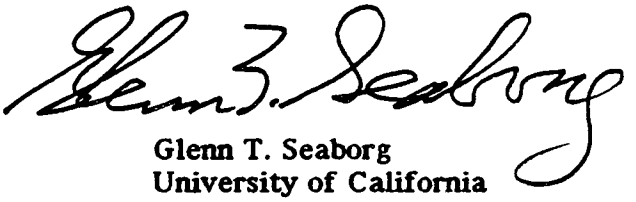
When I returned to the University of California, Berkeley, in November 1971, a couple of months after my tenure as Chairman of the Atomic Energy Commission, the two copies of my journal, which I presumed had been cleared, were sent there. Copy #1 eventually came to my Lawrence Berkeley Laboratory office and Copy #2 to my home, while the segregated, classified portions went to the local AEC-SAN office.

Due to the pressure of other activities no action was taken on my journal until early 1985, when I began working on editing my home copy (correcting spelling and typographical errors, adding first names or initials, etc.), preparatory to publication in DOE report form. About a year earlier, I had sent Copy #1, at their request, to the DOE History Division in Washington, D.C., for their use in the preparation of Volume IV of the official history of the Atomic Energy Commission. This led to questions as to whether my journal met present DOE declassification standards. As a result, a declassification officer was sent to my home in May 1985 to check my home copy (Copy #2). He made 162 deletions of a technical nature, which, in my opinion, reflected increased security standards but did not adversely affect the value of the journal. A second check, this time with my home copy sent to the Lawrence Livermore National Laboratory by a team of reviewers in October and November 1986, led to about 1,000 security actions (including the 162 deletions incurred in the earlier review). These actions included, in addition to deletions, the removal of 500 sections of or attachments to the journal for review by "other agencies" of our government or, in a few cases, of the British government. The majority of these documents have been returned to me either declassified or with some deletions. However, a number are still outstanding. I have decided to go ahead with the publication of my journal in the DOE report form with the intent of adding these now missing portions in an additional volume when they become available. Also, I have decided to proceed with such publication prior to the production of a name index; when this herculean task is completed, the name index will appear as an additional volume. It remains to be seen if a subject index will ever be added in such additional volumes. Although many news clippings are added as attachments, these were too numerous to include them all and, thus, there is a separate volume of these. (A little later Copy #1 underwent a similar security review, with similar results, and was returned to me.)

The journal consists of 25 volumes, averaging 700 pages each. This comprises about 15,000 items consisting of the approximately 4,000 daily journal entries and the average of about three attachments per day. The journal has three sections corresponding to each of the three presidents I served as chairman of the Atomic Energy Commission--the first six volumes covering the John F. Kennedy years (February 1, 1961- November 22, 1963), the next 11 volumes covering the Lyndon B. Johnson years (November 22, 1963- January 20, 1969) and the final eight volumes, the Richard M. Nixon years and a few months of post-AEC chairman activities in Washington (January 20, 1969- November 6, 1971.

I am indebted to my many assistants and to the secretarial staff that served so ably during my AEC chairmanship (see Page 1 of Introduction) and to the Commission's administrative staff (Appendix B to Introduction) and feel grateful for the team help of my fellow AEC Commissioners (Appendix A to Introduction).

I also want to acknowledge the invaluable help of my staff at Lawrence Berkeley Laboratory for putting this journal in publishable form--June Jackson, Sherrill Whyte, Grace Nubla, and Margie Hollander, and temporary assistants Susie Campbell and Mildred Varner.



Glenn T. Seaborg
University of California
Berkeley, CA
January 1989

INTRODUCTION

A complete introduction to the 25 volumes of my journal of 1961 to 1971, covering my years of service as Chairman of the Atomic Energy Commission, can be found at the beginning of Volume 1 (for Volumes 1–6, spanning the Kennedy years), at the beginning of Volume 7 (for Volumes 7–17 of the Johnson years), and at the beginning of Volume 18 (for Volumes 18–25 of the Nixon years). That introduction is written from the perspective of 1971, in order to reflect the attitudes expressed in my journal, which was written on a daily basis during that period. I express the points of view of that time rather than those of today (1989), which might occasionally be somewhat different.

In that introduction I describe in summary form my activities as AEC Chairman from early 1961 until late 1971. This includes my first meetings with President Kennedy and the commissioners and staff of the AEC; my reappointment as Chairman by presidents Kennedy, Johnson and Nixon; the change in composition of commissioners and staff over the years; the role of the Joint Committee on Atomic Energy (JCAE); the division of duties among the commissioners; our methods of conducting business at meetings; the Commission's system of advisory committees; problems created by our system of multiple headquarters; unsuccessful attempts to replace the five-member Commission with a single administrator; the special role of Admiral Hyman S. Rickover; my service on many government committees; my authorship of several books during his time; and my special relationships with my three presidents (Kennedy, Johnson and Nixon).

I include an historical summary of the major accomplishments of the Atomic Energy Commission during the period of my chairmanship. This is done in a topical manner, i.e., by describing in summary form the accomplishments in each of a selected number of subject areas over the ten-year period. This is in preference to dividing the account into three parts, covering the Kennedy, Johnson, and Nixon administrations, which would inevitably result in a good deal of repetition in thus describing each of the subject areas three times.

I chose to touch briefly (not in any order of priority) on the following subjects:

I. The Limited Test Ban Treaty (LTBT)
II. The Nonproliferation Treaty (NPT)
III. The Strategic Arms Limitation Treaty (SALT) and ABM Treaty
IV. The Cuban Missile Crisis
V. The program of international cooperation, including my visits to 60 countries
VI. The program for support of research
VII. The Los Alamos Meson Facility and the 200 Bev Accelerator
VIII. The National Transplutonium Production Program
IX. The civilian nuclear power reactor program
X. The Raw Materials Program
XI. The Gas Centrifuge Program
XII. The Cutback in Production of Fissionable Materials
XIII. The Regulatory Program
XIV. The Radioisotopes Program
XV. The nuclear power in space program
XVI. The nuclear weapons testing program
XVII. The Plowshare Program
XVIII. The Controlled Thermonuclear Research Program (CTR)
XIX. The Nuclear Education and Training Program
XX. The Technical Information and Exhibits Program

Following the summary I go on to some of the auxiliary and personal activities that are covered in my journal. I mention my extensive schedule of speeches, awards; our home in the Reno Park area of northwest Washington and its proximity to three levels of schools to accommodate our six children; the departure of our older children to attend colleges; the marriages of our two oldest children; the visits of my mother; our family vacations; my turn to hiking as a means of recreation; my membership on Boards of Directors (including the presidency of Science Service and my election to the presidency of the American Association for the Advancement of Science [AAAS]); and my many press conferences and appearances on the covers of Time and Newsweek.

I conclude the introduction with an expression of gratification that, with all this, I managed to read the scientific journals in my specialty, enabling me to stay abreast of my research field of transuranium elements and nuclear chemistry so that I was ready, in 1971, to return to the University of California in a position to resume research in my field.

Monday, July 1, 1963 - D.C.

At 10 a.m. I presided over Information Meeting 288 (notes attached).

I recorded a program for the "Voice of America" for which Bob Lodge was the master of ceremonies. The press panel consisted of John Finney, Earl Voss and DeMedici (Italian press). Finney asked about the cutback in the production of fissionable materials, along the lines of the article he wrote yesterday. Voss asked about Russian atmospheric tests, along the lines of his article in yesterday's Evening Star. I fielded them satisfactorily. The rest of the program concerned my trip to Russia.

McNaughton (DOD) called at 2:45 p.m. to say he has just returned from Birch Grove (home of the Prime Minister of England, outside of London) where he gave the white papers to Mac Bundy as an uncleared piece of work. He said the President took a look at the third one which deals with cheating in the first half and with testing under the threshold in the second and asked the speed with which developments in the areas mentioned could be made. He judges that the President will want an answer not later than the end of this week. McNaughton thinks it should be more or less along a three-point outline: 1. how many independent lines of inquiry are there, 2. an estimate of the number of tests required to make progress and 3. how long it will take and how much effort goes into it. McNaughton said he called Lee Haworth only to find he is no longer here and instead, talked with Jerry Johnson. He said that Haworth indicated he would be glad to help in any way I want him to. On the other hand, he doesn't want to impose himself. I said I might have Betts call Lee. In any event, I will take this up with the Commissioners later today. McNaughton later sent a memorandum (attached) describing the President's concerns.

Dael Wolfle (Executive Officer, AAAS) called at 2:50 p.m. and said that Alan Waterman has suggested that he again get in touch with me about my being a candidate for the Presidency of the AAAS, since he feels I might wish to reconsider. I told Dael that my schedule is such that I hesitate to even think in such terms, and I don't think I can try it this year.

The Commission met to discuss McNamara's white paper on implications of the test ban. There is much disagreement within the Commission with the McNamara draft which is due in finished form by the end of the week. (Letters from and to McNamara attached on July 3rd.)

Ambassador Ryuji Takeuchi of Japan paid me a courtesy visit.

Tuesday, July 2, 1963 - D.C.

At 10 a.m. I met with Richard Bokum (President), Charles Harrington (Vice President) and William Bush (Vice President of Marketing) of United Nuclear Corporation. They said they wanted to acquaint me with their negotiations with Franklin Roosevelt, Jr., William Martin and other members of the Department of Commerce regarding the possibility of United Nuclear Corporation's being the operating agent for the NS Savannah, and they gave me a copy of Bokum's letter to Roosevelt of June 27th (copy attached). I said that I am already familiar with their proposal. I told them that the Commerce Department has the responsibility for choosing the contractor, and they said they understand this but they want me to be briefed. They said that one of the reasons for wanting the contract is because of their capability to produce a follow-on nuclear power plant. (They said that the Savannah itself is not a very efficient ship.) I told them that the work on the follow-on nuclear power plant is unrelated to the operation of the Savannah and that, as they know, the G.E. Company follow-on the

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

DECL. BY DOE
NOV 86

COPY NO. 15
July 1, 1963

INFORMATION MEETING 288
10:00 a.m., Monday, July 1 - Chairman's Conference Room, D. C. Office

1. Selection of Contractor for N. S. SAVANNAH (10:30 a.m. Meeting Today)

The Chairman noted Senator Pastore had just called him to indicate his interest in the United Nuclear proposal for operation of the N. S. SAVANNAH. The General Manager said the meeting this morning is to discuss the proposal, and the Commissioners suggested he attend to represent AEC's interests in the matter.

2. Memorandum for the President re FY 65 Stockpile (see AEC 580/188)

The Commissioners approved the joint AEC-DOD letter. (Henderson)

3. Press Reports re U. S. S. R. Tests (NEW YORK TIMES and other articles of today)

The Chairman said White House staff, Carl Kaysen, had agreed no background briefing for the press is necessary. Commissioner Ramey, referring to NSAM 250, said it would be helpful if the Commissioners were kept informed of the development of such press announcements. (Clark)

4. NEW YORK TIMES and Other Press Statements re Production Cuts (see John Finney's Article of June 30)

The Chairman said he had discussed this matter with White House staff.

5. Letter to Joint Committee re Postponement of BILBY Event

The Chairman requested circulation of the General Manager's letter. (Henderson)

6. GAC Briefing re Production Planning

The Commissioners agreed that only a status report can be given at this time and suggested the General Manager call Dr. Manson Benedict to ascertain whether this is desired.

7. June 14 Letter from Mr. Brightsen, Nuclear Science and Engineering re Isotope Production

In response to the Chairman's query, the General Manager said this matter is in staff review by Dr. English.

8. Joint Committee Hearings July 9 re Connecticut Yankee, City of Los Angeles and Edison-San Diego Proposals

Commissioners Ramey and Palfrey will attend.

9. Dedication of the Philadelphia Electric Peach Bottom Reactor July 9

The Chairman and Dr. Wilson will attend.

10. PLOWSHARE Briefing for W. Averell Harriman, William Foster and Others

The Chairman said he and Mr. Baitzell will brief the group at 12 noon, Wednesday, July 3.

11. July 8 Meeting of The Principals

12. Letter to Senator Anderson re Los Alamos Accelerator

The Chairman noted the desirability of early review by the Commissioners. (Henderson)

13. Chauncey Starr's June 24 Letter re SNAP 4 Program

In response to the Chairman's query and Mr. Ramey's suggestion, the General Manager said he would review the possibility of continuing the program and discuss the matter with the Commission. (Pittman)

14. Draft AEC-DOD Release re Production Planning

The General Manager circulated a proposed answer to queries for the Commissioners' review.

15. Ragner Rollefson's, Scientific Advisor, Department of State, Query re Hiring of Mr. Reed, Argonne Laboratory

Dr. Wilson noted Mr. Rollefson's courtesy query, and the Chairman suggested he be informed that the Commission had no objection.

16. Martin Company's June 26 Telegram Protesting American Radiator and Standard Sanitary Corporation's Bid on PM2 Reactor Core

The Chairman requested a report. (Vinciguerra-Pittman)

17. June 25 Memorandum re NFR Costs

The Chairman noted receipt of the memorandum and Mr. Ramey commented on the report re tube welding proposals.

18. Chairman's June 28 and 29 Visit to NORAD, Colorado Springs, and the Coors Company, Golden, Colorado

19. Comments to Mr. Adrian Fisher, ACDA, re Long-Range Production Plans

In response to Commissioner Palfrey's request, the Chairman suggested general comments be given Mr. Fisher with some background information.

20. Chairman's Coal Association Speech

The Chairman agreed Commissioner Ramey should suggest the speech be entered in the Congressional Record.

21. Dr. Haworth's Testimony Before the Stennis Committee

Commissioner Palfrey suggested, and the Commissioners agreed, the testimony should be made available to the Joint Committee. The White House is to be informed.

22. Letter to Department of Justice re NFS Contract

The Commissioners approved the General Counsel's proposed letter subject to any comments by the close of business today. (GC)

23. Briefing of Congressman Aspinall re Key West Saline Water Project

Mr. Ramey said he and Undersecretary Carr had briefed Mr. Aspinall.

PRESENT		DISTRIBUTION
Dr. Seaborg	General Luedecke*	Commissioners
Dr. Wilson	Mr. Hennessey	General Manager
Mr. Ramey	Mr. Henderson	General Counsel
Mr. Palfrey	Mr. McCool	Secretary

*Partial attendance

W. B. McCool
Secretary

GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE
WASHINGTON 25, D. C.

GT REL

1 July 1963

1595 7/11/63

CHGD. BY DOE NOV 96

Dear Dr. Seaborg:

This confirms my telephone call of this afternoon.

I understand that the President is interested in having a judgment as to the time frames within which the Soviets could, by cheating, make the progress referred to in White Paper III B. As you indicated on the 'phone, the relevant areas are probably those indicated on the bottom of page 8 and top of page 9 and on pages 11 and 12 of White Paper III.

Dr. Johnson has suggested that the most intelligent approach would probably be to estimate first the independent lines of inquiry that might be of interest to the Soviets, second the kind and number of tests likely to be needed to make progress along each of these lines, and third the time likely to be required in each case. Dr. Johnson said that the estimates would have to be based on two or three assumptions as to where the Soviets now are in the relevant areas and would have to be stated in terms of a statistical analysis of our own experience.

The President is assuming, correctly I think, that the only relevant environment for cheating is underground.

I think I know what the President is driving at -- a feeling for the risk involved in a test ban in terms of speed with which cheating could pay off. I think the exact form of the question as well as form of the answer should be left to you.

I would think we should have the AEC memorandum on this point not later than Wednesday evening if it is to find its way into the White Papers.

Sincerely,

John T. McNaughton

Dr. Glenn Seaborg
Chairman, AEC

006

UNITED NUCLEAR
CORPORATION

RICHARD D. BOKUM II
PRESIDENT

DECL. BY DOE
NOV 86

1730 K STREET, N.W.
WASHINGTON 6, D. C.
FEDERAL 3-2370

June 27, 1963

The Honorable Franklin D. Roosevelt, Jr.
Under Secretary of Commerce
U. S. Department of Commerce
Washington 25, D. C.

Dear Mr. Secretary:

This letter will confirm our conversation of June 25th, regarding the possible desirability of appointing United Nuclear Corporation as the agent for the operation of the N. S. Savannah.

United Nuclear Corporation is incorporated under the laws of the State of Delaware and has total assets of approximately $63 million and annual sales of approximately $50 million. The corporation is vertically integrated and is engaged in every commercial phase of the nuclear industry -- from the mining and milling of uranium ore through the design and fabrication of reactors, nuclear plants systems and reactor fuel elements and cores. One of the company's major activities is the manufacture of a substantial percentage of the reactor fuel cores used in U. S. Navy nuclear submarines and United Nuclear is the only company which has manufactured a reactor core for the single Navy frigate now in operation.

We have in our employ personnel who have been trained as marine reactor operators, supervised operating crews, directed overall plant operations and support facilities, and been responsible for the acceptance and development test programs of reactor and propulsion plants. These personnel have developed training programs for all levels of marine reactor operation and supervision. They have been responsible for the training and qualification of many complete crews prior to their integration into the nuclear fleet.

United Nuclear is capable of providing the necessary engineering design, development and testing required for a nuclear propulsion plant, including preparation of operating procedures and the development of maintenance and refueling programs.

United Nuclear, in addition to the U. S. Navy nuclear program, has a strong interest in the future of nuclear power for maritime vessels. In following the sequence of events which have caused the immobilization of the N. S. Savannah, it has occurred to us that the operation of this ship by a nuclear company could offer some unique advantages. While this may be a departure from normal procedure, we feel that it has considerable merit when one considers that the N. S. Savannah differs from other merchant ships in that it is an experimental nuclear powered ship. The N. S. Savannah is basically a show piece and its primary mission is to demonstrate the feasibility of nuclear power for maritime vessels.

United Nuclear would establish a single-purpose division for the operation of the N. S. Savannah with the sole objective of demonstrating the feasibility of this application of nuclear power. At the same time, United Nuclear would gain the broad operational experience with both the vessel and the nuclear propulsion plant necessary to correlate the two and thus enable the company, through design of improved fuels and reactor, to make a significant contribution to the overall operating efficiency of such a ship. Also, operation of the ship and nuclear support shore facilities would avoid the division of responsibilities between these two functions.

Realizing the severity of the maritime labor problems which have rendered the ship inoperative, it is believed that negotiating with the union may be somewhat facilitated because agreements made concerning an experimental nuclear vessel operated by a nuclear contractor would not have the direct and far-reaching impact on personnel manning other vessels operated by a large shipping company.

In summary, United Nuclear Corporation will agree to:

1. Establish a separate single-purpose division for the operation of the N. S. Savannah and related shore-side facilities.

2. Employ licensed captains, officers and seamen and negotiate the wages and salaries with the appropriate unions.

3. Provide the necessary training to the crew.

4. Operate the vessel at no profit to United Nuclear.

5. Provide the necessary agency for acquiring cargo for the ...

Your favorable consideration is respectfully requested. We shall be happy to discuss the matter further with you at your earliest convenience.

Sincerely,

Richard D. Bokum, II

the ANP and the Babcock & Wilcox work is involved here. I also said that such support for this work has been almost eliminated.

I recorded a six-minute interview for broadcast next Friday night, with Forest Boyd of the Mutual Broadcasting System on my trip to the USSR.

Just before noon I attended a ceremony in the Pentagon where General Curtis LeMay presented a Distinguished Service Medal to Brigadier General John S. Samuels for his work on Operation DOMINIC.

From 5 p.m. to 6 p.m. I attended a "Tightrope" meeting at the Metropolitan Club with Halaby, Boyd, Dixon, Orrick, Macy and Henry (FCC). We discussed my USSR trip, subsidy of small airlines, etc.

Wednesday, July 3, 1963 - D.C. - Germantown

Mike Manatos (White House) called at 10:30 a.m. to call my attention to Senator Cannon's letter, addressed to me, regarding highways into our sites in Nevada. I said I will be glad to have someone from our staff come over and explain the whole situation to him. (Cannon correspondence is attached.)

With the help of Roger Batzel and John Kelly, I briefed Harriman, Ball, Alexis Johnson, Rollefson, MacKaye and about twelve others at the State Department on my proposal for Plowshare in the Test Ban Treaty. We explained the design principles of nuclear weapons and why Plowshare weapons can't be revealed. Harriman will soon leave for Moscow to negotiate a test ban treaty and the role of Plowshare will be an issue.

At 2:30 p.m. I presided over Commission Meeting 1947 (action summary attached). Luedecke, Quinn and I made a presentation of a "Commendation on Retirement" plaque to Jesse Johnson.

I sent material to McNamara commenting on the white paper which attempts to establish an agreed upon government position on gains from clandestine testing under a test ban treaty. Comments from the weapons laboratories directors are very critical of the draft white paper. (Copy of my letter and a copy of the incoming letter from McNamara are attached.)

Khrushchev made an offer of an atmospheric test ban in a speech he gave yesterday. I didn't participate in the discussions held on this at the White House today.

Thursday, July 4, 1963 - Holiday

I worked at home on AEC papers.

The kids set off their fireworks at home and on Reno hill.

Friday, July 5, 1963 - Washington - Petersburg, Virginia

The whole family, except Lynne, drove to Richmond, where, at the invitation of Virginia Governor Albertis Harrison, we visited his office. Governor Harrison was away. We also visited the Civil War Centennial Center.

We then drove to Petersburg and toured the battlefield.

We spent the night in a motel.

WARREN G. MAGNUSON, WASH., CHAIRMAN
[illegible], R.I.
[illegible], OKLA.
[illegible], S.C.
FRANK J. LAUSCHE, OHIO
RALPH YARBOROUGH, TEX.
CLAIR ENGLE, CALIF.
E. L. BARTLETT, ALASKA
VANCE HARTKE, IND.
GALE W. McGEE, WYO.
PHILIP A. HART, MICH.
HOWARD W. CANNON, NEV.

NORRIS COTTON, N.H.
THRUSTON B. MORTON, KY.
HUGH SCOTT, PA.
WINSTON L. PROUTY, VT.
J. GLENN BEALL, MD.

EDWARD JARRETT, CHIEF CLERK

United States Senate

COMMITTEE ON COMMERCE

June 25, 1963

BY CCS
JUN 26

JS56/26/63

Hon. Glenn Seaborg
Chairman
Atomic Energy Commission
Washington 25, D. C.

Dear Mr. Chairman:

About four years ago I expressed a great interest in adding two lanes to the highway which is used almost exclusively to carry workers to and from Las Vegas to the Nevada Test Site. Last year, when the AEC decided to lend its full support to this enterprise, I was not notified despite my repeated expression of interest to you through your office of Congressional Liaison.

Also about four years ago, I expressed a great and continuing interest in the construction of a road leading from Lathrop Wells and Highway 95 to the Jackass Flats region of the Nevada Test Site. I would estimate that I or my representatives called Congressional Liaison on a dozen or more occasions asking whether any commitment had or would be made and had been consistently informed that such a project could not be approved at this time.

Imagine my consternation and displeasure upon reading the Tonopah Times-Bonanza newspaper of Friday, June 14, and learning that a Joseph E. Watt and Herman E. Carter, representing the Space Nuclear Propulsion Office, had announced that such a road would be the subject of bids "sometime in July."

The AEC not only failed to notify me, but misled me to think that such a project was not feasible at any time in the near future.

Since this Lathrop Wells highway project is vitally urgent to the residents of Nye County and the citizens of Tonopah, Beatty, and Lathrop Wells, I find the above outlined actions of the AEC to be wholly inexcusable. Any explanation you can make would be most appreciated.

Sincerely,

Howard W. Cannon

HOWARD W. CANNON

HWC:Sbv

JUL 16 1963

UNCL. BY DOE
NOV 86

Dear Senator Cannon:

I am sorry you did not receive word in advance of the story in the Tonopah Times-Bonanza about road improvement near the Nevada Test Site.

Obviously, if there had been a press release, you would have been informed ahead of time. But in this case our SNPO office had felt that since the contract concerned secondary improvements at a cost of some $20,000 to an unimproved road, and did not involve new road construction, a press release was not warranted and none was issued. The Tonopah Times-Bonanza article evidently resulted from informal remarks made by Space Nuclear Propulsion Office employees in Nevada.

I think this was one of those borderline cases of judgment. I took this opportunity to remind our Nevada office of your long and continuing interest in new roads in this area, and of your interest generally in being kept fully informed about AEC activities affecting the State of Nevada. I am confident you will be kept so informed in the future.

Sincerely yours,

(Signed) Glenn T. Seaborg

Glenn T. Seaborg

Honorable Howard W. Cannon
United States Senate

Retyped JCP:dlh:mrs 7/15

UNITED STATES GOVERNMENT

Memorandum

UNCL. BY DOE NOV 86

TO : A. R. Luedecke, General Manager

DATE: July 3, 1963

Approved A. R. Luedecke

Date 7/8/63

FROM : W. B. McCool, Secretary

SUBJECT: ACTION SUMMARY OF MEETING 1947, WEDNESDAY, JULY 3, 1963, 2:30 P.M., ROOM A-430, GERMANTOWN, MARYLAND

SECY: JFC

Commission Business

1. Minutes of Meetings 1932, 1933, 1937, 1939 and 1940

   Approved, as revised.

2. AEC 25/268 - Proposed Air Force Safety Rules

   Approved. (Betts)

3. AEC 1123/7 - Nevada Test Site Community - Implementation of Proposed Legislation

   Approved. (Bleol)

4. AEC 1136 - Correlation of Lifetime Health and Mortality Experience of AEC and AEC Contractor Employees with Occupational Radiation Exposure

   Approved. (Woodruff/Dunham)

Other Business

Presentation to Mr. Jesse Johnson, Director, Division of Raw Materials on Occasion of His Retirement

Information Items

1. Proposed Letter to Mr. Donald W. Alexander, Maritime Administrator, re USS Proposal on N. S. SAVANNAH

   The Commissioners requested revision of the letter. (Pittman)

2. Proposed Letter to McGeorge Bundy re Additional NTS Event

The General Manager and staff discussed the LRL request and agreed the letter should be sent. (Henderson/Betts)

Additionally, the Chairman requested General Betts to inform Dr. John Foster, LRL, that the Commission wishes to discuss with him projected planning when he is next in Washington. (Betts)

3. Data for Inclusion in Senate Preparedness Committee Testimony

The Commissioners approved General Betts' request. (Betts)

4. Statement for Commissioner Ramey's Use in his visit to Hanford July 8

The proposed statement was approved with revisions. (Bloch)

5. Agenda for the Week of July 8

Approved. (Secy)

6. Chairman's Briefing of State Department Officials Today re PLOWSHARE

7. Letter to Senator Anderson re Los Alamos Accelerator

The Chairman reiterated his request for review. (Henderson)

8. Personnel Item

9. White House Call re Senator Cannon's Query on need at NTS

Mr. Ink will discuss the matter with White House staff. An early reply to Senator Cannon is to be prepared. (Ink)

10. Congressman Hosmer's Statement re Dr. Oppenheimer

11. Joint Presidential-Chairman Statement Today re Special Nuclear Materials Allocation

12. Dr. Emerson Jones' Call re Hallam Project

The Chairman requested an early response. (Pittman)

13. AEC Comments on Secretary of Defense's June 26 Letter

The Chairman noted he had signed the letter to the Secretary and indicated the individual Commissioners might wish to make additional comments.

14. Proposed Response to Secretary McNaughton's July 1 Letter Requesting Comments

Mr. Palfrey suggested early review in anticipation of the letter being sent on Friday. (Henderson/Betts)

cc:
Commissioners

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

JUL 3 1963

[redacted] BY DOE
[redacted]

Dear Bob,

In accordance with your request of June 26, 1963, I am providing herewith a review of the "White Paper" concerned with the establishment of a nuclear test ban treaty.

Since you requested that this review reflect the personal comments of specific individuals, it is presented accordingly.

At enclosure 1 are detailed comments on specific paragraphs of sections I, II, and IIIB by General Betts (DMA), Dr. Bradbury (LASL), Dr. Foster (LRL), and Mr. Schwartz (Sandia). In addition, at enclosure 2 is a copy of a letter from Dr. Foster in which he expresses further thoughts on the paper; at enclosure 3 are additional comments of Mr. Schwartz.

At enclosure 4, the comments of Dr. George Kavanaugh on section IIIA are provided.

Commissioner Ikeworth has had time to make only a brief comment, which is included at enclosure 5. The other Commissioners are studying these various comments, which have just been received. If they find that they have anything useful to add, their additional comments will be forwarded to you.

Sincerely yours,

(Signed) Glenn T. Seaborg

Chairman

The Honorable Robert S. McNamara
The Secretary of Defense

Enclosures 1 thru 5

017

THE SECRETARY OF DEFENSE
WASHINGTON

JUN 2 6 1958

DECL. BY DOE
NOV 96

SS 6/30/23

Dear Glen:

Attached are three "White Papers" which deal with some of the basic questions relevant to any test ban proposal. These papers have evolved from discussions with representatives of several of the concerned governmental agencies. My objectives in having them written were, first, to pull together the facts and judgments which underlie test ban proposals and, second, to achieve a government-wide clarification of views.

Although, as I suggested above, the statements contained in these papers appear to represent a broad consensus, I want to be absolutely certain that the views of all the technical experts are fully and accurately reflected. In order to achieve that full measure of certainty, I am sending these papers to you and the heads of all other relevant offices and agencies and asking for concurrences, comments, or dissents -- as the case may be -- on the portions of these papers that fall within their areas of responsibility. I am also asking each addressee to obtain and forward the views of his technical experts where relevant. I would like all comments and dissents to be directed toward specific statements and to be accompanied -- in line-in/line-out form or through the use of footnotes -- by a proposed wording change.

The objective is to develop an authoritative paper with an N.I.E.-type format on the implications of a test ban. As in an N.I.E., dissents will be footnoted.

I would like the concurrences, comments or dissents of you and the other Commissioners on Paper III-A (detection capability) and on all statements related to weapons development

technology in papers I, II, and III-B.

In the weapons development technology areas, I would also like the concurrences, comments or dissents of Major General Betts and of the directors of the laboratories -- Dr. Foster, Dr. Bradbury and Dr. Schwartz.

In view of the importance and immediacy of this subject, I would hope to have your views by next Wednesday at the latest.

Sincerely,

Attachments
As stated above

Dr. Glen Seaborg
Chairman, Atomic Energy Commission

Seaborg Family Holiday at Richmond, Virginia
July 5, 1963

DAVID

ERIC

At desk of Governor Harrison of Virginia

DAVID, PETER, STEPHEN and ERIC
Visit to Petersburg Civil War battlefield

DIANNE and ERIC
at historic tunnel at
Petersburg battlefield

Saturday, July 6, 1963 - Petersburg - Norfolk

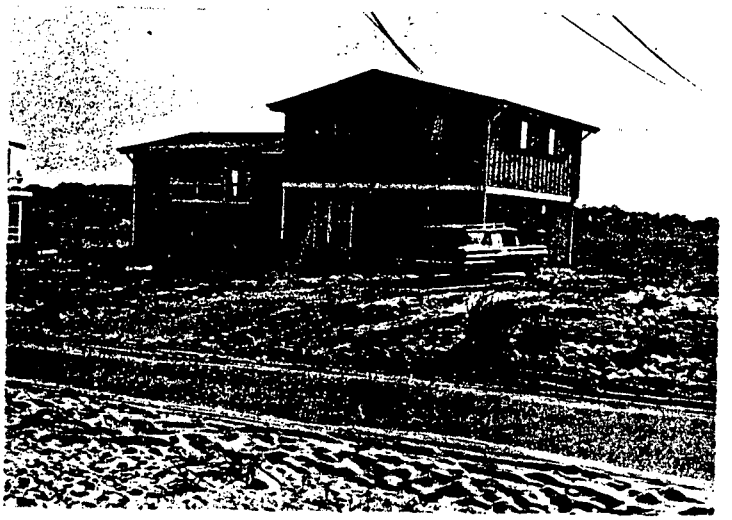
We toured the historic sites and the museum in Petersburg. We then drove via Suffolk to Fort Monroe and visited its museum and from there, drove to Virginia Beach. We spent the night at a motel in Norfolk.

Sunday, July 7, 1963 - Norfolk - Virginia Beach - Washington

We checked into a house at 2 Chatauqua Avenue, Croaton, Virginia Beach, where the family will stay for two weeks.

Everyone but Helen went swimming. Lynne and her friend Nora Blaufarb will join the family late tonight.

I flew back to Washington on National flight 296, which left at 8:15 p.m. and arrived at 8:55 p.m.



Virginia Beach Vacation House

Monday, July 8, 1963 - D.C.

At 9:45 a.m. I presided over Information Meeting 289 (notes attached).

From 11 a.m. to 11:15 p.m. I attended a meeting of the Principals in the Secretary of State's Conference Room. Present were: McNamara, Rusk, Nitze, Maxwell Taylor, McCone, Wiesner, Keeny, Palfrey, Donald Wilson, Foster, Ball, Harriman, Fisher, Bundy, Kaysen, Barber, Kavanagh, Rathjens, and others.

Foster opened the meeting by saying that its purpose was to discuss administration disarmament positions in response to NSAM 239 (attached May 6th). He said that two position approaches should be discussed: 1. that of the separable first stage, and 2. the gradual approach. He said that general guidance was wanted and not a firm decision.

McNamara said he favors the gradual approach, and McCone made the point that he also prefers the gradual approach because the separable first step relies too much on intelligence as opposed to inspections. Taylor also favors the gradual approach. Wiesner said he thinks the separable first stage is more acceptable to the Soviets.

ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 15
July 8, 1963

CL. BY DOE
NOV 86

INFORMATION MEETING 289

9:45 a.m., Monday, July 8 - Chairman's Conference Room, D. C. Office

1. Meeting of Principals, 11:00 a.m. Today

   The Chairman, Mr. Palfrey, and Dr. Kavanagh will attend.

2. White House Query, July 5, re Proposed July-August Schedule for NIBLICK

   In response to the Chairman's query, Mr. Palfrey said he had informed Carl Kaysen of the proposed schedule.

3. Secretary of Defense's Letter to the President re Special Satellite Equipment

   McGarty's copy

   Noted.

4. Proposed Letter to Secretary of State re Policy on National Disclosure of Information

   Hand'd 9 and Cpid 15 Depts Sec'y McGarty's copy

   The Chairman requested review by the Commissioners. (Henderson)

5. Chairman's Proposed Letter to Mr. Edward A. McDermott, OEP, re Disposal of Mercury

   McGarty 4 GT has copy

   Noted.

6. Query From Mr. Brightsen, Nuclear Science and Engineering, re Isotopes Program

   The General Manager said this matter is in staff review. (English)

7. Chairman's July 8 Letter to Secretary Gilpatric re Special Aircraft

   Noted. (Henderson) DC has copy

8. Proposed Letter to Senator Cannon re NTS Road

The Chairman requested the Commissioner's review.

9. July 3 Letter to Secretary of Defense re "White Paper"

Noted.

10. Chairman's July 3 Letter to Secretary of Defense in Response to Mr. McNaughton's July 1 Query for Additional Information for "White Paper"

Mr. Palfrey noted the letter had been transmitted on Friday and he had discussed the matter with Mr. McNaughton. The DOD has in review the respective Departments' comments and will prepare a new draft which will be circulated for information and comment.

11. Comments to the BOB re Toll Processing Under Private Ownership

The Commissioners agreed the proposed legislation should be revised to provide that foreign ore would not be toll processed for use in the U. S. during the 10-year period. (Hennessey)

12. Canadian Proposal on Heavy Water

Dr. Wilson discussed briefly his conversation with Lorne Gray of Canada and said Mr. Gray will be in this week to discuss the matter further. The General Manager said a proposed position on pricing will be circulated for early Commission consideration. (Wells)

13. LCRE Project Cost Analysis

In response to Dr. Wilson's comment, the General Manager said an analysis will be available for Commission consideration soon.

14. AEC 773/11 - Hallam Nuclear Power Facility

To be scheduled for consideration on Wednesday, July 10. (Secy)

15. Joint Committee Hearings July 9 re Southern California Edison, Connecticut Yankee and City of Los Angeles Project

Commissioner Ramey's Testimony has been circulated.

16. Peach Bottom Reactor Dedication Ceremony Tomorrow

17. Briefing by General Electric Officials re Fuel Element Problems

To be scheduled this week. (Secy)

18. Exception re Allocation of U-235 to New York State University, Buffalo, New York

The Commissioners accepted the General Manager's recommendation for an exception to present policy. A paper on proposed revised policy will be circulated for Commission consideration at an early date. (English)

19. Visit of Civil Defense Officials to NTS in September

The General Manager recommended and the Commissioners agreed Civil Defense officials, while in attendance at the Las Vegas meeting in September should be allowed to visit NTS for a briefing on radiological procedures. (Quinn-Woodruff)

20. Philby Case

The General Manager said there is nothing of additional substance to report. The CIA will keep the AEC informed.

21. Joint AEC-Maritime Administration Program

The General Manager noted staff discussions which have concluded the joint program should be ended when the N.S. SAVANNAH is licensed. The Chairman requested recommendations on the matter. (Pittman)

22. Western Nuclear Company Request for Ore Stretch-Out

The Commissioners accepted the General Manager's recommendation. (Faulkner)

23. Ore Claims in Public Domain Lands

The General Manager proposed that abandoned claims containing eligible ore should not qualify under the 1958 announcement. The Commissioners accepted this recommendation. (Faulkner)

24. Personnel Matter

The Commissioners requested circulation of biographical information.

PRESENT		DISTRIBUTION
Dr. Seaborg	General Luedecke	Commissioners
Dr. Wilson	Mr. Hennessey	General Manager
Mr. Palfrey	Mr. Henderson	General Counsel
~~Mr. Ramey~~	Mr. McCool	Secretary

W. B. McCool
Secretary

7/8/63

OFFICE DIARY 3
GLENN T. SEABORG
AEC, USAEC, 1961-72
AGENCY
FOLDER-PAGE 31034

NOT DECLASSIFIABLE

DOCUMENT TITLE USACDA Memorandum of Conversation, July 8, 1963. "General Approach of US Policy in Disarmament . . ."
090202/

This document has been determined to be NOT DECLASSIFIABLE and has been removed from this folder.

C. Sanger
Name

7-22-97
Date

Reference Ltr. DOS Burke to DOE, OC Gilbert dated 1/16/87

Rusk inquired as to what was behind the recent news stories suggesting that a $1 billion annual saving was contemplated by reducing weapons production. McNamara indicated that DOD studies for requirements through 1972 were under way and that these indicate some reduction, but not $1 billion worth. McNamara indicated to me that he would like to set up a meeting with the AEC to discuss the matter of reduction in fissionable material production, and I indicated that the AEC would like very much to participate in such a meeting. (At the conclusion of the Principals meeting we agreed to have a meeting at 10 a.m. on Wednesday, July 10th.)

Rusk made the observation that it might be worthwhile to periodically meet with the Soviets in Geneva to discuss in a general way, and to inform each other on our cutbacks in production, etc.

Foster felt that the general tenor of the remarks with respect to the gradual approach was somewhat negative and indicated that perhaps arguments of budgetary reductions, etc., might appeal to the Soviets for a more positive arms reduction approach.

McNamara made the point that the question of reduction in conventional arms is very important and that the Soviets should be willing to reduce in this area as well as nuclear if they are serious in their intentions. There was a great deal of discussion on this point in which many members participated.

Rusk made the observation that if Khrushchev would cool off with respect to Berlin, Southeast Asia, Cuba, etc., the United States would probably respond automatically with arms reduction because it wouldn't be possible to get the budget for arms.

Foster named a number of the other areas that Harriman might explore with the Russians, such as cutoff of production of fissionable materials, etc. Rusk said that Harriman has a lot to talk about in Geneva and that, if Gromyko pressed on areas that we were not prepared on, he could just tell Gromyko he needed to discuss this further in order to prepare a U.S. position.

Rusk concluded the meeting by saying that instructions for Harriman will be drafted covering Gromyko's proposal and some of the other areas discussed (instructions attached).

At 3 p.m. I went up to the Hill where I participated in a TV interview with Congressman Frank J. Horton of Rochester, New York, for showing on Rochester TV and radio next Sunday. The subjects discussed included the AEC program and my trip to Russia.

Tuesday, July 9, 1963 - Washington - Peachbottom - Washington

I rode with Commissioner Wilson to Peachbottom, Pennsylvania, where I gave a talk, "A Symbol of Tomorrow," at the dedication of the Philadelphia Electric Company's Atomic Information Center. There were some 500 people present. Other speakers were R. G. Rincliffe (Chairman of the Board, Philadelphia Electric Company), Robert Ginna (President, High Temperature Reactor Development Associates, Inc.), and Fred de Hoffmann (General Atomic).

We toured the Peachbottom helium-cooled nuclear power plant which is under construction and will be finished next year.

EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL SECURITY COUNCIL
WASHINGTON 25, D.C.

NATIONAL SECURITY COUNCIL

RECORD OF ACTIONS

UNCL. BY DOE
1988

NSC
ACTION

2468. INSTRUCTIONS FOR HARRIMAN MISSION
(Revised draft July 9 instructions for the Harriman Mission)

Following discussion by the Council of the draft instructions for the Honorable W. Averell Harriman's mission to the USSR, the President approved the attached revised text.

July 9, 1963
515th NSC Meeting
NSC Action No. 2468

NSC Control No. 139

1
31057

July 10, 1963

UNCL. BY DOE
1988

F

INSTRUCTIONS FOR HONORABLE W. AVERELL HARRIMAN

Your mission involves both negotiating and exploratory aspects.

On the negotiating side, you should seek to negotiate the most comprehensive nuclear test ban treaty possible in accordance with existing guidelines.

On the exploratory side, you should canvass, in so far as appears practical, the range of issues involving peace and security which divide us from the Soviets. You should give especial attention to two points:

1. What other acceptable measures of disarmament the Soviets are interested in undertaking;

2. What are Soviet intentions in dealing with the problems related to European security, as raised in Khrushchev's speech of July 2.

I. TEST BAN

1. Our judgment that a test ban treaty is in the national interest rests on two grounds. First, it may be a significant first step toward the halting of the arms race and thus reduce international tensions. Second, and more important, it is an indispensable first step toward the limitation of the further diffusion of nuclear weapons. The prospects of a further increase in the number of powers possessing nuclear weapons poses a potentially serious threat to our security and to world stability and peace. Therefore, a test ban treaty must be viewed in relation to the problem of checking the further diffusion of nuclear weapons.

2. Accordingly, the achievement of a comprehensive test ban treaty outlawing testing in all environments remains our objective. However, Chairman Khrushchev's speech makes it unlikely that we can reach agreement with the Soviets on a comprehensive treaty at this time.

Therefore, we should seek an agreement banning testing in three environments along the lines of the August 27, 1962, draft treaty banning nuclear weapons tests in atmosphere, outer space and underwater, presented to the 18-Nation Committee on Disarmament in Geneva. You are authorized to carry such negotiations as far as you can.

3. The achievement of such an agreement should be viewed as a first step toward the achievement of a comprehensive test ban treaty. If the Soviets show an interest in pursuing the topic, you should initiate technical discussions with the Soviet Union which may resolve the present disagreements between the Soviet Union on the one hand, and ourselves and the United Kingdom on the other, on the need for inspections in any comprehensive test ban treaty. The Soviets may, in one way or another, raise the issue of a moratorium on underground tests. If the Soviets do this, you may explore the usefulness of responding to such an initiative by means of a limited quota of underground tests in addition to the total prohibition of testing in other environments, but without discussing specific numbers, unless on further instructions.

II. NON-DISSEMINATION

1. You should continue to emphasize the relation between the nuclear test ban treaty and our desire to control the diffusion of nuclear weapons. In pursuing this subject, you should be guided by the talks on non-dissemination of nuclear weapons between Secretary Rusk and Ambassador Dobrynin. You may indicate that the United States will endeavor to secure adherence to or observation of any non-dissemination agreement by those powers associated with it, if the Soviet Union is willing to undertake a parallel responsibility for those powers associated with it. In this connection, you should maintain our position that the MLF proposals now under discussion are not inconsistent with the goal of a non-dissemination agreement.

III. OTHER MEASURES OF DISARMAMENT

1. Our talks on general and complete disarmament in the 18-Nation Disarmament Conference in Geneva have made little progress. Recently Foreign Minister Gromyko made a proposal which at least raises the question of whether or not the Soviets are willing to consider serious first-stage disarmament measures not tied to an agreement to proceed rapidly to complete and general disarmament on terms which we have always found unacceptable. Gromyko's proposal still presents serious problems, including the question of the extent of reduction of strategic nuclear forces in relation to the reduction of other forces. Nonetheless, you should explore the possibility that the Gromyko proposal is intended to open a serious discussion of separable first stages, on terms to which we can respond.

2. In addition, you should attempt to discover Soviet interest in other measures previously authorized as separable measures. These include, but need not be limited to:

a. An agreement not to put weapons of mass destruction in orbit. This is a matter of particular interest to the United States.

b. A halt to the production of fissionable materials, under appropriate safeguards, and in combination with the transfer from military stockpiles of agreed quantities of fissionable materials to peaceful uses. In this connection, you should be prepared to discuss an arrangement in which we transfer more fissionable materials than the Soviets.

c. An agreement to establish nuclear free zones in areas where nuclear weapons do not form an integral part of the security arrangements upon which the countries in the areas rely. (This refers to Latin America and Africa.)

d. The scrapping on a one-for-one basis of B-47's and BADGERS at a rate to be agreed.

e. Measures on the reduction of risk of war through accident, miscalculation or failure of communication.

IV. OTHER MEASURES

1. Chairman Khrushchev, in his speech, stated a connection between the test ban treaty and a non-aggression pact between the NATO and Warsaw Pacts. Neither the degree of this connection nor the nature of the proposals to which Chairman Khrushchev referred are clear. In exploring Soviet intentions in this respect, you should be guided by the following objectives:

a. If possible, we should separate the non-aggression arrangements from the test ban treaty and other disarmament matters. We should press the discussions on these, and defer to a later date the further discussions of non-aggression arrangements. We would prefer to go as far as possible in discussing the three environment test ban treaty first, and then explore other measures of disarmament, as well as the Soviet proposals for non-aggression arrangements.

b. Even if it proves impossible to agree on this procedure it is useful to explore Soviet purposes. The phrase, "non-aggression pact", has been loosely used to cover a wide variety of possible arrangements about the way in which relations between Eastern European Communist states and Soviet Russia on the one hand, and the NATO allies, on the other are conducted. In discussing these arrangements, we must continue to make clear that we can accept no arrangement which formally recognizes the East German regime or which is inconsistent with the ultimate reunification of Germany as a policy goal. Further, we can make no arrangements which do not insure the present Western position in Berlin. In all these matters we must take into account the interests of our allies. Within these constraints a non-aggression arrangement could be advantageous to the West by reducing the possibility of further Berlin crises. Accordingly, you should explore Soviet purposes in advancing this suggestion, and the possible modes which, in the Soviet view, would meet these purposes.

2. You should also be prepared to explore any other matters which the Soviets wish to raise under the general heading of improving relations between the Soviet Bloc and NATO; or between the United States and the Soviet Union. In the context of such a discussion, you may wish to raise the problem of enforcing the Geneva Agreements in Laos.

After I returned to Washington I attended a meeting of the National Security Council, which was held in the Cabinet Room of the White House from 6:05 p.m. to 7 p.m.

Present were: the President, Rusk, McNamara, Ball, Harriman, McCone, Foster, Fisher, Wiesner, McDermott, Dillon, Thompson, Bundy, Kaysen, Wilson, Nitze, Taylor, McNaughton, R. Kennedy, Tyler, B. Smith, and Vice President Johnson.

Dedication of the Peach Bottom Atomic Information Center
of the Philadelphia Electric Company
July 9, 1963

L to R: Rincliffe, John Dunning, Robert Ginna, Seaborg, R. Wilson, F. de Hoffmann

Rusk initiated the discussion by referring to the Memorandum of Instructions to Harriman. He said that one of the problems would be that of our attitude on a limited quota on underground tests and suggested that Harriman should come back for instructions on this if the question arose. The President asked how many would be a sensible quota, and Foster said he thought the idea of a quota was not a good one, although it might be better than no test ban at all. Rusk said he preferred a ban on atmospheric testing together with continuous negotiations on underground testing. He also mentioned the need for a definition of an atmospheric test. Foster read from the August 27, 1962, proposal on an atmospheric test ban the U.S. had tabled at Geneva, which said that a test which broke the surface of the ground but did not produce radioactivity detectable outside of the country would not be considered an atmospheric test. I said I thought this was a good definition.

There was then discussion with respect to the problem of dissemination of information to the nuclear powers such as France and the U.K. The conclusion is that the Soviets have at least accepted the U.K. as a nuclear power.

There was also discussion of the non-aggression aspects of the Moscow discussions. It was agreed that Harriman would make no commitments in this area but after exploration he will come home for instructions.

The President then asked Harriman to be sure to discuss the matter of not placing weapons of mass destruction into orbit. He also raised the question of coordinating the Harriman mission with NATO, the U.K. and the French. Bundy said that we do not even have an agreement with the U.K. Apparently, the U.K. wants a summit meeting at almost any cost, and Ambassador Bruce has said this is particularly true of Minister Hailsham.

The President suggested that Harriman's reports remain confidential. This will require an agreement with the Prime Minister on the dissemination of news. Rusk said that an "Eyes Only" memorandum has 40 copies--it was decided to either apply a limit or watch them very closely.

The President raised the question of whether Harriman might actually sign an agreement or whether this should be reserved for a summit meeting. Rusk was of the opinion that Harriman should conclude an agreement on an atmospheric test ban on the spot if this is feasible, but Bundy raised the question of the need to check with the French. The President raised the question of whether anything could be done with the Chinese, and Harriman said it was doubtful the Soviets will even discuss this problem.

Taylor said he thinks that we should again study whether an atmospheric test ban is to the advantage of the U.S. The President said that the standing position of the U.S. is that such a ban is to the advantage of the U.S. Taylor says that perhaps Foster should investigate the pros and cons of an atmospheric test ban or an atmospheric test ban with a quota of underground tests. McNamara said he thinks that a formal government discussion of this problem at this time is not desirable, and the President said he will be glad to have the individual positions of the Chiefs of Staff, but he doesn't want an attempt made to get a collective position. Rusk feels that the time for a review of the desirability of an atmospheric test ban is past and that this decision has already been made.

I sent my biweekly report to the President (copy attached).

Wednesday, July 10, 1963 - D.C.

The Commission met from 10 a.m. to 12:30 p.m. with McNamara, Taylor, Harold Brown and Jerry Johnson to discuss the cutback of U-235 and plutonium production through 1972 and its effect on the AEC production complex. DOD plans (through 1972) on weapons are due in a week or so at which time a joint Seaborg-McNamara letter will be sent to the President. Sixty days later AEC will send an analysis of the effect of the cutback on its production complex.

I had lunch with McDaniel, Kolstad and Fritsch at the Roger Smith Hotel to discuss the high energy accelerator building program (Ramsey Panel Report).

After lunch I went to the Hill where I taped a radio show with Congressman Jack Westland for broadcast by ten or twelve stations in the State of Washington.

At 3:15 p.m. I presided over Commission Meeting 1948 (action summary attached). The Commission approved the appointment of R. L. Faulkner as Director, Division of Raw Materials.

I received a letter from President Kennedy setting the FY 1965 weapons requirements.

DG FILE

July 9, 1963

PERSONAL AND CONFIDENTIAL

DECL. BY DOE NOV 86

Dear Mr. President:

I have the pleasure of submitting to you the regular bi-weekly report on significant developments in the atomic energy program.

1. Meeting with Sir Thomas Playford, Premier, South Australia, July 11, 1963 (Unclassified)

The other Commissioners and I will meet with Sir Thomas Playford, Premier of South Australia, on July 11, 1963 to discuss the feasibility and economics of nuclear power for South Australia.

In view of the lack of local economic fuel supplies in South Australia, nuclear power is being considered if there is reasonable assurance that it would be available on a comparable cost basis with coal or oil within the next 10 years or so. Apart from domestic, commercial, and industrial requirements, the distribution of water through pipelines throughout the many dry parts of South Australia is dependent on large quantities of cheap electricity.

2. Briefing for Department of State on Plowshare Program (Official Use Only)

On June 28 and July 3, I briefed Secretary of State Rusk and Under Secretaries Ball and Harriman and staff, respectively, on our Plowshare program. Secretary Rusk had requested such a briefing to assist in his consideration of the relation of our Plowshare program to the nuclear weapon test ban treaty. In particular, I covered the general technical situation on the development of devices for peaceful uses with very little radioactivity and the consequences this development could have in making possible the realization of the potential of Plowshare.

3. AEC Approves Export of Uranyl Chloride to Poland (Unclassified)

The Atomic Energy Commission has issued a license authorizing the export to Poland of 10.55 grams of natural uranium contained in uranyl chloride color standards. These color standards are used in the meat industry for grading inedible tallows and greases for commercial purposes.

The license was issued to the American Oil Chemists' Society of Chicago for export of the material to Polish Cargo Experts and Supervisors, Gdynia, Poland.

In issuing the export license, the Commission noted that there is no strategic significance attached to the small quantity of natural uranium involved.

4. Authorization Bill (Unclassified)

In my last report I indicated that the JCAE reported the AEC's authorization bill for FY-1964. Since then the bill has been passed by the Senate and subsequently on July 8 the House passed the authorization bill without amendment.

5. Congressional Hearing - Civilian Nuclear Power Program (Unclassified)

Mr. Drew Pearson, in his syndicated column, commented this morning on today's scheduled hearings in connection with proposed cooperative arrangements for three large civilian nuclear power plants. Under the heading, "Subsidies and Nuclear Reactors," Mr. Pearson went into some detail on alleged subsidies to the power industry.

These hearings concern arrangements for three nuclear power plants, two of which are planned for installation in California and the third in Connecticut.

In addition to witnesses from the Commission and the three utilities, the National Coal Association has asked to be heard.

Respectfully submitted,

(Signed) Glenn T. Seaborg

Glenn T. Seaborg

The President
The White House

CSKing:bm:7/9/63

UNITED STATES GOVERNMENT

Memorandum

UNCL. BY DOE NOV 86

TO : A. R. Luedecke, General Manager

DATE: July 11, 1963

Approved A. R. Luedecke
A. R. Luedecke
Date 7/12/63

FROM : W. B. McCool, Secretary

SUBJECT: ACTION SUMMARY OF MEETING 1948, WEDNESDAY, JULY 10, 1963, 3:15 P.M., ROOM 1113-B, D. C. OFFICE

SECY:JCH

Commission Business

1. Minutes of Meeting 1817

Approved, as revised.

2. AEC 25/269 - Proposed Change to Army Safety Rules

Approved, as revised. (Betts)

Commissioner Wilson requested revision of paragraph 6 on page 2. (Betts)

3. AEC 25/270 - Proposed Air Force Safety Rules

Approved, as revised. (Betts)

Commissioner Wilson requested revision of the last sentence of paragraph 6 on page 3. (Betts)

4. AEC 773/11 - Hallam Nuclear Power Facility

Approved. (Pittman)

The Commission requested that implementing action be deferred until next week. (Pittman)

Information Items

1. Chairman's Meeting with Messrs. Panofsky and McMillan, Friday, 11:30 a.m., to Discuss Stanford Accelerator Contract

The Chairman said he would meet with Messrs. Panofsky and McMillan to discuss the contract provisions and requested the General Manager to attend the meeting.

2. BOB Letter re FY 65 Budget Highlights

Copies will be circulated to the Commissioners today and the General Manager has in preparation comments for discussion at tomorrow morning's meeting.

✓3. Chairman's Friday Meeting with Mr. Johnson, GE, Hanford

✓4. Foreign Weapons Evaluation Group Report

To be circulated. (Henderson)

✓5. Presidential Approval of 65 Stockpile

Noted.

✓6. Commissioners' Meeting with Secretary McNamara and General Taylor, July 10

✓7. July 9 NSC Meeting

The Chairman reported briefly on the meeting yesterday. (Henderson)

✓8. Secretary of State's Report re NSAM 241

✓9. Proposed Letter to President of Niagara Mohawk Power Corporation

In response to the Chairman's request, the General Manager said he would telephone Mr. Machold to ascertain whether the company wishes to meet with the Commissioners.

✓10. General Advisory Committee Meeting, Argonne, July 18, 19 and 20

Mr. Ramey will attend. (Secretary)

✓11. Appointment of Director, Division of Raw Materials

The Commission accepted the General Manager's recommendation. (Tackman)

✓12. Interdepartmental Energy Study (Meeting July 18)

The Chairman noted Mr. Ramey will represent the Commission. (Secretary)

✓13. Commission Representation on the Federal Radiation Council

The Chairman noted Dr. Tape will be the Commission's representative with Mr. Ramey as his alternate. (Henderson)

✓ 14. Status of MCR Study

In response to the Chairman's query, the General Manager reported a letter has been requested from Mr. Harold Brown, DOD.

✓ 15. Allis-Chalmers Study on Antarctic Reactors

Noted.

✓16. Funding of SNAP 4 Program (FY 1964)

In response to the Chairman's query, the General Manager said the program has now been funded at around $1 million.

✓17. Invitation for Bids on Second Generation Portable Nuclear Power Plant Project

In response to Mr. Ramey's request, the General Manager said his recommendations have now been circulated to the Commissioners. The Joint Committee staff is to be informed of plans to go out for invitations. (Vinciguerra)

✓ 18. Status of SNAP Study

The Chairman requested submission of recommendations in draft form and an early discussion with Dr. Haworth. (Pittman)

✓ 19. Discussions with Lorne Gray, Canada, re Heavy Water Pricing

The General Manager reported briefly on his discussion with Mr. Gray and said that Mr. Gray may be in Washington later to discuss the matter further.

✓ 20. Proposed PLOWSHARE Project (California-Mojave Cut)

Dr. Wilson noted the Santa Fe Railroad and California Highway Department officials' visit to NTS and their subsequent appointment of a task force to study this project with the AEC.

21. Dr. Dunham's Report on Sternglass Article

The Chairman suggested Dr. Wilson discuss with Dr. Dunham the possibility of publication of the article.

22. Status of White Paper Study

Mr. Palfrey reported briefly on the status of the white paper and said the Commissioners would have time to forward additional comments if they desire to do so.

23. Chairman's Discussions with Frank Long re Mr. Long's Moscow Assignment

24. Meeting of the Principals

Mr. Palfrey reported briefly on the July 8 meeting.

25. Special Events in Project DRIBBLE

In response to Mr. Ramey's request, the General Manager said staff will consider the possibility of including a special event.
(English-Kavanagh)

26. Mr. Ramey's Visit to Hanford, July 8

Mr. Ramey reported briefly on his visit to Hanford on Monday, and the Commissioners discussed briefly the following matters:

(a) Authority of Mr. Travis (the General Manager will discuss this matter with Mr. Travis.)

(b) Additional staff for the special study group (The Commissioners suggested consideration.)

(c) Mr. Johnson's view re conflict of interest (this matter will probably be discussed in the Chairman's meeting with Mr. Johnson on Friday.)

(d) DOD representatives' visit to Hanford (the Commissioners considered the named officials appropriate.)

(e) August 1 meeting with Messrs. Albaugh and Holsted (the Commissioners thought this was desirable.)

(Bloch)

✓27. Negotiation of Fee for Mallinckrodt Contract

The Commissioners had no objection to the General Manager's proposal. (Vinciguerra)

✓28. Letter to Secretary of Defense re Cooperation with the French on Nuclear Weapons Safety

Mr. Ramey will draft a letter to the Secretary for the Chairman's signature.

cc:
Commissioners

At 5:10 p.m. I met with Wilfred E. Johnson (G.E. at Hanford). They have a personnel problem involving Herb Parker, who is head of their Technical Laboratory. This is not new; but, if they are going to diversify, it may be necessary to solve this problem.

They are thinking of replacing Parker, and Johnson mentioned such names as Fred Albaugh, Oswald Greager, Ranker, and Miles Leverett. He will probably discuss this further with me if they go ahead with a replacement. He said that the announcement regarding conflict of interest hit the headlines at Richland. It may be necessary for G.E. to come in with an official request for an interpretation on this. He raised the question of G.E.'s entering various projects: 1. a second chemical processing plant, using the redox canyon since this will be available in a few years. I told him I doubted that this was a very sensible project; 2. a facility for the separation and packaging of fission products. He said he didn't think G.E. wanted to do this because it will give the impression they are trying to monopolize things. However, they will do this if asked; 3. he raised the question of whether it will be permissible for G.E. to have direct contracts with government organizations like NASA, and I said I think it will; 4. he doubted whether it is feasible to have direct contracts with industry, and I said I think it might if it were cleared with us ahead so that we can check it out with GAO, etc.

Thursday, July 11, 1963 - D.C.

At 10 a.m. the Commission was briefed by S. Naymark, G. White and J. Barnard of G.E. on very serious boiling water fuel element corrosion problems.

At 11:30 a.m. and 2:15 p.m. I presided over Commission Meetings 1949 and 1950, where the FY 1965 Budget was previewed. The Commission requested an objective breakdown of the increase from $243 million for FY 1964 to $293 million for FY 1965 in the civilian power projection and a comparison of the FY 1965 projection with the President's Civilian Power Report. We discussed the FY 1965 budget preview for tomorrow's meeting with the BOB.

At Commission Meeting 1950 discussion was continued on the FY 1965 Budget preview. McDaniel said he would submit a report comparing the technical features of the proposed improved ZGS and the proposed MURA machine. The Commissioners noted the desirability of me making a statement at the beginning of the July 12th meeting with BOB officials, regarding the Commission's position on the two budget estimates submitted on May 23rd. The Commission requested consideration of the Training, Education, and Information Program at 9:45 a.m. tomorrow. Commissioner Ramey noted the desirability of increasing the FY 1965 budget projection by approximately $10.0 million for the construction of a fission product facility at Hanford. Commissioner Ramey suggested that mention be made of the Commission's probable intention to include study funds in the FY 1965 budget for a desalination project. The Commission noted that the "AEC Position Paper" is an internal document.

I hosted a luncheon at the Mayflower Hotel for Premier T. Playford of South Australia, who was accompanied by Stanley Huddleston (Assistant Manager, Electric Trust, Australia). They are interested in nuclear power.

I saw the CHEMStudy film on Transuranium Elements, which I made in Berkeley last summer and which Thompson, Cunningham and Ghiorso made later. I also recorded a couple of insertions on voice tapes for David Ridgway.

From 3 p.m. to 5 p.m. I met with Wiesner, Haworth, Robinson, McDaniel and Brooks in Wiesner's office to discuss the high energy physics accelerator building program. The big question is whether we ask for authorization for MURA ($150 million, 12.5 BeV, high current), much like the ZGS, in the FY 1965 budget. We probably will ask for authorization but I will discuss it with Albert Crewe (Director, Argonne National Laboratory) and MURA presidents.

I gave a talk to about 30 members of the CIA Office of Scientific Information, of which Dr. Albert Wheelon is the Director, at a dinner held at CIA Headquarters (McLean, Virginia). I talked on my Russian trip, and Fritsch helped show slides.

Friday, July 12, 1963 - D.C. - Virginia Beach

At 9:55 a.m. I presided over Commission Meeting 1951 (action summary attached).

I met with Pief Panofsky and Ed McMillan to discuss their problems with AEC restrictive measures in University contracts (SLAC and LRL) and to discuss the problem of AEC's building high energy accelerators. Panofsky favors the MURA machine; McMillan does not. I had lunch with them at the Roger Smith.

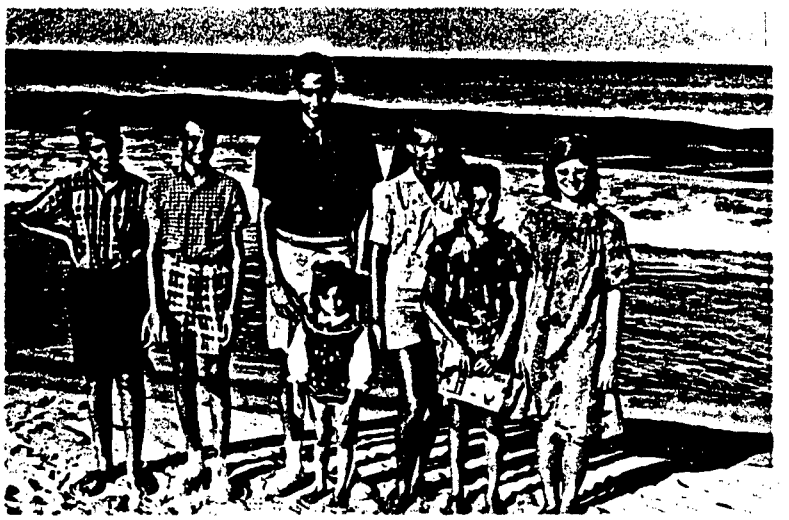
The Commission met with the Director Kermit Gordon and other BOB staff to discuss our FY 1965 budget. They are proposing a large reduction in our request.

I sent a reply to Senator Anderson's letter of May 25th concerning an accelerator at Los Alamos (copies of correspondence attached).

I flew to Norfolk on Piedmont flight 67, leaving at 6:15 p.m. and arriving at 7:15 p.m. Helen, Steve and Dianne met me.

Saturday, July 13, 1963 - Virginia Beach

I spent the day at our rented house at Croatan Beach and on the beach. In the evening I took Dave, Steve, Eric and Dianne to the seaside "Midway" area.



L to R: Steve, Dave, Pete, Dianne, Lynne and Eric Seaborg, and Nora Blaufarb

Sunday, July 14, 1963 - Virginia Beach - Washington, D.C.

It was a rainy day so we spent a good part of it indoors. We visited the Norfolk museum and other historic spots.

UNITED STATES GOVERNMENT

Memorandum

UNCL. BY DOE
NOV 86

TO :A. R. Luedecke, General Manager

DATE: July 12, 1963
Approved A. R. Luedecke
A. R. Luedecke
Date 7/15/63

FROM :W. B. McCool, Secretary

SUBJECT: ACTION SUMMARY OF MEETING 1951, FRIDAY, JULY 12, 1963, 9:55 A.M., ROOM 1113-B, D. C. OFFICE

SECY:JFG

Commission Business

FY 1965 Budget Preview

1. The Commission noted the following points to be raised in the discussion later in the day with BOB officials:

   a. The Commissioners' July 10, 1963 meeting with Secretary McNamara on Production Planning;

   b. The significance of total budget figures for recent years, including the FY 1965 projection, as related to funding for weapons testing;

   c. The Commission's support of the $3.294 billion submission;

   d. The Commission's resistance to any reduction in the Training, Education and Information (TE&I) figures;

   e. The need to continue an advanced reactor program for Maritime application looking to selection of the approach to a prototype at an appropriate time.

2. Commissioner Ramey noted Martin Company's suggestion re assistance to SNAP contractors comparable to waiver of use-charges for utilities.

Other Business

1. The General Manager's July 12 Meeting with Dr. Harold Brown

The Chairman requested appropriate reference be made to AEC's current study on the SNAP program and the joint aspects of the AEC/DOD SNAPSHOT program. (Ink)

2. Discussion on Comparison of Prototypes

Information Items

1. Mr. Price's July 10 Memorandum re Statement of Hearing Procedures for Discussion with Members of the Hearing Board Panel

Commissioners Palfrey and Ramey will discuss the memorandum with Mr. Price on Monday morning.

2. Second Generation Portable Nuclear Power Plant Project

The Commissioners agreed the invidtation should be issued subsequent to discussions with Joint Committee staff. If Joint Committee staff raises any questions, the matter is to be discussed further with the Commission. (Pittman/Vinciguerra)

3. AEC 580/191 - Stockpile

The Chairman noted the letter from Dr. Gerald Johnson will be circulated. (Secy)

4. Chairman's Meeting with Mr. W. E. Johnson, GE, Hanford

The Chairman reported briefly on his recent meeting with Mr. Johnson.

5. Chairman's Meeting with Drs. Wiesner, Haworth and Others to Discuss the High Energy Physics Program

The Chairman reported briefly on the meeting and said he would call Fred Seitz to explore the program with him. (Henderson)

6. Tactical Study Summary

The General Manager noted receipt of the Summaries and the Commissioners requested circulation.

7. Letter to Secretary of the Navy

Mr. Ramey will draft a letter for the Chairman's review. (Henderson)

8. Agenda for week of July 15

Approved. (Secy)

cc:
Commissioners

JUL 12 1963

UNCL. BY DOE
NOV 86

Dear Clint,

I regret that it has taken this long to answer your letter of May 25, 1963, in which you raised some significant questions regarding the future development of high energy physics in this country.

As you appreciate, this is a very complex question which is still not resolved. The report of the Ramsey Panel is under active review at several levels of the Administration. The Commission has received briefings by two of the Panel members, and I and members of the Commission staff have participated in several interagency meetings.

The possibility of constructing a meson factory at Los Alamos cannot be decided at this time. The Commission is keenly aware of the past contributions and present scientific talent of the Los Alamos Scientific Laboratory. I personally favor some broadening of the scientific scope of the Laboratory because of the benefit it will bring to the entire Rocky Mountain region. Unfortunately, the question of a meson factory must "wait its turn" until the questions of a NERVA-type accelerator and of the very high energy 200 Bev accelerator are at least partially resolved.

I want to assure you that the other Commissioners and I will clearly bear in mind the possibility of such a meson factory and the value of locating such a machine at the Los Alamos Scientific Laboratory.

Cordially,

/s/ Glenn T. Seaborg
Glenn T. Seaborg

The Honorable Clinton P. Anderson
The United States Senate

NOTE BY DR. SEABORG (HAND-WRITTEN):=
P.S. I am enclosing a copy of a recent speech in which I make reference to this possibility on page 7.

Retyped in Ofc of the Chairman
ARF:gl

(attached copy of Seaborg speech at Dedication of Cyclotron, U. of Colorado, Boulder, on 6/20/63)

[illegible] P. ANDERSON, JR., N. MEX., CHAIRMAN
J. RUSSELL, GA.
[illegible] MONDSON, WASH.
[illegible] STON, MO.
[illegible] FT, MASS.
[illegible] M. YOUNG, OHIO
THOMAS J. DODD, CONN.
[illegible] W. CANNON, NEV.
[illegible] L. HOLLAND, FLA.
J. HOWARD EDMONDSON, OKLA.

MARGARET CHASE SMITH, MAINE
CLIFFORD P. CASE, N.J.
BOURKE B. HICKENLOOPER, IOWA
CARL T. CURTIS, NEBR.
KENNETH B. KEATING, N.Y.

FRANK C. DILUZIO, STAFF DIRECTOR
EVERARD H. SMITH, JR., CHIEF COUNSEL

United States Senate

COMMITTEE ON
AERONAUTICAL AND SPACE SCIENCES

May 25, 1963

UNCL. BY DOE
NOV 86

335 6/12/63

Dr. Glenn T. Seaborg, Chairman
Atomic Energy Commission
Washington 25, D. C.

Dear Glenn:

I have been tremendously interested in the recommendations made to the President on high energy physics by a panel of the President's Science Advisory Committee. I am sure you are far more familiar with this report than I will get to be but it seems to make some recommendations as follows:

1. Authorize a 12.5 billion electron volt (Bev) accelerator for construction near Madison, Wisconsin, in fiscal year 1965. The estimated cost of this machine is $148 million. (This is the fixed field alternating gradient synchrotron, or FFAG, which has been under study by the Midwest University Research Associates, MURA, for the past several years.)

2. Authorize a 200 Bev accelerator in fiscal year 1967 at an estimated cost of $240 million. This accelerator would be constructed by the Lawrence Radiation Laboratory, Berkeley, California. (The proposed schedule requires the initiation of design studies utilizing operating funds in the next fiscal year.)

3. Authorize the construction of 33 Bev storage rings in fiscal year 1967 for the Brookhaven National Laboratory at an estimated cost of $60 million. (Design studies have already been started by the Brookhaven National Laboratory.)

4. Authorize an 800 Bev accelerator in fiscal year 1971 for construction at the Brookhaven National Laboratory at the estimated cost of $800 million.

The report outlines the high energy physics research program through fiscal year 1981. The total estimated costs for the program

for both construction and operation increase steadily from the present fiscal year 1963 estimate of $143 million per year to $370 million per year in fiscal year 1970, and to $600 million per year by fiscal year 1981.

I am told the report is now being reviewed by the Administration, including the Atomic Energy Commission, and I would like to suggest to you that rather than spend $800 million at Brookhaven, we might spend a very modest amount for an accelerator in the lower "high energy" region (about 750 mev) for the production of subnuclear particles at Los Alamos.

I have been rather intimately tied into the discussions of this proposal by the Los Alamos group for some time. The Atomic Energy Commission has indicated that no funds could be expected from the Commission in fiscal year 1964. I am worried that there may not be anything for this item in the FY 1965 budget, and I think this would be too bad.

Over a period of about five years, this would involve approximately 120 people as an addition to the Los Alamos staff and an expenditure of about $44 million. It would increase the annual general operating costs of the Laboratory about $7 million. This is only about a three per cent increase in Laboratory size and involves a capital expenditure of less than one-half the current annual budget.

I know that the Ramsey Panel concentrated on machines producing particles in the several tens of billion volt range with corresponding price tags. It felt that "the so-called 'meson factories' are not relevant to the problems of high energy nuclear physics." If given a chance, I think the Los Alamos people could make a fairly good "meson factory" and that it ought to be done in time for FY 1965.

Anything that you might feel prompted to do in this field will be deeply appreciated by me.

Sincerely yours,

Clinton P. Anderson

CPA/ohr

I returned to Washington on National flight 296, leaving at 8:15 p.m. and arriving at 9 p.m.

Monday, July 15, 1963 - D.C.

At 10:30 a.m. I attended a PSAC meeting where the high energy accelerator program was discussed. They agreed to go ahead with the MURA accelerator. I said I have qualms that this should have first priority but that I will go along. They agreed that a committee should study the need for pion factories (800 MeV accelerators with high beams).

I had lunch with PSAC at the White House Mess.

I called McDaniel at 2:30 p.m. to tell him about the PSAC meeting which I had just attended. I told him we discussed the matter of the committee that might study the 200 BeV accelerator proposal from Lawrence Radiation Laboratory with respect to the feasibility of its becoming a national laboratory. The PSAC decided they should not set up their own committee to study this. Paul said that Ed McMillan is setting up a committee to advise him how best to operate and design a 200 BeV machine, and they have had correspondence on this.

I asked Paul to contact Ed McMillan and tell him about the PSAC discussion and the fact that I think it will be better to have an AEC-McMillan committee. I said they also discussed the Cornell accelerator and that most people agree that it will probably cost $20 million. Paul said he thinks a better estimate is $10 to $15 million.

I had dinner with John Palfrey at the University Club.

Tuesday, July 16, 1963 - Washington - New York - Washington

I flew to New York on American flight 378, leaving at 8:30 a.m. and arriving at 9:30 a.m.

I stopped at the McGraw-Hill Nucleonics office where Jerry Luntz introduced me to Edwin Fisher (President, McGraw Hill).

At 11 a.m. I attended a meeting of the Commission on the Humanities at the Carnegie Foundation Building (345 E. 46th Street). Barnaby Keeny (Chairman) was also present.

I returned to Washington on the Eastern shuttle, leaving at 3 p.m. and arriving at 4:20 p.m. John Kenton returned on the plane with me to interview me on my Russian trip for Nucleonics.

After spending some time at the H Street office, I had dinner at the University Club.

Wednesday, July 17, 1963 - D.C.

At 9:15 a.m. I swore in Gerald Tape as a Commissioner in a little ceremony in the Commission Meeting Room. Mrs. Jo Tape was present.

At 9:50 a.m. I presided over Information Meeting 290 (notes attached). We finished the revisions on McNamara's letter to the President regarding the FY 1972 stockpile and implying a large cut in fissionable materials production.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

DECL. BY DOE NOV 86

COPY NO. 15

July 17, 1963

INFORMATION MEETING 290

9:50 a.m., Wednesday, July 17 - Chairman's Conference Room, D.C. Office

1. Meeting With Niagara-Mohawk Officials

The Chairman said, in light of the General Manager's discussion with the President of the Company, a meeting would not be necessary.

2. Dr. Wilson's Testimony for Hearings on Private Ownership, July 29, 30 and 31

The Chairman requested early comments from the Commissioners on the draft testimony. Mr. Hennessey reported the matter of toll processing of foreign ore is in the Bureau of the Budget for clearance. A briefing on toll processing is to be scheduled prior to the Hearing. (GC-Secy)

3. Letter to Secretary of Defense re Production Planning

The Commission response to Secretary McNamara's July 15 letter was approved as revised at the meeting. (Brown)

4. Meeting on Economic Impact of Effects of Disarmament, Friday, July 19, 4:00 p.m.

The Chairman noted the invitation from Mr. Heller for AEC representation. The General Manager suggested obtaining information on other representation prior to a decision on what the AEC representation should be.

5. Discussion with Mr. Brightsen, Nuclear Science and Engineering Corporation

Mr. Palfrey reported that Mr. Brightsen has been in touch with Dr. English and now seems satisfied that his problems are being given appropriate consideration.

6. AEC 1120/7 - Additional Proposal for Annual Legislative Program

Mr. Palfrey suggested Mr. Ramey mention to Mr. Conway, Joint Committee Director, that this matter is in review and may be forthcoming for Congressional consideration. Mr. Ink noted the

questions raised by White House staff. (Marshall-GC)

7. Commission Executive Session Meeting with Joint Committee

The Chairman raised the question of discussing with the Joint Committee projected planning and said he would mention to White House staff the matter of timing. (Brown)

8. July 16 Operation of Hallam Reactor at Full Power

9. Exception re Abbott Laboratory, Oak Ridge, Waste Disposal

The Commissioners had no objection to the General Manager's proposed exception.

10. Report on Pending Contractual Matters

The General Manager noted the July 12 issuance and its changed format. He suggested, and the Commissioners agreed, that succeeding issuances of the report should be calendared for Commission notice at an appropriate Information Meeting following date of issuance. (Secy)

11. Invitational Bids for Architect-Engineer Conceptual Design of Biological Facilities at Oak Ridge

The General Manager said he planned to proceed.

12. Letter to Department of Defense re Cancellation of SNAPSHOT Program

The General Manager said he would like to discuss the proposed letter with the Commissioners later today. Mr. Ink added DOD plans to cut back effective Friday, July 19.

PRESENT		DISTRIBUTION
Dr. Seaborg	General Luedecke	Commissioners
Mr. Ramey	Mr. Ink	General Manager
Mr. Palfrey	Mr. Hennessey	General Counsel
Dr. Tape	Mr. Brown	Secretary
	Mr. McCool	

W. B. McCool
Secretary

At 11:25 a.m. I presided over Commission Meeting 1952. The Commission approved the following: 1. AEC 25/272 - Navy safety rules, 2. AEC 611/11 - proposed trespass regulations, 3. AEC 901/51 - research assignment in USSR by Dr. A. Russell Jones, 4. AEC 901/52 - participation in unclassified research by Polish National at University of Rochester, 5. AEC 891/12 - sale of additional undeveloped land in White Rock area of Los Alamos County, New Mexico, discussed and not approved. The Commission requested development of information upon which the finding can be made that the proposed sales price is warranted, and requested revision of the proposed press release. The matter is to be rescheduled at an early date. The extension of the carbide contract for operation of Oak Ridge and Paducah plants was deferred.

I gave a luncheon talk at the National Press Club entitled, "A Common Ground - Science." Bryson Rash (President, National Press Club, also with NBC television and radio), Edward W. Scripps, II, (Chairman, Speakers' Committee and Vice President, Scripps-Howard Newspapers and member of the Board of Trustees of Science Service), were among my hosts. I was introduced by Rash. My talk was well received by a large crowd and was later published in the November issue of the Bulletin of Atomic Scientists. The talk was followed by a half-hour question and answer session on testing, safety of reactors, cuts in fissionable materials production, the test ban, etc. (Transcript of questions and answers are attached.)

At 2:30 p.m. I attended a meeting of the Space Council in the Executive Office Building, where the Gemini and space platforms were discussed. McNamara objected to the lack of DOD-NASA coordination in planning for the latter.

I called Commerce Secretary Luther Hodges at 9:50 a.m. to protest his going ahead with a contract for the Savannah with American Export Lines without consulting AEC. I said we have just received a copy of the contract which we will study and then get in touch with him. He said they would like any comments we might have regarding the labor aspects, etc. of the contract. He also said that within the next day or two he and I should get together for a discussion.

Ed McMillan called at 3:30 p.m. and said that George Kolstad called him about my conversation with Paul McDaniel regarding the PSAC discussion on the Berkeley effort on the 200 BeV accelerator, and he wanted to discuss it with me. After we discussed the whole situation, I suggested that he write a letter to McDaniel (with a copy to me) stating that he understands, on the basis of my discussion at the PSAC on July 15th, that joint AEC-Rad Lab Committee will be established, or saying that it is my suggestion that a joint AEC-Rad Lab coordinated effort be established.

I called Al Crewe (ANL) and told him that I have been looking into the matter about which he wrote me, i.e., souping up the ZGS with higher energy injection. I said we have had the Ramsey Panel and a group here look into it. The feeling is that it has been overestimated--that it couldn't get closer than a factor of 50 short of his estimate. I said that Lee Tang of ANL was at the meeting and he did not dispute this. Crewe said that the estimated intensity of the MURA accelerator had been raised; also, he said that Tang's group actually does agree with his calculations. I then said that I am concerned about his worry over the effect of the MURA accelerator on the ZGS and that I want to explore an idea with him, which, I said, may not be feasible because there are so many factors at work, including the lack of rapport between Argonne and MURA.

Crewe said this is not true at the working level but rather only at the level of the Board of Directors. I asked how he would feel about an arrangement whereby the MURA accelerator were built near Argonne but not under Argonne auspices. He

MR. RASH: First, did you have an opportunity to form an opinion as to the quality of Soviet scientific talent or ability?

DR. SEABORG: Yes, I did, and I might say in connection with most of my observations, there was general agreement among all ten members of our delegation. I would say that we rate the quality of Soviet scientific undertaking very high, that they have a lot of talent, that they are training a large number of scientists. I think that, in the general field of atomic energy, it would be difficult to make an out and out comparison in terms of such an over-simplified statement as to who was ahead, and it is our consensus, the consensus of our delegation, that we have made and are making somewhat comparable progress, and that a complete response to a question like that requires a more detailed answer with respect to the individual fields.

I think they are placing, as I indicated, a lot of emphasis on science. They are actually, I believe, training more scientists and engineers than we are at the present time. However, in a comparison, a quality comparison, I do not think that they are ahead of us, or that our educational system is inferior in any way to theirs.

QUESTION: Would a ban on thermonuclear tests in all environments except underground tend to freeze the state of the art of high yield weapon developments for both the United States and Russia?

DR. SEABORG: Yes, I would say so. I think that a ban on nuclear tests in the atmosphere would tend to freeze the state of the art. This would not mean there would not be some advances on both sides. So it would not be an absolute freeze, but it would tend to slow down the developments to such an extent that it would be equivalent to a coming freeze; that is, they would slow down to such an extent that the amount of progress would tend to place them in equal positions.

QUESTION: Is it or is it not true that the AEC would prefer to be able to continue testing in the atmosphere as being essential to the maintenance of our present lead in weapons development?

DR. SEABORG: I would say that it is not true. I think that the AEC feels, with the President, that a proper test ban on atmospheric testing would be in the national interest.

QUESTION: What do you think about the possibility of detection of underground tests by national means now and in the near future?

DR. SEABORG: I think that it will be possible to detect underground tests to the extent necessary to protect our national interests with a proper number of inspections per year.

QUESTION: Would you like to speculate on what is the proper number of inspections?

DR. SEABORG: No, I don't think I would want to add to what has been suggested in the negotiations so far.

QUESTION: Why is underground testing of nuclear weapons viewed as a hurdle to complete disarmament between the USSR and the USA?

DR. SEABORG: That is a difficult one to answer. I don't know whether I would call it a hurdle. I would rather tend to say that if we succeed in negotiating an atmospheric test ban, we have probably made some significant progress toward an arms control situation .

QUESTION: Should the United States sign a test ban agreement to which Red China is not a party?

DR. SEABORG: Well, I think the view of the Administration and the President there is that a test ban without Red China at this time is desirable; that it is a necessary condition to a subsequent complete test ban with all the nations participating, but of course not a sufficient condition.

QUESTION: If a test ban agreement is reached, do you have any significant agreement from Congressional leaders that it will be ratified?

DR. SEABORG: Certainly not. I haven't made any assessment of the situation from that point of view. There are some members of Congress here who might want to respond to this, but I doubt that very much also.

QUESTION: Is the Administration considering cutting back the production of fissionable materials needed for nuclear weapons? If the answer is yes, doesn't this amount to a significant concession to the Soviets without asking an equal one in return?

DR. SEABORG: The Atomic Energy Commission made a statement a week or two ago pointing to the fact that we have a very high production rate of fissionable materials, and that consequently the Administration, including the Atomic Energy Commission and the Department of Defense, is making a long-range study as to the future needs for fissionable material, and the future production rates. But no decision has yet been made.

With respect to the second part of the question, doesn't this amount to a significant concession to the Soviets without asking an equal one in return, these considerations are being made independently of arms limitation and arms control considerations, and simply on the basis, as I have indicated, of trying to arrive at a conclusion of what is an adequate amount, a sufficient amount of fissionable material.

QUESTION: This is similar to it. Is there excess production of U-235 and Pu? When will Hanford, Savannah River and the diffusion plants be shut down?

DR. SEABORG: Well, I think that question is essentially a duplicate of the other, and my previous answer applies to this question as well.

QUESTION: I thought we might have a constituent from Georgia who wanted to find out about Savannah River.

Congressman Saylor, Republican, of Pennsylvaina, quoted several authorities, including Representative Holifield, yesterday, to show the danger of a reactor in a populated area such as Queens. Are these warnings authentic?

DR. SEABORG: I don't know what he quoted my friend Representative Holifield as saying.

REPRESENTATIVE HOLIFIELD: I don't know of any statement of that kind. I certainly haven't made any statement in regard to the danger of a reactor that has not even been submitted in design to the reactor safeguards advisory committee for evaluation.

DR. SEABORG: I don't think that there is any way that we can respond to a question like this without tending to prejudge a situation. I can only say that the Atomic Energy Commission, through its regulatory divisions and its reactor hazards evaluation people, etc., make a very thorough study of each situation, and that no license for the construction or operation of a reactor would be issued unless the Commission, the hazards evaluation people within the Commission, the experts on reactor safety, the statutory advisory committee for reactor safeguards, are all in agreement that there is no danger to the public, or essentially no danger to the public, in the building and operation of a reactor.

QUESTION: Is there any way of quickly reducing or destroying the radioactivity of a substance?

DR. SEABORG: This is the easiest question that I have had so far. No, there is no way of reducing or destroying the radioactivity of a substance, or an isotope. Once these unstable atoms, nuclei, have formed, we must in every case wait their decay before they disappear. There is no way that we can even alter the rate of decay noticeably, to an extent that makes any effective difference. There are small perturbations that we can make on the rate of decay that don't play any important role whatsoever, and either lengthen or shorten by an amount of a small fraction of one per cent, in some particular cases where there are particular types of radioactive isotopes.

QUESTION: Why is it in the public interest to subsidize private utilities to build power plants to use nuclear power?

DR. SEABORG: This is a new industry, one that we feel in the long run will, when it attains stature, when there is a large amount of power generated in this way, lead to substantial savings, savings overall to the economy. It is an alternate source of power and it is always good to have more than one string in your bow. In the long run, or resources of energy are such, from fossil fuels, that it will necessary to supplement them and then replace them with some new source, and the nuclear fission source of energy seems to be the candidate for that.

I do want to say, however, that the rate at which nuclear energy will supplement--and I say supplement, not supplant--energy developed from fossil sources, such as coal and oil, etc., is such that the use of coal and oil for this purpose will continue to grow for many years to come, decades to come, and that the nuclear sources will just play this role of supplementing the fossil fuels for a long time.

QUESTION: Perhaps you have answered this question, but let us do it a little bit from another angle.

If all government subsidies, both direct and indirect, were eliminated, would nuclear power plants now planned be competitive with fossil fuels?

DR. SEABORG: I think that the nuclear plants in very large sizes in certain parts of the country would be nearly competitive today and perhaps competitive within some five years or so if all subsidies, direct and indirect, were eliminated. This would be in areas of the country where the cost of fossil fuels is high. These regions, as you know, are New England and California. I don't know whether there would be agreement as to how soon this would be. I suggested about five years, something of that order for very large-sized plants.

MR. RASH: Dr. Seaborg and I talked before the luncheon about questions, and I said you are ultimately going to get one about when did you stop beating your wife. This may be it:

What areas of industrial application of nuclear energy are being neglected currently?

DR. SEABORG: Well, I guess the Atomic Energy Commission is not doing its job correctly if any useful areas are being neglected currently. The areas of industrial application are, of course, civilian nuclear power, the related industries that go along with this, and other applications, the use of isotopes particularly in medicine, but also there are important uses of isotopes in industry and agriculture, and in research, the use of nuclear energy for space purposes, both direct propulsion, to furnish the energy for propulsion, and to furnish electrical energy as auxiliary energy in the space vehicles, and the use of the explosive power of nuclear explosives for excavation purposes, and the other industrial applications, the so-called PLOWSHARE program; those are all the applications of nuclear energy for industrial applications that I can think of, and I would not say that any of those are being neglected.

QUESTION: If it is true that the United States possesses heavy over-kill potential, why is it necessary to continue manufacture of nuclear weapons?

DR. SEABORG: I don't know that I would agree with the basic assumption in the question. It is of course because of the high production rate of fissionable material, as I indicated earlier, that study is being made of the long-range requirements for fissionable material, and therefore, for nuclear weapons.

QUESTION: The Joint Committee is considering an amendment to the Atomic Energy Act in order to increase control of Congress in AEC expenses. Do you consider that such an amendment, if ratified, would hurt the development of atomic energy in this country?

DR. SEABORG: I will bet you Senator Pastore and Congressman Holifield are as interested in my answer as anyone here.

No, I really don't think it will hurt the development of atomic energy in this country. I don't know whether I would say that it would help it. Maybe I should let it go at that.

I do want to say, though, that we have had good relations with the Joint Committee on Atomic Energy, and they have been keeping pretty close track of our operations up until now. It is partly for that reason that I think perhaps this won't make such a very great difference.

QUESTION: When will radiation preserved foods be commercially available?

DR. SEABORG: I think that actually radiation preserved foods are already commercially available on a limited scale. I believe in Canada, for example, irradiated potatoes are on the market. I would say within a very few years, things like potatoes and perishable fruit and vegetables and fish, and things of that sort, which can be preserved, that is, have their shelf life lengthened by what we call irradiation pasteurization, will be available.

QUESTION: Someone who owns uranium stock has sent this question in, I think:

Is it true that by the turn of the century, most of the readily mineable reserves of uranium ores will be depleted with the result that the price of uranium will go up?

DR. SEABORG: No, that is not true at all. This, however, does bring up and give me the opportunity to make another point, and that has to do with what we need to do in order to have a large quantity of energy reserves though the nuclear fission source. You recall that I mentioned in time the energy reserve of fossil fuels will be used up. It will be necessary for us to develop what we call the breeder process. This is one of the areas where we recommended in our report to President Kennedy on civilian nuclear power, the report that was submitted in November of last year, that emphasis be placed.

However, if the breeder reactors can be developed, and we are confident they can with proper effort, and by the way, with a proper amount of continued government support to the civilian reactor program, then the amount of energy reserves in fissionable materials will be very large. Through breeder reactors we can use all of the uranium, the uranium 238, and not only the rare uranium 235, which is present to the extent of only .7 of one per cent, and can use the other so-called fertile material, thorium, which through the intermediate isotope, the fissionable uranium 233, makes the energy of thorium available.

This means, then, that we would use not only more of the uranium and use the thorium, but the price of the fuel goes down, so that it will be possible to use economically more of the uranium, so that for the two reasons, the fact that we are using it more efficiently, at 100 per cent of that which is mined, and for the reason that the price of the fuel is so low that we can have more cost go into the mining operation we will have enough fuel to last for hundreds of years.

Reserves are in sight that amount to thousands or ten thousand times as much as the reserves of the fossil fuels.

QUESTION: During your visit to the Soviet Union, did you form an opinion as to whether the Soviet objection to inspection as a form of espionage was genuine, or a propaganda reason for saying no?

DR. SEABORG: During our visit to the Soviet Union, we confined our discussions to the peaceful uses of atomic energy and this question didn't come up at all. So that I would not have any basis upon which to make a judgment.

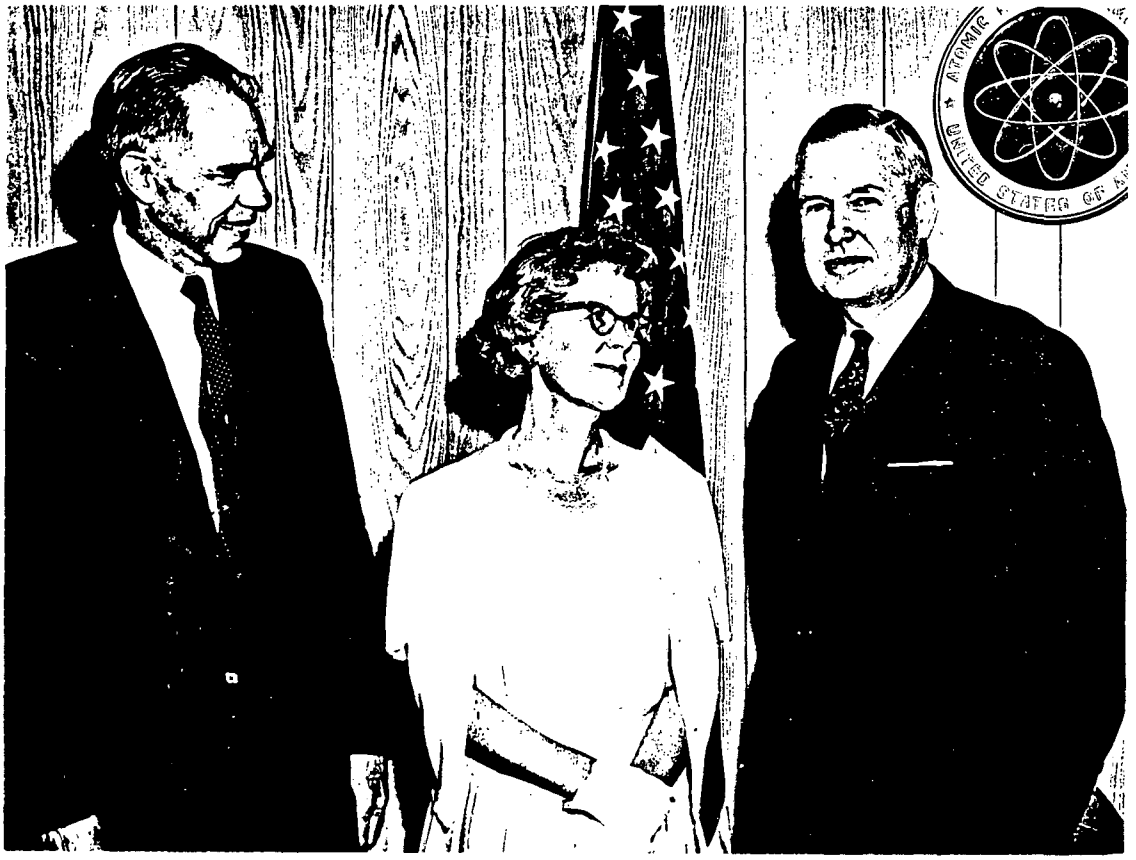
MR. RASH: Dr. Seaborg, before I ask the final question, I should like to present you with this certificate of appreciation for your contribution to reporters of radio, television, newspapers, magazines, etc., and also a copy of SHRDLU, which is the affectionate history of the first fifty years of the National Press Club.

Now, the final question: One of your great contributions to nuclear science was as co-discoverer of the element Plutonium. Hence you had the opportunity to set the abbreviation. Why did you use the abbreviation P-U?

DR. SEABORG: I might say that this is one of the characteristics of scientists, but during the war, during the secret research at Berkeley, when this element was discovered, and when it occurred to us, like any good chemical element, that it should have a name and a symbol, and when we decided to suggest the name Plutonium, that there was quite a debate as to what the symbol should be, because properly, if you think about it, the way symbols for chemical elements are arrived at, it should be P-L, but if you take the first letters and that is pre-empted by another element, and P is by phosphorous, then you take the first two letters, that would be P-L. However, the possibilities of P-U became apparent to the group of scientists, and frankly we just thought this would be a very good suggestion to make, and to wait for the reaction after the war, when it was declassified.

There wasn't any reaction, and I must say, Mr. Rash, I think this is an example of where the press fell down.

END



Swearing-In Ceremony of Dr. Gerald Tape as member of U.S. AEC, July 17, 1983
L to R: Seaborg, Jo Tape, Gerald Tape

National Press Club, July 17, 1963

Fig. No. 17
V.6 p61
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National Aeronautics and Space Council, July 17, 1963

L to R: Seaborg, U. Alexis Johnson (Deputy Under Secretary of State), Edward C. Welsh (Executive Secretary), Vice President Lyndon B. Johnson (Chairman), Robert S. McNamara (Secretary of Defense), James E. Webb (Administrator, NASA). Ragnar Rollefson, Department of State, shown in background.

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said he has considered that and thinks it is a good idea, and that it will afford a ready exchange between the two accelerators. I asked whether there is land near the ZGS, and he replied that he was sure they could find some. The present management of the ZGS is not under Argonne. Crewe said it might be feasible to have the two machines under the same management and that he will be glad to consider any arrangement by which this problem can be solved.

Thursday, July 18, 1963 - D.C. Office - Virginia Beach

I received a call from Guy Suits (Vice President and Director of Research, General Electric) who said he will retire in two years and wondered if I would like to be considered as his replacement. The salary would be in the $70,000 to $90,000 range plus as much more in addition in bonus pay and stock options. I told him I doubted I would be interested; but, at his urging, I said I would arrange a visit to Schenectady.

I had lunch with Howard Brown at the Roger Smith Hotel. He wants me to consider possibilities for his returning to the AEC operating organization in an administrative position. He is extremely well pleased with his service with me but must think of his longer range future and my day of leaving.

From 1:30 p.m. to 2:15 p.m. I attended a meeting of the Federal Council for Science and Technology where we discussed long-range planning for federal support of basic research (resume attached).

From 2:30 p.m. to 6 p.m. I attended a meeting of the President's Commission on Equal Employment opportunities at the State Department. Vice President Johnson presided and we discussed progress and the need for added effort.

I talked to Dave Beckler about the possibility of asking Commissioner Tape to act as my alternate for FCST meetings. I will still try to attend the meetings, but on those occasions when I can't attend, Dr. Tape will do so in my stead; and, of course, Dr. Fritsch will continue to attend. Beckler seems to think this will be very desirable. He said he will mention it to Wiesner.

Friday, July 19, 1963 - D.C.

I talked on the phone with Harold Brown at 3 p.m. to discuss the SNAP memo he sent to a member of the staff. I said we think it is important to keep the thing going at a viable rate. He proposed that we go ahead with the ground test program and plan flight tests on SNAP II. Their problem is that they made an agreement with us and budgeted $14 million but Congress made specific cuts in their budget. At the same time the Air Force has asked them to fulfill their original agreement at $17 million instead of $14 million and they wonder if they can work out a schedule for a SNAP II flight as early as possible and make up a program to go with it. $5 million to support the ground program would make it somewhere between $5 and $11 million for the total. At $11 million, a flight test would come a year later. I asked if he could get the entire $11 million and he said he wasn't sure. He would see how much of it he could get from the Air Force. I said that in the meantime we will not give up the aim of a flight test, but we wouldn't worry much about it this year.

I called Jerry Johnson at 3:45 p.m. and told him that we have been looking at the latest version of the McNamara letter to the President on 1972 nuclear weapons requirements. I asked whether McNamara himself has gone over it and approved it. Johnson said he had not but that it was written in accord with his request, and that Gilpatric said the Secretary is prepared to sign it as is. Johnson said that, if we have something specific, he will suggest I call

FEDERAL COUNCIL FOR SCIENCE AND TECHNOLOGY

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Minutes and Record of Action

Meeting of July 18, 1963

The meeting convened at 1:30 p.m., in Room 208, Executive Office Building.

Attendance: Members of the Federal Council - Dr. Jerome B. Wiesner (Chairman); Dr. John C. Calhoun, Jr. (Interior); Mr. William Carey (for Mr. Elmer Staats - BOB); Dr. E. C. Elting (for Dr. Willard Cochrane - Agriculture); Dr. Leland J. Haworth (NSF); Dr. J. Herbert Hollomon (Commerce); Vice Admiral Charles Martell (for Dr. Harold Brown - DOD); Dr. Ragnar Rollefson (State); Dr. Glenn T. Seaborg (AEC); Mr. R. J. Shank (for Mr. N. E. Halaby - FAA); Dr. George Simpson (for Mr. James Webb - NASA); Dr. William Stewart (for Mr. Boisfeuillet Jones - HEW); Dr. Allen V. Astin (Standing Committee).

Participants: Dr. Richard Bolt (NSF/SRPO) and Dr. Harvey Brooks (Long Range Planning Committee).

Guests: Mr. Robert Cain, Dr. Leonard Karel, Dr. Benjamin Olsen; Dr. Jacob Perlman (NSF); Mr. William Capron (CEA); Mr. Howard Eckles (Interior); Dr. William Eaton and Dr. Robert Fish (Commerce); Dr. Arnold Fritsch (AEC); Dr. Eugene Fubini, Dr, Richard Head (for Mr. Abraham Hyatt), Dr. James Liverman (for Dr. Spofford English), Mr. Allen Pond (Long Range Planning Committee); Dr. Allen Gambel (NASA); Dr. Kermit Gordon, Messrs. Hugh Loweth and Thomas O'Brien, and Dr. J. Lee Westrate (BOB); Mr. Russell Hale (National Aeronautics and Space Council); Dr. Nathan Marcuvitz and Mr. Charles Weaver (DOD); Mr. Seymour Wolfbein (Labor); Messrs. Robert Barlow, David Beckler, Robert Fleagle, Nicholas Golovin, William Hooper, J. Hilary Kelley, Irvin Tobin (OST).

Resume of Actions

Item 1 Chairman's Report

Dr. Leland J. Haworth was welcomed as new Director of NSF and its representative on the Council.

The Council concurred on adoption of Recommendation 5-63 by its Committee on Science Information regarding standardization of microforms.

The Administration's support of oceanography legislation H. R. 6997 was announced.

Appointments of new Chairmen of Federal Council Committees were noted as follows:

1) Committee on Science Information - Major General William Ely to succeed Vice Admiral Charles Martell

2) Committee on Natural Resources - Dr. John C. Calhoun, Jr. to succeed Dr. Roger Revelle

3) Interdepartmental Committee for Atmospheric Sciences - Dr. J. Herbert Hollomon to succeed Dr. Alan T. Waterman.

Item 2 Status Report on Long Range Projections of Federal Research and Development

Historical background, conceptual and policy framework of Federal research, needs for Government-wide long-range planning and September 1961 authorization by the Council of a new set of projections of funds, manpower and facilities were reviewed by Dr. Wiesner, Dr. Harvey Brooks and Dr. Richard Bolt.

Dr. Bolt summarized statistical results from the survey thus far analyzed and Dr. Brooks and Dr. Perlman commented on limitations of both numerical data and replies to essay questions.

Additional factors which must be taken into account in the Federal planning process, including non-Federal demand for manpower and considerations of broad national economic needs were presented by Dr. Bolt and Dr. Hollomon.

The Council then discussed implications of the survey, with regard to validity of data, strength of the planning process, and conclusions regarding substantive plans and demands on research resources.

Although no formal action was called for by the Chairman, it was generally agreed that 1) NSF analysis of these results should be completed promptly because data were so perishable, followed by 2) conferences of OST and NSF personnel with each department, particularly to review assumptions which underly planning process so as to improve validity of this exercise and to strengthen future planning capability in each agency and across the board.

Next steps in analysis of long range projections will be considered by the Council subsequent to this review.

Item 3 Plans for Submitting Federal Council Nominations for the National Medal of Science were discussed and adopted.

Item 4 Plans for the first meeting of the reconstituted Standing Committee were submitted by Dr. Astin and accepted.

Item 5 Policy Proposals for Summer Faculty Salaries were set before the Council and comments invited by mail for discussion at the next Council session.

Item 1 Report of the Chairman

a) The Chairman welcomed Dr. Leland J. Haworth in his new role as Director of NSF and as its representative on the Federal Council.

b) Policy recommendations 4-63 and 5-63 which had been adopted June 18 by the Committee on Science Information were placed before the Council for discussion and action (References 1 and 2). Paper 5-63, concerning standardization of microforms, represents a major step toward developing Government-wide compatibility of information systems that would permit microform clientele to utilize the outputs of all agencies with the same storage and viewing equipment. Polling Council members, the Chairman found an affirmative consensus in support of the COSI recommendations. Because of the shortage of time, consideration of Paper 4-63 was deferred. Noting that COSI Chairman Martell was being reassigned from ODDRE to Commander of the Navy's 2nd Fleet, Dr. Wiesner extended to him the Council's best wishes in his new assignment, and congratulations for the very effective leadership of COSI during his short interval of tenure.

c) The Chairman announced that the Administration was supporting oceanography bill, H. R. 6997 now that language meets the Administration's previous objections to H. R. 13. Agencies whose views on the legislation were solicited by the House Merchant Marine and Fisheries Committee were encouraged to respond promptly to facilitate Congressional action.

d) Appointments of new Chairmen of Federal Council Committees were announced as follows, effective immediately:

1) Committee on Science Information - Major General William Ely to succeed Vice Admiral Charles Martell

2) Committee on Natural Resources - Dr. John C. Calhoun, Jr. to succeed Dr. Roger Revelle

3) Interdepartmental Committee for Atmospheric Sciences - Dr. J. Herbert Hollomon to succeed Dr. Alan T. Waterman

Item 2 Status Report on Long Range Projections of Federal Research and Development

In introductory remarks, Dr. Wiesner noted that manpower and funding projections for R&D had first been developed by NSF in 1959 but subject to serious uncertainties. At its September 26, 1961 session, the Council took note of the continued expansion in Federal R&D programs, and the heightened competition for limited resources. With a more favorable atmosphere evolving under President Kennedy

for planning in substantive as well as fiscal terms, and with establishment of the NSF Science Resources Planning Office to assist in staffing such an exercise, a new set of projections of greater validity were deemed both necessary and possible. In addition, several agencies had initiated independent long-range planning operations which required a perspective of aggregate Government needs. Accordingly, the Council approved NSF proposals to survey Federal requirements through 1970 for funds, facilities and manpower, and established its Long Range Planning Committee, amongst other tasks, to represent the Council in preparing for this exercise.

After several refinements to reduce detail, the survey questionnaire was distributed June 29, 1962 to the heads of all departments and agencies having major R&D programs, with a completion date of November 1. Not all agencies responded promptly, and reduction of data has been delayed. The interim report circulated to the Council thus summarizes only a portion of the information received (Reference 3). The focus of attention on growth in Federal R&D, questions by the President and Congress over the adequacy of manpower to meet aggregate demands, however, has made it necessary to review the status immediately of NSF results thus far collated. In setting this material before the Council, however, Dr. Wiesner urged that emphasis in this session be focused initially on validity of the planning processes, and on the assumptions which underly the data, rather than on an interpretation of detailed numerical results.

Lending perspective to the presentations to follow, Dr. Harvey Brooks, Chairman of the Council's Long Range Planning Committee, reviewed the conceptual and policy framework in which context Federal science activities are conducted, and reiterated the contemporary needs for planning. He then alerted the Council to types of conclusions which may emerge from the statistical survey, which should be considered in the course of subsequent presentations by Dr. Bolt and his staff. (Ref 4)

Concluding, Dr. Brooks called attention to limitations of the study that arise in the first instance from inadequate planning in the agencies themselves. Poor responses to the essay questions which were intended to highlight planning assumptions, both as to methodology and policy constraints, suggest weaknesses in department-wide planning, and often only a pale reflection in planning goals of the agency's statutory mission. Development plans often did not incorporate major new projects, such as the supersonic transport, research in limited war problems, the follow-on to APOLLO, etc. And related to these points was a conspicuous flattening of the fiscal requirements of R&D for the last four years of the decade. Whether this is an unreal effect due to the failure to foresee development opportunities or the consequence of deliberate rationalization could not be determined.

Dr. Bolt opened his discussion of the statistical results by summarizing general planning considerations:

1) Planning must involve a long time-scale, because of the long time intervals required for development of technical personnel, and for the translation of new concepts through research to field applications.

2) Major new programs in any single agency can have a significant impact on the total Federal program, especially in light of the taut manpower situation.

3) The market for R&D is closely linked to the market for specialized manpower, and decisions should therefore be heavily based on considerations of manpower supply, both quantity and quality.

4) Planning is not decision-making, but rather the development of information that would enhance the quality of decisions.

Dr. Bolt then briefed the Council on the numerical results and highlighted the following implications:

1) Obligations through 1970 conspicuously level off after 1965, largely as a consequence of DOD's and NASA's modesty in projections.

2) R&D plant shows the largest increase from 1961 to 1964, primarily in NASA.

3) Total research in educational institutions grew by a factor of 2 from 1961 to 1964; the fraction of total research which may be regarded as basic appears to remain constant for the rest of the decade.

4) Manpower projections are based almost entirely on fiscal information, converted by a suitable index of cost per man; data on extramural manpower requirements, especially for development work, were exceedingly hard to come by.

5) The sharp increase during the rest of the decade in requirements for engineers reflects their participation in research through design and development of instrumentation and research facilities rather than as research investigators. Data distinguishing these two categories are not available. Federal requirements for engineers engaged in design and construction rather than R&D are large but also unknown.

In a commentary on issues in methodology (Reference 5), Dr. Perlman called attention to a number of factors which bear on the quality of these data and on preparations of any supplemental questionnaire for the future:

1) Because the "program" level of projections in contrast to the "agency" level were so incomplete, a new determination must be made as to whether such "P" level information can and should be developed.

2) The present breakdown of 165 sub-fields of science is too elaborate, and should be reviewed and modified.

3) Manpower data are in sharp need of refinement as well as independent validation.

4) Data categorized by purpose rather than field of science were fragmentary and of doubtful validity, partly because this exercise was the first occasion for agencies to categorize their research activities by national goals.

5) The 10-year interval for planning may be too long, considering the large number of political uncertainties, as well as unpredictable opportunities in science.

6) The timing of the next survey should be considered in relation to other fact-gathering activities, on manpower, non-Federal research.

Dr. Perlman anticipated completion of the statistical analysis by September, although interim material distributed to Council members was considered complete and authenticated. Reference 5 is an outline of the final report.

Dr. Bolt then discussed additional factors that must be taken into account in any long-range planning process - such as the non-Federal requirements for funds, manpower and facilities, the statistics regarding total manpower stock, and feedback requirements to enhance supply. Many of these considerations were the subject of current NSF study, such as their soon to be released report on "Profiles of Manpower in Science and Technology" (Reference 6), and a draft paper concerned with the ingredients of academic science (Reference 7). By way of example, Dr. Bolt called special attention to the mix of teaching and research within an educational institution, and funds required for plant and for operation. With such information, it is possible to determine requirements for research funds fundamentally related to the education process, on which basis additional Federal support primarily represents funding for mission-oriented research.

Dr. J. Herbert Hollomon then presented a working paper (Reference 8) concerned with planning in relation to broad national economic needs. Based on recently collated statistics on levels of industrially supported R&D by field, it was possible to identify the implied opportunities by which R&D could add value to goods or services, and to suggest priority areas for civilian technology oriented support.

In discussion which followed, Council members were polled for their views regarding both validity of the long-range planning process, and implications of the statistical results.

While expressing reservations as to the broad scope encompassed by the survey, Mr. Carey regarded the exercise as essential to the budget process. He underscored the need for agency heads to up-grade their resident long range planning capabilities, and questioned whether the narrative replies had been reviewed by Departmental secretaries before release. Long range projections may raise problems for BOB, he noted, both in adding visibility to the rate of R&D growth, and in posing questions as to criteria for evaluating appropriate rates of growth. To elucidate this factor, he urged that CEA, OST and BOB collaborate to develop economic assumptions that would facilitate evaluation of any future projections.

AEC concurred on the merits of the survey, Dr. Fritsch said; and in meeting Mr. Carey's question concerning the management level at which results were reviewed, felt that the Commissioners had evaluated results only briefly prior to release.

Dr. George Simpson stated that NASA's submissions had been reviewed by Mr. Webb but the space program poses a serious problem because it is so fast-moving that projections were unable to keep up with program changes. He agreed that the apparent 1965 leveling off of NASA activities is not realistic, and urged that this survey be promptly concluded and followed up by another incorporating the planning experience derived in this current exercise. He also urged that a small task group of OST personnel, with NSF assistance, meet with agency staff to review the planning assumptions in more detail and lay the groundwork for any succeeding exercise.

Admiral Martell, while admitting that long range planning is essential, cautioned the Council on the uncertainties in results. In DOD, for example, long range projections at the "program" level inevitably energized a "bow wave" of program commitments, which had to be modulated by policy action. Otherwise, the projections reflect too rich a mix of aspirations that do not warrant development. Consequently, DOD projections reflect an entirely arbitrary 5% annual increase. Results, he noted, were reviewed by Secretary McNamara before release. Admiral Martell went on to underscore manpower as a key to accomplishment, but recalled that 10 years ago the compilation of statistics would have suggested that any growth in Federal R&D program such as has actually occurred would have been impossible. Thus, he felt there was a hazard of proceeding too cautiously on the basis of contemporary manpower data. From his own experience, industry has many proposals that still go unsupported. Finally, Admiral Martell recommended that if a new questionnaire is distributed, it be far more condensed.

Dr. Hollomon reiterated concern about excessive details in this questionnaire, and felt that projections should be initially developed on a broad basis, with fine detail introduced at a later date. Department

of Commerce statistics had been reviewed by Secretary Hodges, but the narrative questions were not. In Dr. Hollomon's view, Federal planning must be undertaken in the broader framework of national planning,which requires a current description of the economy and better statistical data on Federal support for research, delineated by purpose.

Speaking for Interior, Dr. Calhoun noted that the Office of the Secretary reviewed statistics developed by constituent agencies, but did not modify them. Although uncertainties in data limit their application, he felt the exercise had stimulated bureaus to initiate program planning of their own; such planning competence will mature effectively, however, only if there is prompt feedback from this exercise to the agencies. Concluding, Dr. Calhoun felt the existing processes of planning, primarily represent linear extrapolations of on-going activity, and do not adequately accommodate innovation; special attention must thus be given to identifying and filling gaps.

Dr. Rollefson suggested that long range planning and the associated statistical guides should be more strongly based on analysis of the historical record and present trends. Moreover, manpower and fiscal projections should never be accepted as a straitjacket, and care should be taken in data collection not to select categories that may inadvertently create that constraint.

Dr. Elting observed that the Department of Agriculture has been engaged in long range research planning for some years, but that this exercise strengthened their approach. Their program, however, must necessarily extend beyond the Federal sponsorship because of the extensive State contributions to research. Dr. Elting also felt that industry contributed a proportionately higher fraction of funds to agricultural research than may be true in other areas under Federal sponsorship. Finally, he observed that agricultural surpluses have a special impact on Federal sponsorship of agricultural research.

Agencies such as NIH have special planning problems, Dr. Stewart contended, because there is no way to measure the productivity of medical research, as a guide to future selective emphasis. Yet, planning in this field has considered availability of manpower resources perhaps more than in others. Because quality as well as quantity of manpower influence the fruitfulness of the program, he urged that studies be undertaken of research productivity that would serve as auxiliary guides in planning.

Top management in FAA reviewed their submitted data, Mr. Shank stated, but all of these projections, nevertheless, reflect a high degree of subjective judgment. Because FAA supports no basic research, their forecasts of support levels are somewhat simpler to construct. While this exercise provided valuable groundwork of statistics, Mr.

Shank urged that more time and attention should be devoted in the agencies to identifying the requirements which justified Federal support of research, and to the establishment, to every extent possible, of priorities. Like Dr. Rollefson, Mr. Shank contended that the planning should not, in itself, set requirements. Finally, he recalled the relatively low productivity of non-educated manpower, and considered that the up-grading of human resources should be included as part of the planning process in R&D.

Dr. Haworth was of the view that the questionnaire was far too detailed, and felt that this introduced an artificial authenticity to numbers which are only estimates. He especially questioned the leveling off of support for R&D after 1966. Moreover, he considered that agencies are only now learning something about the process of planning and of estimating their requirements, and were desirous of evaluating implications of these results promptly. As a research sponsor, he felt NSF was confronted with a new problem of meeting increased requirements to fund research, while being more strenuously obliged to support graduate education. Concluding, Dr. Haworth noted that NSF will continue to fulfill its responsibilities related to resource planning, in concert with OST.

Summarizing, Dr. Wiesner observed that the sharp rise in Federal R&D obligations during the next two years could well outpace the availability of top level manpower so that evaluation of the manpower ingredient in long-range planning during this interval was especially vital. He also felt the leveling off projected beyond 1966 deserved much more careful study. Far more intense and systematic planning should be undertaken within the agencies in order that, separately and collectively, the Federal program would be more sensitive to the mission requirements authorized by Congress and directed by the President, related to national goals.

Because of the major deficiencies in manpower data, Dr. Wiesner raised the question of more extensive surveys of manpower to develop an independent set of statistics to fortify results of this exercise. Entirely apart from projections, a much stronger base of planning facts for FY 1963 is essential as a datum. Finally, planning in substantive fields appears possible only in finitely bounded areas, following the concept developed for oceanography.

Special Note: No formal action was called for by the Chairman. Based on these presentations and the consensus which arose from the Council discussion, the Chairman has requested that NSF complete data analysis according to their September 1 schedule. He has also addressed letters to each member requesting that the department:

1) review its internal organization and personnel involved in long range planning, and identify one individual who would serve as a focal point of agency planning responsibility;

2) review agency appointments to the Council's Long Range Planning Committee, and wherever indicated change that membership to meet the new function evolving for the Committee; the individual named in Item (1) should serve as the agency representative to the reconstituted Committee;

3) prepare for a conference with OST to explore implications of replies to the essay questions. For this purpose, Dr. Wiesner is requesting that a small task group chaired by Dr. Harvey Brooks and comprising members of PSAC, OST and NSF staff meet with each agency during the middle of September to review the agency responses to the questionnaire so as to improve the validity of data submitted, to formulate plans for a follow up questionnaire, to assist agencies in the planning process and to foster consistency in definitional problems.

Item 3 Nominations for the National Medal of Science

On May 15, 1963 members were informed that nominations were invited from the Council for the National Medal of Science, and that it was the Chairman's intention to re-submit last year's recommendations (except for Dr. von Karman, who won the award), subject to any additions proposed by the Council. The Council concurred. Subsequently, one additional nomination has been received, was reviewed by the same ad hoc nominating committee which evaluated last year's submissions, and was recommended to the Council to be added to the list of eleven. Council comments were requested by mail or phone in order that the July 31 deadline could be met.

Item 4 Progress Report on Reorganization of Standing Committee

Following up April 23, 1963 Council action, Dr. Allen V. Astin, representing the Program Group of the Standing Committee, submitted recommendations to the Council as to agenda and attendees for the initial meeting of the new standing committee, reconstituted as a forum (Reference 9). A two day symposium was proposed for October 17-18, devoted to presentations and discussions on:

1) "man on the job" concept;
2) standards for GS 16-18 and PL 313 positions;
3) within-grade salary increases;
4) expediting firm job offers;
5) policies and practices regarding extracurricula activities of Federal scientists;

In addition, the program called for general remarks by Messrs. Macy and Wiesner. In brief discussion, Dr. Astin indicated that certain parts of the symposium would be planned in greater detail to utilize this opportunity to expose participants to broader issues in

Federal science and to "write the agenda for future meetings of the Standing Committee." The Program Group suggested that approximately 90 individuals be invited to the symposium, with an apportionment by agency; nominations would be submitted for review by the Program Group.

Support for this type of program was encouraged by Council members and the proposals approved.

Item 5 Policy Proposals for Summer Faculty Salaries (Reference 10) were set before the Council for written comment, with discussion deferred until the next Council session.

The meeting adjourned at 5:35 p.m.

Edward Wenk, Jr.
Executive Secretary

Approved by the Chairman
13 August 1963

FEDERAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Meeting of July 18, 1963

References

1) "Proposed Federal Policy Governing Federal Support of Nongovernmental Publications" COSI Action Paper No. 4-63, June 18, 1963

2) "Standardization of Microforms for Government Research and Development Documents" COSI Action Paper No. 5-63, June 18, 1963

3) "Interim Summary Report of Federal Agency Survey of R&D Levels Projected to 1970" July 9, 1963 SECRET

4) "Outline for Long Range Planning - Background" prepared by Harvey Brooks, July 10, 1963

5) "Outline of the Final Report of Federal Agency Survey of Research and Development Levels Projected to 1970"

6) "Profiles of Manpower in Science and Technology" NSF 63-23

7) "Progress Report of the Science Resources Planning Office for Fiscal Year 1963" memo to Dr. Jerome B. Wiesner from Associate Director (Planning) and Head, Science Resources Planning Office, NSF, June 17, 1963

8) "Technical Policies in the Context of Economic Needs" by J. Herbert Hollomon, July 10, 1963 (with tables revised July 18)

9) Draft "Symposium on Current Problems in the Management of Scientific Personnel" - A tentative program for the first Standing Committee symposium of Laboratory Directors, October 17-18, 1963

10) "Salary Policy for Government Contracts and Grants at Universities" by Harvey Brooks, 10 July 1963

McNamara directly. Johnson said his concern is that the requirement is "under," and that Harold Brown feels a caveat paragraph giving the AEC position should be included. He said he had a good visit to Hanford and he will send us a letter soon. In it he will suggest technical representation from AEC and DOD laboratories to go out and talk to the people about the possibility of DOD's placing work at Hanford.

I asked Johnson how much longer he is going to be with us. He said he told Harold Brown and Gilpatric that he will be willing to come back after three weeks to help for a while.

Being unable to get Secretary McNamara, I called Harold Brown at 4:30 p.m. I told him we are reviewing the latest version of the McNamara letter to the President on the stockpile, and we think he is cutting it too tightly in designating Case 5. Brown said that, in his opinion, AEC has a right to express an opinion on this. I said that AEC believes Plan 4 would be more appropriate. I mentioned several specific points in the letter where we feel changes should be made. I told Harold that I am going out of town late this afternoon and will be away for the weekend, but that, if he or McNamara need to go into the matter further tonight or tomorrow, they should talk to Commissioner Palfrey. I said we are preparing another letter, but we had hoped it would be complementary and would be consistent with the DOD letter and would just make some flash observations. I said I would prefer not to sign a stockpile letter. He said he and Jerry Johnson would see Gilpatric and McNamara tonight and that he would be in touch with Palfrey.

I flew to Norfolk on Piedmont flight 67, leaving at 6:10 p.m. and arriving at 7 p.m. Helen, Steve, Dave and Dianne met me.

Saturday, July 20, 1963 - Virginia Beach

I spent the day at our rented house in Virginia Beach and on the beach.

I took all the kids, except Lynne, to the seaside "Midway" area.

Sunday, July 21, 1963 - Virginia Beach - Washington

With the exception of Pete, who is staying until Tuesday, the family and Nora Blaufarb returned to Washington by car.

Monday, July 22, 1963 - D.C.

Congressman Albert Thomas (Texas) called at 10 a.m. to say that Texas A&M College is interested in getting an accelerator, which will cost about $6 million: $3 million to be put up by the College and the other $3 million by the AEC. I told him that this is primarily a budgetary problem at the moment since AEC has only a total of $3 million for projects of this sort for the entire country. He said he will talk with Cannon's House Appropriations Committee about getting more funds. I mentioned the procedure involved in deciding where the money will go; i.e., advisory committees of experts in the field make recommendations. I said that one of Texas A&M's problems is that they need an accelerator to have a staff, but in order to get a favorable recommendation from the advisory committees, the College will have to demonstrate competence in the field.

At 10:40 a.m. I presided over Information Meeting 291 (notes attached).

DECL. BY DOE
NOV 86

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 145
July 22, 1963

INFORMATION MEETING 291

10:40 a.m., Monday, July 22, 1963 - Chairman's Conference Room, D. C. O

1. Dr. Gerald Johnson's Meeting Today with Commissioners and Staff to Discuss 1972 Projections

2. Request - from Atomic Industrial Forum re Isotope Study

The Chairman noted the request to discuss the matter and suggested the afternoon of August 1 in Germantown. (Aebersold-Secy)

3. Commissioners' Meeting with Hanford Study Group August 1

The Chairman suggested the following schedule:

10:00 a.m. - Meeting with the Commissioners
11:00 a.m. - Meeting with the Commissioners and Staff - to be followed by luncheon in the Commissioners' dining room. (Brown-Secy)

4. Proposed Assignment of Dr. John Bugher

The Chairman noted Dr. Bugher's call, saying the Department of State is interested in assigning him to India as a Scientific Attache. The Chairman thought, and the Commissioners agreed, it would be more useful for Dr. Bugher to stay at his present post in Puerto Rico. The Chairman will telephone Ragnar Rollefson, State Department, to discuss the matter in that light. (Brown)

5. Department of Defense Funding for SNAP 10-A Program

The Chairman said he had talked to Harold Brown, and it is agreed DOD funding will continue at a level of between $8 and $10 million, with a delayed flight test schedule.

6. Acting General Manager's July 19 Letter to Mr. Alexander, Maritime Administration, re N. S. SAVANNAH

To be circulated. (Secy)

7. July 18 Meeting of the Committee on Equal Employment Opportunity

The Chairman reported briefly on the meeting last Thursday. Mr. Ferguson said the Vice President will send AEC a letter requesting information, and the Chairman requested early response.

8. July 17 Letter from Senator Eastland Requesting Comments on a Bill re Patent Information

In response to the Chairman's query, the General Manager said he thought the letter response had been sent last week. (Secy)

9. Letter to Secretary of the Navy Korth re Adm. Rickover attached on 7/25/64

The Commissioners reviewed Mr. Ramey's draft and the Chairman said he would send the letter with the changes indicated. (Brown)

10. Bureau of the Budget July 17 Letter Requesting Reduction in AEC Overseas Offices

The General Manager reported what steps had been taken and the Commissioners agreed this is as much as should be done at this time. An appropriate reply is to be prepared. (Wells-Abbadessa)

11. June 13 Paper From the United Kingdom re Future High Energy Physics Program

The Chairman suggested Dr. Tape call Dr. Haworth and arrange a joint discussion.

12. Pending Contractual Matters (Report of July 18)

The Chairman suggested the Commissioners review the report to ascertain whether it serves the intended purpose. Commissioner Ramey requested flagging of any matters containing industrial implications, and the Commissioners asked to be informed regarding the criteria for selection of the Contractor for Miscellaneous Construction, NRTS, Idaho (Item B(3), Page 2). (Vinciguerra)

13. Commissioner Wilson's Testimony for the July 29, 30 and 31 Hearings on Private Ownership

Commissioner Ramey and the General Manager discussed their proposed changes. The Chairman said he would telephone Dr. Wilson this afternoon to discuss the proposed revisions. (Brown)

14. USGS Press Announcement re Tritium in Rain Water

Mr. Ink noted the press announcement and the Chairman suggested a query to the Department of Interior. (Ink)

15. GAC Recommendations on Reactor Development Program

The Commissioners discussed briefly the GAC recommendations from the July 18, 19 and 20 meeting and requested early consideration by the staff. A mid-August briefing on the heavy water program is to be arranged for the Commissioners and the GAC Subcommittee. (Pittman-Secy)

PRESENT

Dr. Seaborg
Mr. Palfrey
Mr. Ramey
Dr. Tape
Gen. Luedecke
Mr. Brown
Mr. Ferguson
Mr. Ink
Mr. McCool

DISTRIBUTION

Commissioners
General Manager
General Counsel
Secretary

W. B. McCool
Secretary

McNamara is consulting this afternoon with the Joint Chiefs regarding weapons stockpile through 1972. They want much more than McNamara does. McNamara wants to recommend an even smaller rate of fissionable material production than corresponds to his recommended stockpile.

Dr. Ragnar Rollefson (State Department) called at 12:05 p.m. and said that Chester Bowles asked Dr. George Harrar for recommendations for someone for the spot of attache in New Delhi, and Harrar suggested Dr. John Bugher as the ideal person. Rollefson talked to Bugher who said he feels it wouldn't be fair for him to leave the AEC program in Puerto Rico right now. Rollefson asked my opinion. I said that the Commission feels very strongly that Bugher should not leave because we need him where he is. I explained the importance we are attaching to the Puerto Rico project and said we have even written the IAEA and encouraged them to involve themselves in this project and they are interested in doing so. I said the place needs Bugher, who is really its heart. He then asked whether we might reconsider, say, in two years. I said we might, but I did mention that Bugher's age might be a mitigating factor against making such a radical move.

Rollefson then mentioned to me that the atoms-for-peace program is in trouble again. The State Department planned to ask for a separate appropriation, but the Assistant Secretary for Congressional Affairs opposed it. He said it may be necessary for the AEC to go and talk to congressional people before it can get through. He asked whether I, or someone else in the Commission, would be available to do so. I said I would rather do it this week because of my forthcoming vacation. He said he will be in touch with me as soon as he has more information.

I had lunch with Alice and Jim Robinson at the Cosmos Club.

Dr. John A. Cooper (Dean of Sciences at Northwestern University) called at 2 p.m. to say that he and Martin Bloch (Professor of Physics, Northwestern University) have had considerable discussions on the MURA project. (He identified Bloch as the originator of the helium bubble chamber and formerly on the staff at Duke University.) They are concerned about the way MURA is going and would like to come in to talk with me about this on Friday. In the overall development of high energy physics, Bloch's concern is in moving ahead over a period of ten to 15 years with the type of machine that might be contemplated. Bloch is concerned that merely having an accelerator with the same energy as the Argonne machine, but with higher intensity, will put the Midwest behind the rest of the country in the next few years. He has talked with Fred Seitz and Al Crewe about this.

I asked if they have any problem with the location at Madison, Wisconsin, and he said not primarily--they are more concerned about the kind of machine than the site. However, he did say he thinks the machine would be better at Argonne and some thought should be given to setting up a high energy center there. I told him I will be glad to talk with them on Friday.

Dr. George Beadle (President, University of Chicago) called at 2:45 p.m. He told me that the Argonne Policy Board, including some members of the Associated Midwest Universities, met last week and discussed the MURA accelerator. They decided to have Dick Crane ask Terwilliger, who is Chairman of the ANL Users Group, call the Users Group together and try to come up with recommendations as to how the operation of the ZGS and MURA machine can be coordinated. Beadle expressed great concern about whether the Midwest should have another machine of 12.5 BeV energy, duplicating the ZGS in energy. He emphasized that the ZGS could have its intensity increased with a new injector, and, when I indicated

that the MURA machine intensity would still be 50 times that of the ZGS, he said he understood that this was a fictitious factor in that no one knows how to handle such a high intensity.

He said he will send me a copy of the document covering the meeting of the Argonne Policy Board (copy attached). I asked Beadle whether he will have any great problem with a plan whereby the ZGS and the MURA machine were both operated by a sort of combined MURA-AMU management at the Argonne site. I said that it would have advantages to everyone concerned except for the slight disadvantage of the University of Chicago's losing a small part of its ANL contract. Beadle said he will discuss this with Crewe, but indicated that, if this is good for Midwest physics, he would be willing to overlook any such disadvantage to the University of Chicago.

During the course of the conversation, Beadle implied that perhaps the proper machine for MURA is a higher energy accelerator. I made the point that this would be difficult in view of the fact that the California group has been working along this line and cannot be pre-emptively put aside, especially in view of the fact that nearly all of the Midwest University Presidents (excluding Beadle and Miller of Northwestern) and members of Congress have been advocating the 12.5 BeV accelerator for MURA.

Helen and I attended an informal buffet dinner at the William Fosters' honoring the ACDA General Advisory Committee.

Tuesday, July 23, 1963 - D.C.

At 10 a.m. the Commissioners met with members of the Atomic Safety and Licensing Board Panel to discuss the methods by which they should conduct hearings.

Palfrey and I had lunch with McNamara, Gilpatric, Harold Brown and Jerry Johnson in McNamara's Pentagon dining room to discuss mutual problems and the philosophy of civilian control, especially in view of Jerry Johnson's departure to return to Livermore. We also discussed McNamara's coming letter to the President on the 1972 stockpile. We convinced him to leave the translation to production figures to the AEC. We also discussed the problem of Rickover's deputies with his retention in a Navy role. They want him kept on as a civilian to better assure the future of the program. This presents problems and McNamara suggested that I talk to Korth.

I heard from Bill Foster that the Moscow agreement to ban atmospheric testing will apparently contain provisions making Plowshare experiments possible, apparently because of my representations. He said that Khrushchev is in favor of means to develop peaceful uses of nuclear explosives.

I sent my biweekly report to the President (copy attached).

Wednesday, July 24, 1963 - Germantown

At 9:50 a.m. I presided over Information Meeting 292 (notes attached).

At 11:30 a.m. I presided over Commission Meeting 1953. The Commissioners approved the following: 1. Minutes of Meetings 1921, 1926, 1927, 1928 and 1930 were approved as revised, subject to comments by Commissioner Wilson. Minutes of Meetings 1921, 1926, and 1927 are also subject to comments by Commissioner Ramey, 2. AEC 1000/74 - SNAP 50/SPUR Program Reorientation, 3. AEC 891/12--sale of additional undeveloped land in White Rock area of Los Alamos County, New Mexico and AEC 891/13-supplement to AEC 891/12. (The Commission

THE UNIVERSITY OF CHICAGO
CHICAGO 37 · ILLINOIS
OFFICE OF THE PRESIDENT

DECLASSIFIED BY DOE
NOV 86

July 22 1963

Dear Glenn:

Here is a copy of the action of the Policy Planning Board as called about today.

After hearing to you I called Al Crewe who explained his position to me. I believe it can be summarized as follows:

He agrees it would make a lot of sense for both the ZGS and the FFAC decentralization headed at Argonne and operated and administered together. But he does not believe having them administered by a second group under a contract separate from that of U C would make good sense. All MURA schools are included in AMU. AMU (33 institutions) would be an unwieldy group to try to run a facility including the two machines. On the other hand the two machines could quite well be coordinated by

1. Some — MURA + AMU

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I agree that there would be no difficulty of operating the two machines efficiently under the present Argonne setup. The User Group is now in the process of scheduling use of ZGS and it seems to work very well. Argonne and Univ Chicago are represented but only as a minority. So far all parties are happy with this arrangement.

Scheduling the problem is a tough one for you but we have confidence that it can be solved in the best interests of all concerned. Hope the meeting of users will have constructive suggestions.

Regards,

George Bird

Motion presented and approved at meeting of the Argonne Policy Advisory Board July 17, 1963.

It was moved by Mr. Williams and seconded by Mr. Seitz and unanimously approved that Mr. Beadle request Mr. Crane to ask Mr. Terwilliger, Chairman of the Argonne Accelerator Users Group, to set up a meeting of physicists of the Midwest to consider ways of implementing one of the recommendations of the Ramsey Panel Report pertaining to the FFAG accelerator, to quote in part:

> "Since such an accelerator can cover all areas of research now being brought under investigation by the ZGS accelerator, the Panel recommends the development of plans in which the use of both accelerators would be coordinated by a single group."

It was emphasized by the Board that the initial meeting of the Midwest physicists should take place as soon as possible. The Board further recommended that this group consider steps to be taken to promote cooperation between ANL and MURA in the design of future generation accelerators.

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OFFICE DIARY
GLENN T. SEABORG
Chr USAEC, 1961-72
FOLDER-PAGE 31113

July 23, 1963

UNCL. BY
NOV 85

Dear Mr. President:

I have the pleasure of submitting to you the regular bi-weekly report on significant developments in the atomic energy program.

1. Survey of NATO Installations

Representatives of the Commission in coordination with the Department of Defense will visit certain installations [redacted] beginning the last week of July to determine the adequacy of measures in effect to protect restricted data involved in the storage of atomic weapons. During the survey trip discussions will be held with U.S. military representatives concerning past security problems they have encountered in the atomic military cooperation programs and future plans contemplated in these programs. A review of the total SACEUR information atomic military cooperation program and future plans of SACEUR of concern to the Commission will be discussed with U.S. officers of the SACEUR staff.

In addition, unclassified discussions may be held with representatives of the French Commissariat for Atomic Energy on how best to proceed in exchange of information on nuclear weapons safety matters within the parameters outlined by the Department of State. It has been made clear to the French that these discussions do not involve any assistance in weapons development.

2. Excess AEC Mercury (Unclassified)

There has been recent Congressional interest in reports that the AEC had approximately 50,000 flasks of mercury excess to our needs due to a change in isotope separation requirements. This mercury was reported to the General Services Administration for circulation to other federal agencies for utilization in the government and was also under review by the Office of Emergency Planning for possible inclusion in the national stockpile. On

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WITH DELETIONS
BY AUTHORITY OF DOE/OC
6/11/86
REVIEWED BY
6/11/86

OFFICE DIARY
GLENN T. SEABORG
Chr USAEC, 1961-72
FOLDER-PAGE 3111

July 10, 1963, the CMP issued a press release stating that the stockpile objective for mercury has been increased from 110,000 flasks to 200,000 flasks which is approximately 55,000 flasks over the total of the inventories in the national and supplemental stockpiles as of April 30. We expect, therefore, that CMP will request GSA to arrange for transfer to the national stockpile that part of the 50,000 flasks of AEC mercury not transferred to other federal agencies.

3. Project Carryall (Plowshare) (Unclassified)

A three-party agreement is expected to be signed shortly which will commence a joint study to examine the feasibility of using nuclear explosives to excavate a cut through Bristol Mountain near Amboy in Southeast California. The study group will be made up of representatives of the Atchison, Topeka and Santa Fe Railway Company, the State of California's Division of Highways and the U.S. Atomic Energy Commission.

The mountain pass would be used by the Santa Fe in a rerouting of its lines through the region while the Division of Highways is planning to reroute U.S. Route 66 through the proposed cut. The project has been given the name, "Carryall."

4. Congressional Notes

a. On July 9, as indicated in my last report, the JCAE held public hearings on three proposals to construct large nuclear power reactors (Connecticut Yankee, City of Los Angeles and Southern California Edison). Committee members were receptive and obviously pleased at this major step in the development of economic nuclear power. Critical testimony from the National Coal Association was treated summarily.

b. On July 17, the JCAE held public hearings on two amendments to atomic energy legislation involving Euratom and the disposal of radioactive waste. Of interest was the reaction of Senator Pastore (previously a staunch supporter of Euratom) to a proposal to increase the amount of fissionable materials which the U.S. can supply Euratom for its nuclear power development program. Pastore lashed out at Common Market embargoes on American poultry, questioned whether European integration is in the best interest of the U.S., and whether U.S. support for Euratom is advantageous.

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Chr USAEC, 1961-72
FOLDER-PAGE 31115

c. Open hearings on proposed legislation permitting the private ownership of special nuclear materials are scheduled before the JCAE July 29-31.

d. Representative Saylor (R., Pa.) has queried the AEC on reported cutbacks in AEC materials production, and apparently has sensed the political potential of this eventuality in relation to the controversial New Production Reactor at Hanford.

Respectfully submitted,

(Signed) Glenn T. Seaborg

Glenn T. Seaborg

The President
The White House

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UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

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NOV 86

COPY NO. 15
July 24, 1963

INFORMATION MEETING 292
9:50 a.m., Wednesday, July 24 - Chairman's Conference Room, Germantown

1. Aviation Week Query re Christmas Island

The General Manager discussed briefly the query from Mr. Johnson of Aviation Week and the Commissioners agreed we could not go beyond White House approved answers.

2. Chairman's Report on Test Ban Negotiations

3. Advisory Committee on Biology & Medicine Reports

The General Manager said that in the GAC-ACBM joint meeting last Saturday it had been suggested that the ACBM reports be provided to the GAC. The Commissioners agreed that both the AEC letters to the ACBM and ACBM reports be furnished the GAC. (Dunham)

4. Liaison with the GAC and ACBM

The Chairman suggested Commissioner Tape provide liaison between the Commission and the Committees.

5. Zero Power Criticality of Tory 2C, July 19, Livermore

6. AEC Exhibit at New York World's Fair

The General Manager proposed, and the Commissioners agreed, he should discuss with appropriate officials the possibility of AEC providing an exhibit for the Fair. General Luedecke said it had been determined this can be done without any conflict with the Fair appropriations rider. The Chairman requested the Commissioners be informed as to what the proposed exhibit will contain. (Gardner)

7. Contract for Operation of NS SAVANNAH

The General Manager reported the Department of Commerce has accepted two of the three AEC suggestions; the matter of safety responsibility will be taken care of in the Interagency agreement.

8. Limitation on Neptunium and Americium

The Commissioners accepted the General Manager's proposal to make quantities beyond the 10 gram limitation available. The General Manager said inventory control will be exercised by the Division of Research. (McDaniel)

9. Contract for Guard Force at NTS

The General Manager reported the contract had been extended for one year effective July 1, 1963, and that preparations are now being made to invite bids on the contract for the period beginning July 1, 1964.

10. Dr. Wilson's Testimony on Private Ownership of Special Nuclear Materials

The testimony has been circulated and sent to the Joint Committee and BOB.

11. Nuclear Cross Section Advisory Committee

The General Manager discussed briefly Dr. McDaniel's recommendations and the Commissioners had no objection. (McDaniel)

12. PRDC Proposal

In response to Mr. Ramey's query, the General Manager said a letter proposal has been received and is in staff. Mr. Ramey said he would like to see a copy of the letter.

13. General Manager's Memo re Task Force to Study Fission Product Recovery Facility at Hanford

14. Commissioners Meeting with Officials of Nuclear Materials and Equipment, Corp. Apollo, Pennsylvania

To be scheduled at 11:00 a.m., August 2. (Brown)

15. Hazelton Nuclear Science Corporation discussions with Hanford Representatives re Radiation Services

The Chairman noted Glenn Lee's letter discussing this matter.

16. July 19 Letter From Congressman Sheppard re Reynolds' Contract for Lease of Trailers at NTS

The Chairman requested preparation of an early response. (Vinciguerra)

17. Draft Addendum to Joint SNAP 50/SPUR Agreement

The Chairman noted the draft is acceptable to NASA.

18. Mr. Farmer's (General Atomic) July 18 Letter Commenting on Proposed ICC Regulations on Shipment of Radioactive Materials

Noted.

19. SNAP Study

The Chairman said Dr. Tape will now pick up the Study and Dr. Haworth will be available for consultation when appropriate.

20. GAO Letter re Procurement of Aluminum Cans and Cans by du Pont

The Chairman noted receipt of the letter and the General Manager reported the case is now with the Department of Justice.

21. Commissioners' Meeting with Secretary Korth

The Chairman suggested a meeting on Friday, July 26.

22. Mr. Ramey's Report on Joint Committee Hearing re the Thresher Yesterday

23. Meeting, July 23, with Secretary of Defense to Discuss Production Planning.

The Chairman and Mr. Palfrey reported briefly on their meeting with Secretary McNamara and other DOD officials yesterday.

24. Commissioners' Planning Calendar

The Commissioners suggested Dr. Wilson and appropriate staff review the Calendar monthly for informal discussion at an Agenda planning session. (GM-DR-Secy)

25. Mr. Wells' July 22 Memo re IAEA Staff Reorganization

26. 2:00 p.m., July 25 Meeting with Joint Committee to Discuss Invitation on Second Round Portable Army Nuclear Reactor

Mr. Ramey will attend with appropriate staff.

27. Proposed Uranium Barter Agreement with South Africa

Mr. Ramey discussed briefly his meeting with Department of Agriculture representatives. He said the BOB does not favor the proposed arrangements and informal discussions with Joint Committe members indicate they are opposed to it. The matter has been left with Agriculture that it should be discussed with the Joint Committee before moving ahead.

28. Decision on Labor Lawsuit, NTS

Mr. Hennessey reported briefly on the decision and the General Manager said he may recommend an appeal.

PRESENT		DISTRIBUTION
Dr. Seaborg	Gen. Luedecke	Commissioners
Mr. Ramey	Mr. Brown	General Manager
Mr. Palfrey	Mr. Hennessey	General Counsel
Dr. Tape	Mr. McCool	Secretary

W. B. McCool
Secretary

requested revision of the statement of the finding for review with individual Commissioners.) 4. AEC 89/14 - Employment of British National at LASL, 5. AEC 639/7-extension of carbide contract for operation of Oak Ridge and Paducah plants. The Commissioners agreed the contract should be extended for a three-year period and requested negotiation of a separate provision allowing a reopening of the contract for operation of ORNL. The Commissioners agreed the staff should have flexibility in negotiating an appropriate fee within the maximum allowable, with the understanding that consideration should be given to identifying that portion of the total fee which is applicable to the ORNL effort. Items of information were 1. bill regarding the automatic data processing center, 2. AEC cost accounting system for weapons, 3. accident near Houston.

The Commission approved negotiations for the renewal of the Union Carbide contract to operate Oak Ridge for three years (instead of five years) after the expiration date of the present contract (June 30, 1964) with the provision that the ORNL part be separable for a possible change to another contractor, such as a group of southern universities, on a year-to-year basis.

The Commission decided to stop the lithium-cooled reactor experiment of the SNAP-50 program in favor of a component study and an effort directed towards an actual prototype reactor.

I had lunch with George Gableman, Donald E. Bostock, John Palfrey, Howard Brown, Harriet Shapiro and Ed Ferguson to discuss conflict of interest provisions for AEC contractor employees and AEC consultantships. In my opinion the rules are too restrictive.

The Commission heard a briefing on the problems of toll processing. Extra uranium from this source offers a severe problem in view of the production cutback; however, we are publicly committed to toll processing.

Thursday, July 25, 1963 - D.C. Office and Germantown

Harry Smyth came in to the D.C. office and we talked about IAEA reorganization problems. He would have liked to go on our USSR trip and I said perhaps he could go next time.

At 9:40 a.m. I called Secretary Korth on the phone and said that the people under Rickover have been discussing with us the general future of the organization. We think there is enough in it that perhaps it would be worthwhile for the Commissioners to get together with him (Korth) and discuss the entire general situation. It was decided that we will meet in his office tomorrow morning.

From 10 a.m. to 11:30 a.m. I met with the Net Evaluation Subcommittee of the National Security Council at the Pentagon. Others present included General Maxwell Taylor (Chairman), A. H. Belmont (for J. Edgar Hoover), Ed McDermott, John F. Doherty and General Leon W. Johnson. We discussed the study of possible 1963-1968 nuclear attacks by the USSR on the U.S. and vice versa.

I talked with Bradbury regarding his difficulties with Finger. He wants to separate the Phoebus project from SNPO.

I had lunch in Germantown with John Palfrey, John Vinciguerra and Arnie Fritsch to discuss difficulties with the conflict of interest provisions for contractor employees and provisions of contracts.

I met with Albert Crewe regarding the impact of the MURA accelerator on the ZGS.

An atmospheric test ban treaty was initialed by Harriman, Hailsham and Gromyko in Moscow today--a great day!

I received the report of the 85th meeting of the GAC held at Argonne on July 18th - 20th (copy attached).

Helen and I attended a reception for the Latin American Science Board of NAS at the Pan American Union. Harrison Brown and Dr. Jose Mora (Secretary General, Organization of American States) were hosts.

Palfrey and I had dinner with Bundy at the Metropolitan Club. We discussed: 1. the AEC-DOD differences over recommendations on the 1972 stockpile, 2. the problem of informing the JCAE of this, 3. the atmospheric test ban treaty (Bundy thinks perhaps I should go to Moscow with Rusk for the signing next week), 4. the problem of Rickover staying on as a civilian, and 5. the Stennis Committee request for testimony by John Foster and Norman Bradbury and the request for a history of considerations as to whether the U.S. should build a superbomb.

I sent a letter to Secretary Korth concerning the Rickover matter (copy of correspondence attached).

Friday, July 26, 1963 - D.C.

Under the direction of Bundy, I helped a group work on a speech regarding the atmospheric test ban treaty which was initialed yesterday in Moscow, to be delivered by President Kennedy on TV at 7 p.m. tonight.

The Commissioners met with Secretary Korth in his office to recommend that Rickover be kept on as a civilian. He will meet with Rickover to discuss this while his administrative assistant, Ken Ballou, will meet with Rickover's assistants.

I attended a luncheon with Overseas Writers and Broadcasters at the Statler Hilton Hotel with Edward P. Morgan as host. About 40 to 50 newspapermen were present. I answered questions on the atmospheric test ban for about 45 minutes which went quite well.

I recorded two five-minute TV programs for Congressman Robert Kastenmeier (Wisconsin) on the test ban, MURA and other accelerators, and my Russian trip.

I met with John Cooper and Martin Bloch of Northwestern University who believe that a 12.5 BeV MURA accelerator is the wrong machine for the Midwest. They think it should be higher energy.

At 5 p.m. I presided over Information Meeting 293 (notes attached).

Saturday, July 27, 1963 - D.C.

I worked in the office during the morning and read AEC papers and journals at home during the afternoon and evening.

Sunday, July 28, 1963

Helen and I, Dave, Steve, Eric and Dianne visited Sugar Loaf Mountain. All of us climbed to the top except Dave.

GENERAL ADVISORY COMMITTEE
TO THE
U.S. ATOMIC ENERGY COMMISSION
P.O. BOX 4528
WASHINGTON 7, D.C.

UNCL. BY DOE
NOV 86

July 24, 1963

9535 7/25/63

Dr. Glenn T. Seaborg, Chairman
U. S. Atomic Energy Commission
Washington 25, D. C.

Dear Glenn:

The 85th Meeting of the General Advisory Committee was held at Argonne National Laboratory on July 18, 19, and 20, 1963. All members of the Committee attended all sessions of the Meeting except for Eugene P. Wigner who was out of the country. The present membership of the Committee is Philip H. Abelson, L. R. Hafstad, K. S. Pitzer, Norman F. Ramsey, J. C. Warner, William Webster, Eugene P. Wigner, John H. Williams and Manson Benedict, Chairman. Also present at the Meeting were Anthony A. Tomei, Secretary, and Duane C. Sewell and Robert A. Charpie, Scientific Officers.

The Committee transmits its comments on the subjects discussed at this Meeting as follows:

(1) Production Cutback Problems

The Committee received an excellent briefing by Mr. Luedecke and Mr. Baranowski regarding the problems the Commission was facing in reducing the production of reactor products and oralloy to meet reduced military requirements for nuclear weapons. We were advised that military requirements as now visualized would call for substantial cutbacks in reactor power and diffusion plant separative work between now and 1968, followed by a much greater cutback between 1968 and 1972. After 1972 the increasing use of slightly enriched uranium in power reactors will add appreciably to the demand for separative work.

The Committee notes that this is the first time that the Commission's capability for producing plutonium and tritium exceeds current military requirements for these reactor products. We are thus witnessing a transition from a plutonium-scarce era of weapon development to a plutonium-abundant era. Our present weapons and weapons systems are based on minimum use of plutonium and tritium, even though lighter or more powerful or more versatile weapons might be developed through more liberal use of reactor products.

The period 1963-1968 affords an opportunity for the weapons laboratories and Department of Defense to consider how nuclear weapons and delivery systems could be improved with the surplus of plutonium which could now be produced. We suggest,

(a) That the AEC stimulate these groups to devise improvements in weapons and weapons systems through the more liberal use of reactor products.

(b) That the AEC seek authorization to produce a respectable surplus of plutonium over present military requirements because of the salutary effect such a surplus would have on the emergence of improved weapons.

During the period 1963-1968, we would recommend that at least one reactor at Hanford and one at Savannah River be taken off production of plutonium and tritium, to make clear to local residents that the demand for these materials is decreasing and to give advance warning of future, more serious cutbacks.

In the period 1968-1972, the present view that the required production of plutonium and tritium will then be very small may in fact be confirmed. In that case the AEC will have no choice but to shut down and mothball most of its production reactors in 1968. The Committee considers it distinctly probable, however, that there will be a substantial need for reactor products after 1968, either because intervening events render present estimates of military requirements too low, or because of the development of improved weapons using more plutonium.

While we do not preclude the possibility of use of plutonium production reactors for other purposes, we regard it as unlikely that alternate use of these reactors for production of power or chemicals would be economic and advise against a major effort by the AEC to investigate conversion of these reactors to such uses.

With respect to oralloy, the Committee is convinced that the Commission will be obliged to reduce substantially diffusion plant output. Present reduced military requirements and possible future substitution of reactor products for oralloy in weapons will both have this effect. In deciding how best to reduce oralloy production, the primary consideration should be economy of the total operation consisting of the diffusion plant, uranium conversion and storage operations. Specifically, we would recommend,

(a) That the combination of uranium feed rate and power input which leads to minimum costs in these operations be used, even if this leaves a stockpile of untreated uranium concentrates.

(b) That one or more diffusion plants be shut down and mothballed as soon as this will lead to a clear cost saving, taking into account the costs of shutting down the plant and terminating personnel.

As it is clear that production at some reactor and diffusion plant sites will be greatly reduced, or terminated, the AEC obviously has an obligation to do everything possible to obtain other productive use for personnel laid off and facilities taken out of service. Other Federal agencies with expanding programs, such as NASA or NIH, might well be interested in considering use of laboratories, plants, town facilities or people in their programs.

(2) Reactor Subcommittee Report

During the week of July 8, 1963, the Reactor Subcommittee of the GAC visited General Atomic, San Diego; Atomics International, Canoga Park; General Electric, San Jose; and the National Reactor Testing Station, Idaho Falls.

The report of the Reactor Subcommittee, which has been approved by the GAC, is transmitted to the AEC as an appendix to this letter. The most important recommendations contained in that report are the following:

(a) The AEC should not support a prototype of the advanced HTGR proposed by G.A. until results from the Peach Bottom reactor operation are available.

(b) No follow-on BeO moderated reactor projects should be initiated until operating experience has been obtained with EBOR.

(c) A decision to proceed with an SGR prototype, in the 200 Mwe range, should be deferred until adequate experience is gained from Hallam.

(d) Further testing of fuel elements for boiling water reactors in the VBWR is desirable in our opinion. It seems proper to us that the primary support for this program should come from G.E. and its reactor customers rather than the AEC.

(e) Since G.E. has an excellent program for investigating the two main problems of superheat reactors, the AEC should continue to participate in the support of this program and operation of the Vallecitos Experimental Superheat reactor.

(f) We continue to believe that plutonium-bearing ceramic fuels are one of the most promising concepts for fast breeder systems. As such we recommend continued AEC support for the development and testing of such fuel elements.

(g) At a time when the AEC is committed to a policy of extending our nuclear fuel resources by developing improved converter or breeder reactors, as stated in the report to President Kennedy, the potential of heavy water reactors should be fully investigated. In particular, the thorium-

fueled U-233 breeder deserves as intensive a development effort as does the fast uranium-fueled plutonium breeder, for which the AEC already has a major development program.

There are at least two systems under consideration at this time which are aimed at this objective, the seed-and-blanket thorium fueled light-water reactor and the heavy-water or organic-cooled version of the heavy-water moderated system. In order to assist the AEC in developing its judgment of the relative merits of these concepts, the Reactor Subcommittee has agreed to undertake a comparison of them. The Subcommittee would like to meet in Washington on August 15 and 16 to discuss with the Reactor Development Division staff and such contractor representatives as the staff thinks could contribute to the meeting two questions:

(1) What direction should the further development of heavy water reactors take?

(2) How far should the thorium-fueled seed-and-blanket reactor be carried?

We shall inform you of the Subcommitee's recommendation in time to meet your September 10 deadline for a decision.

(h) We have also heard second-hand about recent economic and engineering studies which indicate that the natural uranium-fueled heavy water moderated reactor is a real competitor in the low-cost power race. We would like to be informed of the detailed status of such studies during the August meeting. It is our present view that the AEC should exercise leadership in developing heavy water reactors and should not merely provide supporting R&D for the Canadian program. The AEC's program should include:

(1) Detailed engineering studies of both the natural uranium fueled, and thorium recycle uranium fueled types of heavy water reactors.

(2) Identification of problems requiring further engineering development and/or experimental study.

(3) Conduct of the necessary engineering development and experimental work.

(4) If the problems appear to be solvable at acceptable costs, construction of one or more prototypes of heavy water reactors.

(3) Maritime Reactor Program

The Committee has taken note of the renewed interest in the possible use of nuclear power for the U.S. Merchant Marine. This renewed interest seems to stem largely from the Sharp report which has recently become available. The report makes a strong case for the rejuvenation of the U.S. Merchant Marine and gives a rather hopeful analysis of the possibility of the economic use of nuclear power by the Merchant Marine.

On review it is clear that the main thrust of this report is for the modernization of the fleet by designs for improved material-handling techniques and higher speeds. Many of the possible gains for which claims are made could be obtained whether or not nuclear power is used. However, the use of nuclear power would give further significant gains especially in speed and range. Only in the case that the total program to modernize the U.S. shipping industry were seriously undertaken would it appear that a prototype nuclear power plant would be justified. In this case, however, it appears to us that the 630A concept would have definite advantages and should be seriously considered by the AEC staff. If present claims for the 630A concept are substantiated we would recommend a land-based prototype before undertaking a complete ship installation.

(4) Fast Reactor Program

The Committee received a detailed briefing on the present status of the U.S. Fast Reactor Program from Mr. Wensch and his colleagues. We also wish to acknowledge the receipt of the excellent background report on the fast reactor program which was circulated to us prior to the Meeting (TID 8523 Revised).

We are particularly concerned by the stated objective of completing a 200 Mwe fast reactor prototype by 1972, in the context of the current program. The discussions revealed that there are not adequate fuel testing facilities, in existence or planned, which will permit the systematic development of the fuel element for the prototype reactor on the present schedule. If the AEC intends to have a successful prototype reactor in operation in the mid-70's we believe it is necessary to plan now for a fast reactor fuel element test facility which provides an adequately high flux and power density in a typical fast reactor environment. We recognize that this will be an expensive facility to build but we do not believe the AEC will be able to complete its present prototype program without taking the test reactor step.

We further believe that, even if the test facility is started now, it will not be possible to complete the prototype by 1972. This, of itself, does not disturb us for it is our opinion that the fast reactor program should be conducted in a logical fashion with all deliberate speed but in no sense on a crash basis.

Although the FARET and SEFOR reactors will give valuable information on fast reactor physics and "safety" and some information on fuel behavior and engineering performance, they will not provide a sufficient volume of relevant fuel test data in a reasonable time.

The AEC has already had the experience of having participated in one fast power reactor project which was launched without a properly developed and tested fuel element. Unless a fast reactor fuel element test facility is provided soon, the AEC will be proceeding on a course which is very likely to lead to failure.

(5) Argonne Program

The Committee had extensive discussions with Dr. Crewe and briefings by the Argonne staff. The four major areas of these briefings are discussed separately below:

(a) Fast Reactor Program

The Committee is favorably impressed by Argonne's fast reactor program. The investigation of the physics of fast reactors is thorough and comprehensive; the development of new fuel materials is imaginative and significant. The EBR-II reactor soon to go into operation will make important advances in our knowledge of fast reactor systems. Reactor technology as a whole will profit greatly from the experience which will be gained in the operation of the remote fuel reprocessing facility at EBR-II. We commend Dr. Lawroski and his associates for this pioneering development.

(b) Nuclear Rocket Program

The Committee received a good briefing on ANL's parameter study and development plans in the field of nuclear rocket engine development. We believe that the AEC was wise to request the parameter study of alternate possibilities to the present mainline development of the NERVA project based on the all-graphite system. ANL has done a good job in this study. We believe that the selection of a refractory metal-clad fast reactor system is a sound one as a logical point of departure for a second generation nuclear rocket engine development program, if and when one is needed.

We believe it would be an error for ANL and the AEC to staff for this program or order hardware at this time on the assumption that an experimental rocket reactor will be built. We recommend that ANL concentrate on the development and testing of fuel ele and on the engineering analysis of rocket engines using ultra hi temperature fast reactors.

(c) University Relations

The Committee had an informative discussion with Dr. Crewe and officers of the AUU Board regarding Argonne-Universities relations, and the educational activities of the Laboratory. The Committee is encouraged by the appearance of improved cooperation between Argonne and the Universities and hopes that this cooperation will be evidenced in future joint activities. The extent of Universities participation in research on the Zero-Gradient Synchrotron will be one important indication of the degree of cooperation.

(d) High-Energy Physics Research

Dr. Teng described the 12.5 Bev ZGS accelerator and conducted the Committee on a tour of this facility. The accelerator itself is scheduled for completion on August 1st. The planned experimental program was described by Dr. Hildebrand. The Committee was favorably impressed both by the accelerator and by the plans for its utilization. It was pleased to learn of the effectiveness of the Users Group.

The following three major improvements desired for this facility were described: (1) A second proton experimental area estimated to cost $7 million; (2) A very large bubble chamber and associated computing equipment to cost approximately $30 million; and, (3) A 200 Mev high intensity injector to cost $13 million. Although it would be premature to make recommendations on these proposals at the present time, the Committee notes that the size of the present experimental area appears to be relatively small for the nature of the accelerator and the contemplated number of users.

(6) MURA Accelerator

The Committee was asked its opinion regarding authorization for the construction of the MURA accelerator. Although the Committee was divided, the majority felt that there is not adequate justification at this time for approval of the MURA accelerator construction. Principal drawbacks are its great cost, its inauguration of a new major laboratory, and its operation in an energy region already covered by at least three accelerators.

In addition, we reaffirm the view of our letter of April 27 that before a decision is made to construct this accelerator, there should be a careful evaluation of whether this step is warranted, taking into account the need for expansion of Federal support for research in other areas.

(7) Joint GAC-ACBM Meeting

We were pleased to have had the opportunity to meet with the Advisory Committee on Biology and Medicine for general discussions of areas of mutual interest. Particular emphasis was devoted to (a) the relative roles and responsibilities of AEC, NCRP, and FRC in the development and establishment of radiation standards; (b) the proposal to re-fire the Hiroshima and Nagasaki weapons in order to improve our knowledge of the dose distribution of those weapons; and, (c) civil defense.

This was an interesting and most useful meeting from the GAC's point of view. We believe it would be profitable to arrange for similar joint sessions on a regular basis.

(8) 86th GAC Meeting

The next meeting of the General Advisory Committee will be held in Washington on October 20, 21 and 22, 1963. Agenda topics proposed for that meeting include the following:

(a) Status of gas centrifuge development program.

(b) Reactor and gaseous diffusion plant operations.

(c) Weapons matters --

a. Summary of current test ban discussions including their impact on weapons development.

b. Status of underground testing.

(d) Weapons Subcommittee report.

(e) Report by Dr. Wigner regarding the Woods Hole study on civil defense.

(f) Desalination of seawater using large reactors.

(9) 87th GAC Meeting

The following meeting of the Committee has been tentatively scheduled for January 23, 24 and 25, 1964, in Washington, D.C., or Oak Ridge, Tennessee.

Sincerely,

Manson Benedict
Chairman

Attachment

July 23, 1953

DECL. BY DOE
NOV 86

Dear Fred:

As I indicated in our telephone conversation this morning, the Commission would like to discuss with you further the future role of Admiral Rickover. As you know, the Commission holds Admiral Rickover in the highest regard, and we believe it most important that he be kept in his post as head of the joint AEC-Navy nuclear reactors program so long as he is willing and able to serve. Our view stems in large part from his ability to maintain a uniquely strong, joint AEC-Navy technical organization. Most of his key technical personnel, for example, have been with him for 10 to 20 years.

You will recall that, in our previous discussions, including those with the JCAE, consideration was given to the possibility that Admiral Rickover be retained in charge of the program as a civilian. We now understand, however, that the present plan is that he be retained through the means of recalling him to active duty as a retired officer. It appears to us that this new arrangement might result in a less definite type of assignment than we had contemplated with a resultant impact on the organization under him. There is reason to believe that without some assurance of continuity of technical management we will be unable to keep this group together. It is for this reason that we would like very much to discuss this matter with you.

In the course of such a discussion, we should like to review ways in which to ensure continuity and stability within this important program which are commensurate with the commitments on naval nuclear power which the Atomic

reply later 8/8 attached

Energy Commission and the Navy have made to the President and to Congress. We regard this as important not only from the standpoint of continued development of the program, but also in enabling the Commission to carry out satisfactorily its statutory responsibilities for public health and safety.

We are looking forward to seeing you tomorrow.

Sincerely yours,

(Signed) Glenn T. Seaborg

Glenn T. Seaborg

Honorable Fred Korth
Secretary of the Navy

HCB:mws:es

THE SECRETARY OF THE NAVY
WASHINGTON 25, D. C.

8 August 1963

UNCL. BY DOE
NOV 86

Dear Glenn:

I have delayed in replying to your letter of July 25th, concerning the future role of Admiral Rickover, in order to have an opportunity to talk again with the Admiral and to get my thinking in order concerning our discussion here in my office.

Today, I talked again with Admiral Rickover concerning this situation. I have agreed with him that, before I take any positive steps in this matter, I will talk with each of his civilian deputies, and gain from them their appreciation of the importance of maintaining this technical organization, and their feelings should it in any way change.

After I have had this opportunity for discussion with the members of his office, I shall talk again with the Admiral, and then seek an opportunity to discuss the matter with you.

I assure you that my interest in the maintenance of this technical proficiency, and in the provision for highly trained Naval personnel to operate our nuclear ships, is of primary importance to me. I seek every means to perpetuate the most efficient organization possible for our Country and our Navy.

I appreciate, as always, your cooperation and understanding in these matters.

Sincerely,

Fred

Fred Korth

Dr. Glenn T. Seaborg
Chairman
U. S. Atomic Energy Commission
Washington 25, D. C.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

DECL. BY DOE
NOV 86

COPY NO. 15
July 26, 1963

INFORMATION MEETING 293
5:00 p.m., Friday, July 26, 1963 - Chairman's Conference Room - D. C. Office

1. Design Study for Key West Saline Water Project

Mr. Hollingsworth recommended Burns & Roe, and the Commissioners accepted the General Manager's recommendation.

2. Assistance to the French

The Chairman said the President wishes consideration by State and Defense of possible assistance to the French. AEC staff has discussed atomic energy assistance and Mr. Ramey will represent the Commission in the Inter-departmental discussions.

3. Commissioners' Meeting with Secretary Korth This Morning

The Chairman discussed briefly the meeting with Secretary Korth and said Secretary Korth will discuss the matter with Admiral Rickover.

4. DOD July 17 Letter re MCR

The Chairman noted Harold Brown's letter of support and Mr. Hollingsworth reported staff will shortly recommend continuation of the conceptual design work through January.

5. Stennis Committee Meeting August 1 with Laboratory Directors

The Chairman requested Mr. Bundy be given the information in the DOD letter and that he be informed that Messrs. Bradbury and Foster will be in Washington for the Thursday meeting. (Brown)

6. Meeting with John Foster, LRL, 4:30 p.m., Wednesday, July 31 to Discuss Production Planning

7. Dr. Wilson's Testimony for the Private Ownership Hearings, July 30, 31

For discussion at the Information Meeting Monday morning.

8. Test Ban

Mr. Ramey suggested consideration of an appropriate letter to the laboratories after the President's statement.

9. Letter to Secretary Gilpatric re Dispersal (AEC 867/77)

The Commissioners agreed the letter of concurrence should be sent and requested the General Manager to remind DOD to inform the Joint Committee. (GM)

√ 10. Proposed Letter to Secretary Udall re Baker Island

To be held until next week. attached on 8/2/63

11. July 22 Letter from Gerald Johnson re DOD Representatives Visit to Hanford

The Chairman requested early consideration. (Bloch)

12. Chairman's Discussion with Dr. Rollefson, State Department, re Third Geneva Conference

The Chairman noted Dr. Rollefson's concern and said the Commission may need to assist State in discussion of the matter with the Congress.

13. Agenda for the Week of July 29

Approved, as revised. (Secy)

14. MURA Accelerator

In response to Mr. Ramey's query, the Chairman discussed the matter briefly and said Dr. Tape is to review it.

15. Bus Drivers Strike, Midnight, July 29, NRTS, Idaho

Mr. Hollingsworth reported the possibility of the strike.

16. Contract with Union Carbide

The Commissioners accepted Mr. Hollingsworth's suggested language.

PRESENT		DISTRIBUTION
Dr. Seaborg	Mr. Hollingsworth	Commissioners
Mr. Ramey	Mr. Brown	General Manager
Dr. Tape	Mr. Hennessey	General Counsel
	Mr. McCool	Secretary

W. B. McCool
Secretary

I read AEC papers.

Monday, July 29, 1963 - Germantown

At 9:40 a.m. I presided over Information Meeting 294 (notes attached). We noted Harold Brown's letter of July 24th and other related correspondence (attached) regarding the SNAPSHOT program funding.

The Commission met with Bradbury, Schreiber, Spence, Frank Durham, Luedecke, English, Pittman and Brown to discuss the dissatisfaction at Los Alamos with Finger's direction of the SNPO and the nuclear rocket program. A huge problem looms here.

I had lunch with Bradbury and his group.

At 2:45 p.m. I presided over Commission Meeting 1954 (action summary attached). We discussed SEFOR, the fast reactor of the Southeast group and the use of the Fermi Reactor for fuel irradiation; both of these present difficult problems.

Tuesday, July 30, 1963 - D.C.

Bundy called at 9 a.m. and said that the President would like to see the laboratory directors. I said they were arriving about 4:30 p.m. tomorrow. Bundy said he will get a time for tomorrow evening. He said that the President is worried about the underground testing schedule, and there may have to be a meeting on it. It was agreed that if I were not available, Dr. Tape would attend.

Commissioner Wilson told me today that he will retire on December 15th.

Commissioners Wilson, Ramey and I appeared before the JCAE to testify on private ownership and nuclear fuel legislation which went fairly well. Holifield said that this would be the most significant change in atomic energy legislation since the Atomic Energy Act of 1954.

At 2:10 p.m. I talked to Bundy and asked him if he has been able to set a time today for Tape to see him about Plowshare. He said that 4 p.m. tomorrow is the best he can do. I told him I have talked with Clint Anderson regarding his concern over the test ban treaty with regard to Plowshare. I said that Anderson began the conversation by saying he is going to oppose the treaty. He explained that under it, it would be impossible to do any Plowshare tests. Anderson read paragraph 2 of Article I and asked why this was put in the treaty unless it was meant to catch Plowshare. Bundy said that the treaty does cut out Plowshare and, to be able to conduct these shots, an amendment will have to be made. We will discuss the background on this when we meet.

I called Governor Harriman at 2:15 p.m. and told him of my conversation with Senator Anderson. I said Anderson's concern is, if the Russians should take a very strict view of this (as their past history would indicate they would), it would not be possible to do anything at all under Section 1-b of Article I. Harriman said that Anderson made quite a speech on this yesterday and that he (Harriman) is eager to see me to discuss not only this but to get my views on many points.

I then called Senator Anderson and tried to placate him on the role of Plowshare in the test ban treaty. We left it that we will talk further on this.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 15
July 29, 1963

DECL. BY DOE NOV 86

INFORMATION MEETING 294

9:40 a.m., Monday, July 29, 1963 - Chairman's Conference Room, A-457

1. GAC Report of the 85th Meeting attached on 7/25

The Chairman suggested Dr. Tape follow-up on the report with the General Manager, and General Luedecke noted the requested briefing on the reactor program will be scheduled for mid-August. (Pittman-Secy)

Nancy Hunt (August 15)

2. Meeting with Senators Cannon and Bible, 5:00 p.m. Today

The Chairman said Senator Cannon's Assistant had telephoned him Saturday regarding the meeting. The General Manager said he or Mr. Hollingsworth and Oscar Smith will attend.

3. Commission Representation at OEP Classified Location

The Commissioners agreed Mr. Palfrey will represent the Commission vice Dr. Haworth. (Derry)

(Mr. Palfrey entered the meeting)

4. Draft Announcement by the Government of Canada

EMG with Betts Sam attached

The Chairman circulated the draft and requested staff review. (GC-Betts)

(no sig Tab brought to Sec)

5. Meetings with Messrs. Bradbury and Foster

The Chairman noted the laboratory directors will meet with the Commissioners late Wednesday afternoon and requested Mr. Bundy be informed that they will be available to meet with him Wednesday evening. (Brown)

6. Test Ban

Dr. Wilson said he would be pleased to discuss this matter with appropriate Congressional representatives if it is considered desirable.

7. Proposed DOD Letter re Weapons Development (see General Betts' July 24 Memorandum to the Commissioners and Dr. Gerald Johnson's Draft Letter to Mr. Kendall, Preparedness Investigating Subcommittee)

The Chairman noted Mr. Bundy should see the draft and Mr. Palfrey said he would coordinate with staff and Mr. Bundy.

8. Attendance at IAEA General Conference, September 24, Vienna

The Chairman said he and Commissioners Palfrey and Ramey will attend. (Secy)

9. Production Planning

The Chairman said he hoped a new DOD draft will be in this week.

10. Dr. Harold Brown's July 24 Letter re SNAPSHOT Program Funding

The Chairman said DOD now agrees to a FY 64 funding level of $9.3 million. AEC funding will be at the $2/$3 million level with a flight test schedule open. (Pittman)

11. Proposed Reply to Senator Humphrey's July 8 Letter re John Birch Society Membership

The General Manager discussed briefly his proposed response and the Chairman suggested Commissioner Palfrey review the letter.

12. Cooperation with the French

The General Manager reported DMA is preparing information on this matter for consideration by the Commission. The Chairman suggested Mr. Ramey follow-up with Department of State at the appropriate time.

13. Reported Opposition to Ravenswood Reactor

Mr. Ramey noted the July 25 report of opposition by City Councilman Eric J. Treulich, and suggested the Commission consider an appropriate method of explaining its review procedures to the public. The Chairman agreed and suggested the Commissioners give the matter further consideration.

14. Suffolk County (New York) Representatives' Interest in Nuclear Reactor Saline Water Project

Dr. Wilson said Suffolk County representatives will be in to discuss this matter with the Commission.

15. Pending Contractual Matters (July 25 Report)

The Commissioners discussed briefly with the General Manager the proposed invitation to bids for construction of the fast reactor test facility (FARET), NRTS, Idaho, and requested further discussion of this matter. (General Manager)

16. Dr. Wilson's Testimony for Private Ownership Hearings, July 30, 31

The Commissioners discussed briefly Dr. Wilson's testimony and the proposed responses to the queries which Mr. Hennessey said JCAE staff had raised with him.

PRESENT

Dr. Seaborg
Dr. Wilson
Mr. Ramey
Mr. Palfrey
Dr. Tape
Gen. Luedecke
Mr. Hollingsworth
Mr. Hennessey
Mr. Brown
Mr. Quinn*
Mr. Fine*
Mr. McCool

DISTRIBUTION

Commissioners
General Manager
General Counsel
Secretary

W. B. McCool
Secretary

*Attendance for last item only

DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING
WASHINGTON 25, D. C.

Copy No. 1

UNCL. BY DOE
NOV 86

24 JUL 1963

Honorable Glenn T. Seaborg
Chairman, U.S. Atomic Energy Commission
Washington 25, D. C.

Thru: The Chairman, Military Liaison Committee to the
Atomic Energy Commission

Dear Glenn:

This refers to the General Manager's letter of 17 July 1963 and to my subsequent discussions with you, both on the SNAPSHOT program. The Air Force is willing to fund this program in FY 64 by reprogramming from other sources, and I am prepared to approve a level of $9.3 million as indicated in the attached memorandum.

It is my understanding that $9.3 million will allow the Air Force to complete the ground test program and retain a flight test option with a schedule slippage of one year. The one year slippage, however, is contingent upon Air Force retention of a commitment on the ATLAS boosters. This commitment will require an additional $2.0 million of FY 64 funds. According to the Air Force, if the $2.0 million is not available in FY 64, and a later decision is made to flight test the SNAP 10A, an 18 month lead time will be required for the ATLAS boosters.

In view of the thoughts expressed by you and General Luedecke, I have encouraged the Air Force to pursue the possibility of obtaining $2.0 million FY 64 funds from the Atomic Energy Commission. I will appreciate your consideration of this during your subsequent discussions with the Air Force.

Sincerely,

for Harold Brown

Encl:
Memo to AF
CC:
SAFRD

DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING
WASHINGTON 25, D. C.

UNCL. BY DOE
NOV 86

24 JUL 1963

MEMORANDUM FOR THE ASSISTANT SECRETARY OF THE AIR FORCE
(RESEARCH AND DEVELOPMENT)

SUBJECT: Program 626 - FY 1964 Funding

It is my understanding, from discussions with you and members of your staff, that the Air Force is willing to reprogram FY 1964 funds in order to maintain the subject program at an appropriate level. I agree that such a step is desirable, and am willing to consider reprogramming recommendations submitted in the usual manner to the level of $9.3 million for this program.

I understand that the $9.3 million will complete the ground test work and provide a flight test option with a flight date slippage of up to eighteen months due to booster procurement lead times. In the hope of reducing the flight date slippage to one year (third quarter, 1965), you are encouraged to pursue the possibility of obtaining $2.0 million of FY 1964 funds from the Atomic Energy Commission. I have discussed this possibility briefly with the Chairman, AEC.

EUGENE G. FUBINI

for Harold Brown

cc: Chairman, AEC

Chairman, AEC

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

JUL 17 1963

DECL. BY DCE
NOV 86

Honorable Harold Brown
Director of Defense Research
and Engineering
Department of Defense

Dear Dr. Brown:

This refers to your letter of July 10 to Chairman Seaborg advising us that the DOD finds itself unable to fund its portion of the SNAPSHOT program on SNAP 10A on the basis that there are no current firm requirements. For the various reasons presented below, the Commission urges that the DOD reconsider this matter. We consider that such action will seriously affect the entire space nuclear electric power program both by losing momentum and by eliminating experience and information vital to subsequent work.

This advice reaches us at a time when hardware has been procured for SNAP 10A flight units and assembly operations have started. Further, final flight qualified systems, both nuclear and non-nuclear are on the verge of start-up. In addition, we have recently made substantial commitments on SNAP-2 in the interest of maintaining the joint schedule without detriment to reliability of the systems.

We understand that AF costs through FY 1963 amount to about $20 MM, with approximately $23 MM more needed to complete the SNAP 10A flight test program. It is pertinent to note that, through FY 1963, the AEC has expended approximately $100 MM on the SNAPSHOT (10A and 2) program which was initiated on the request of the DOD. Additional AEC costs to complete the SNAPSHOT program will approximate $120 MM.

We have given the SNAP 10A program top priority within the SNAP program and we have reprogrammed funds from other projects to maintain it. This has been done in part because of the obligation the AEC accepted in connection with the specific joint program requested by the DOD. A major factor in our emphasis, however, has been the keystone nature of this program with respect to the whole SNAP program. This importance derives in part from the fact that the reactor involved is one of a family capable of power levels substantially above the SNAP 10A system; currently indicated capabilities range from several hundred watts to 20 kw. Another significant

factor is that the static conversion system in SNAP 10A may well be the only technology which could attain operational status in this decade. Whereas rotating machinery is looked to for considerably higher power levels with nuclear systems, its availability, for nuclear or solar systems, is a matter of years and substantial expenditures away.

We have pursued the SNAP 10A program vigorously, in spite of our understanding that its original using system has been set aside, because of the long lead time involved in developing such systems for possible other uses. We have assumed, lacking previous advice to the contrary, that the DOD was in agreement with this approach. It has been our experience that waiting for the establishment of a firm requirement normally results in a costly crash program and probable delays in fulfillment of mission requirements.

As an integral part of the SNAPSHOT program, the AEC has emphasized the necessity of adequate testing before the system was offered up for use or for flight testing. Even with negligible launch costs, use of flight tests for development work is obviously wasteful and impractical. At the same time, protracted ground testing with its artificial simulation becomes wasteful without validation by actual experience on flight tests. This is particularly true with regard to radiation and shielding considerations. This whole question of flight test for SNAP 10A takes on additional importance in terms of information which might affect the direction of development of the other SNAP systems. This matter of testing is mentioned because we understand it is a consideration that has been related to the question of funding and requirements.

We understand that, on the basis that a firm requirement does not exist at the moment, it has been suggested that the AEC fund for flight test costs as a concomitant of its reactor development program. This, of course, is inconsistent with two interagency agreements signed within the last year whereby flight test costs on SNAPSHOT, SNAP-9A and TRANSIT, with other programs envisaged for similar treatment, would be borne by the DOD. In addition, it confronts the AEC with an unexpected cost neither contemplated nor budgeted.

In view of the serious effects your proposed action would have on the space nuclear electric power program we would appreciate your earliest reconsideration of the matter.

Sincerely yours,

cc: Commissioners
MLC
ARL
KIRK:LJ 3 SS
7-17-63

[illegible], A. R. [illegible]
General Manager

FORM NO. 10
APRIL 1947
UNITED STATES GOVERNMENT

Memorandum

UNCL. BY DOE
NOV 86

TO : A. R. Luedecke, General Manager

DATE: July 30, 1963

Approved G. A. Luedecke
A. R. Luedecke
Date 7/31/63

FROM : W. B. McCool, Secretary

SUBJECT: ACTION SUMMARY OF MEETING 1954, MONDAY, JULY 29, 1963, 2:45 P.M., ROOM A-410, GERMANTOWN, MARYLAND

SECY:JFG

Commission Business

1. Approval of the Minutes of Meetings 1931, 1934, 1935, 1936, 1938 and 1940

Approved, as revised, subject to comments by Commissioners Wilson and Ramey.

2. Division of Inspection Reports

a. Problems Relating to the Administration of Reactor Projects Subject to 10 CFR 115 (February 25, 1963)

The Commission requested separate but coordinated comments from the General Manager and the Director of Regulation on the recommendations contained in Mr. Nelson's report. (Luedecke/Price)

b. A Study of the AEC-owned Reactor Safety Review System (July 19, 1963)

The Commission requested separate but coordinated comments from the General Manager and the Director of Regulation. (Luedecke/Price)

The Commission requested paragraph 5 on page 15 of the AEC-Owned Reactor Report be revised to clearly reflect that in cases of disagreement between the General Manager and the Director of Regulation with respect to the approval of a safety analysis report, the matter will be referred to the Commission for resolution. (Nelson)

Commissioner Ramey requested the Division of Inspection look into the question as to whether the Commission is being afforded an adequate opportunity to discharge its safety responsibilities with regard to reactors in the possession of the DOD. (Nelson)

3. AEC 132/31 - Quarterly Report by the Division of Inspection

The Commission noted a report on the appraisal of technical performance by AEC contractors will be submitted to you at an early date. (Nelson)

4. AEC 25/273 - Proposed Air Force Safety Rules

Approved. (Betts)

5. AEC 25/274 - Proposed Navy Safety Rules

Approved. (Betts)

6. AEC 25/275 - Proposed Navy Safety Rules

Approved. (Betts)

7. AEC 780/19 - Award of AEC Citation

Approved, as revised.

The Commission requested revised language for the Citation and press release. (Secy/Clark)

8. AEC 971/6 - Southwest Atomic Energy Associates Proposal for Cooperative Project for Experimental Fast Ceramic Reactor

Discussed.

The Commission requested appropriate criteria for early review prior to further contact with SAEA and GE. (Pittman)

9. AEC 331/132 - Proposal to Continue Discussions with PRDC re Use of Fermi Plant for R&D

Discussed.

Commissioner Ramey renewed his request for a financial statement on PRDC. (Pittman/Abbadessa)

The Commission noted a discussion paper on proposed R&D arrangements will be presented to the Commission at an early date. (Pittman)

Other Business

Military Compact Reactor Paper

The matter will be considered at an Information Meeting on Wednesday, July 31. (Pittman)

cc:
Commissioners

At 2:30 p.m. Harriman called to ask whether I had satisfied Senator Anderson regarding the test ban treaty. I said perhaps I did somewhat, and we left it that we would talk further and in the event I learned anything more I would call him . Harriman asked whether there was anything he could do, and I suggested it might be helpful if he could give me background information. Harriman said that Khrushchev said that, if things go as well as we think and tensions are reduced, we may have Plowshare projects, and there is no reason why we couldn't agree on them via an amendment at the appropriate time.

Khrushchev is concerned that, under the guise of Plowshare, we might be doing some sort of nuclear weapon testing. Harriman said that we traded off the Plowshare clause in order to get the withdrawal clause, but he didn't feel that this point should be mentioned. He said that amendments could be made by unanimous consent of the original three treaty signers, plus one-half (rather than two-thirds) of the rest of the signers.

I asked how strictly the interpretation will be made under Article I, paragraph 1b, for instance, in the event of venting from underground or cratering shots. He said there would be no problem so long as it were an honest-to-goodness underground test. Harriman mentioned that it has been determined that it would cost us about $1.6 billion (or, two-thirds) more to build another Canal if we were to forego Plowshare; but he insists that the treaty is worth more to us than $1.6 billion. Also, the matter of the building of the Canal won't come up for years yet. Furthermore, it is questionable whether the neighboring countries would allow Plowshare explosions if it meant releasing radioactivity into the atmosphere. I said I would try to talk to Senator Anderson again; however, I pointed out to Harriman very strongly that Anderson is a determined person and that he can make his views felt, if he should decide against the treaty.

Commissioner Ramey and I went to Secretary Udall's office to witness Udall's signing of a contract with Burns and Roe to make a study of a dual purpose electricity and water desalination plant, which might use nuclear power.

At 5 p.m. I attended a meeting of the NSC Standing Group to hear Harriman give a briefing on the test ban. Those attending included Harriman, Bundy, Nitze, Ball, Murrow, Sorenson, B. Smith, Kaysen, Foster, R. Kennedy, Bell, McCone, Wiesner, Dillon, and Gilpatric.

He said that the USSR was motivated by a desire to slow the arms race. I described its effect on Plowshare, saying it depends on the attitude of the USSR toward Article I, Section 1-b.

I suggested that the U.S. Nobel Prize winners be asked to endorse the treaty. Wiesner and I talked by phone to Rabi who will contact them to sign a statement.

Dean Rusk called to invite me to accompany him to Moscow. I accepted but declined an invitation to Helen.

At 6:40 p.m. I called Luedecke and told him that I have seen Bundy and that Bundy said the President wants no testing until after the test ban treaty is signed. I asked Luedecke to pass this on to the laboratory directors and to tell them that we will explain this more fully at tomorrow's meeting.

At 6:45 p.m. Harlan Cleveland called to say that a meeting has been set up with Secretary Ball at 2:30 p.m. tomorrow about the Third Geneva Conference on the Peaceful Uses of Atomic Energy. Senator Fulbright is taking the position that he is against large conferences, including this one, and he doesn't want to have

anything to do with it. Cleveland said that, if an attempt were made to circumvent Fulbright by having this go to the JCAE, when it gets to the Senate floor, he could kill it by saying that the bill is out of channels and that, as Chairman of the Foreign Relations Committee, he is not in agreement with it. We therefore have to seek means at least to neutralize Fulbright.

Wednesday, July 31, 1963 - D.C.

At 9:20 a.m. I presided over Information Meeting 295 (notes attached).

At 10 a.m. I met with Glenn Lee and Sam Volpentest of Richland to discuss diversification. After this, I met with Fred Albaugh to discuss his report on diversification.

I attended a meeting of the Space Council with Vice President Johnson, Jim Webb, Ros Gilpatric, Alexis Johnson and others to discuss the mounting criticism of the moon program and to answer some of the President's questions.

I heard Harriman give a good talk on the test ban at a lunch at the National Press Club. (I sat at the head table.)

At 2:30 p.m. Commission Ramey and I, Algie Wells and Ed Gardner met with Under Secretary of State George Ball and Harlan Cleveland to plan ways to meet the opposition to adequate funding for the 1964 Geneva Peaceful Uses Conference.

At 3:30 p.m. I met with Chauncey Starr to discuss the flight test for SNAP-50. I told him of the conversation I had with Harold Brown and how the matter was resolved at the $11 million level with a delayed flight test. I suggested that he talk with Harold Brown in order to try to convince him they should go to a higher level. He said that Atomics International would like to build a prototype 200 megawatt power reactor, to be authorized in FY 1965, and that they have interested some utilities who would want design assistance and, perhaps, funding for the first core fuel amounting to some $16 million. He said this is critical because he is going to present the matter to his Board of Directors, and this might represent a turning point as to whether they seriously consider a reactor building program.

At 4:30 p.m. the Commission met with Harold Finger to hear his side of the controversy with Bradbury and Los Alamos over running the Space Nuclear Power Office (SNPO). Apparently, there are two sides to this story.

From 6 p.m. to 7 p.m. the President met with John Foster, Bradbury, Wiesner, Bundy and Harold Brown, Palfrey and me, to discuss the atmospheric test ban and to enlist support. I believe Foster and Bradbury will give the desired support as a result of the meeting. Foster identified a dilemma--a large, slightly underground, clean explosion which would not have debris outside of the United States.

At 7:10 p.m. Holifield called to say he was sorry to have to break our breakfast date for tomorrow, but he had forgotten that he had already made a date with Secretary Korth. I took this opportunity to tell Holifield that on July 26th the Commissioners and I called on Korth and told him that there is some problem among Rickover's chief assistants with respect to his remaining on as an admiral rather than as a civilian. They worried that, if Rickover couldn't be retained as a civilian, then there would never be a civilian. They might get a Navy individual and they felt it wouldn't take long before the organization would deteriorate so much that even they wouldn't want to stay. Korth didn't know quite how to handle it, but he said he would talk to Rickover. Holifield next

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

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NOV 86

COPY NO.

July 31, 1963

INFORMATION MEETING 295

9:20 a.m., July 31, 1963 - Chairman's Conference Room, D. C. Office

1. Chairman's Visit to Moscow with Secretary Rusk for Test Ban Ceremony

The Chairman said Secretary Rusk had invited him to accompany him to Moscow for the ceremonial signing of the test ban treaty with a tentative departure Friday night, August 2.

2. Schedule for Underground Events at NTS

The Chairman said in his meeting with Mr. Bunday yesterday it was agreed no tests would be held during the Secretary of State's discussions in Moscow -- probably concluding around August 15.

3. Chairman's 10:00 a.m. Meeting Today with Glenn Lee, Tri-City Herald, Richland

The Chairman noted his meeting with Messrs. Lee and Volpentest this morning and Mr. Ramey reported briefly on the two matters which Messrs. Lee and Volpentest discussed with him yesterday, i.e., local concern re planning for the area and the plant.

4. Chairman's Attendance at NSC Standing Committee Meeting Yesterday

The Chairman noted his attendance at the meeting and said it is considered desirable that Dr. Wilson discuss with Senator Dirksen the test ban, emphasizing the Commission's willingness to be helpful and underlining the Administration's decision to maintain a state of readiness and to continue underground tests.

5. Chairman's Schedule for Today

10:00 a.m.	Meeting with Messrs. Lee and Volpentest
12:00 noon	Meeting with Fred Albaugh
12:30 p.m.	Attendance at Press Club luncheon with Undersecretary Harriman
2:30 p.m.	Meeting with Undersecretary Ball to discuss Third Geneva Conference, Mr. Ramey will accompany the Chairman
3:30 p.m.	Meeting with Chauncey Starr, Atomics International
4:00 p.m.	Commissioners' meeting with Reactor Development staff
5:00 p.m.	Commissioners' meeting with laboratory directors
6:00 p.m.	Meeting with the President, accompanied by the laboratory directors

6. July 30 Letter from Gen. Maxwell Taylor Requesting AEC Comments on Test Ban Treaty

The Chairman requested review by Commissioners Palfrey and Tape.

7. July 29 Letter from Mr. Bundy re Christmas Island and Johnston Island

Noted.

8. Mr. Kavanagh's July 31 Memorandum on Test Ban Treaty

The Chairman noted receipt of Mr. Kavanagh's memorandum and said that in the NSC subcommittee meeting he had emphasized the need to define more clearly Section 1(b) of Article I, relating to radioactive debris and PLOWSHARE experiments.

9. Chairman's Conversation with Senator Pastore re Uranium Barter Agreement with South Africa

The Chairman reported that Senator Pastore had inquired whether additional wheat might be offered in lieu of additional ore. (Faulkner)

10. Postponement of Army Reactors Hearing

11. Stennis Committee Hearings, 2:00 p.m., Thursday, August 1

Noted. The Chairman said he and Dr. Tape will attend the Federal Council for Science and Technology meeting at 2:00 p.m. The Commissioners' luncheon with the special study group is scheduled for 12:45 p.m., and a meeting with the group is scheduled for 4:00 p.m.

(Mr. Palfrey entered the meeting)

12. Private Ownership Hearing

In response to comments raised by Mr. Ramey and the General Manager regarding toll enrichment, the Chairman suggested that in testimony today the AEC indicate the policy on this matter is still open and will be reviewed after the hearing.

(Dr. Wilson left the meeting)

13. AEC 420/926 - Military Compact Reactor

Approved.

14. Cooperation with the French

Mr. Ramey noted receipt of General Betts' July 29 memorandum and said he would keep in touch with the matter. The Chairman requested he keep the Commission informed of the progress.

15. Department of Defense Letter re Production Planning

The General Manager noted DOD will probably not consider this matter further until mid-August and the Chairman said in view of the status of the matter he thought the Commissioners could move it during his absence. It was noted that the briefing for the Joint Committee would probably not be scheduled until late August.

16. Press Release re COACH Project

The General Manager reported he planned to issue an early press release on this matter. (Clark)

PRESENT		DISTRIBUTION
Dr. Seaborg	Gen. Luedecke	Commissioners
Dr. Wilson*	Mr. Brown	General Manager
Mr. Palfrey*	Mr. McCool	General Counsel
Dr. Tape		Secretary

W. B. McCool
Secretary

*Partial Attendance

mentioned the New York Times article on the THRESHER. He seems to think it was too good a story, and, therefore, had to be written by someone in the Navy and deliberately leaked to Baldwin. He said that Rickover did an outstanding job at the THRESHER hearing.

Holifield then mentioned the SNAP-10a program and the budgetary knocks from Harold Brown. I told Holifeld of my conversation with Brown, wherein I told him we couldn't stand for having it cut out completely. Brown said it doesn't need a flight test, but I said that Chauncey Starr tells me it does, and I seem to agree with him. Holifield said he agreed with Starr also. He said he would probably talk to Secretary Zuckert to get his support. He said the JCAE received a routine letter notifying them that there would be a request for $12 million more on the Hallam reactor. He said he is put out with Starr for not mentioning it to him this morning. He understands this is for some modification in the reactor, having to do with a new core. He said he asked Conway to check with AEC and get a report to him by tomorrow afternoon. I said that, if it is for the core, it is necessary in order to have a chance to test the uranium carbide fuel, which probably holds the best promise for the future, but I said that the figure of $12 million was unfamiliar to me.

On the Military Compact Reactor, I said that the Commission decided to slow it down to about the slowest rate and still keep it viable until February 15, 1964, when the AEC-DOD study comes in. He said it is important to get this study and come to some conclusion on which one of these three ways we will want to go.

I told him that I leave for Moscow on Friday, August 2nd and return on Wednesday, August 7th. He suggested that we check with each other upon my return from Russia, and before I go on vacation.

Thursday, August 1, 1963 - D.C.

From 9:45 a.m. to 11 a.m. the Commissioners met with Foster and Bradbury to discuss their views on how the increased availability of plutonium might decrease the cost of weapons-missile systems yet to be built. This issue is relevant to the cut in plutonium production that is being considered.

I met separately with Albaugh, Paul Holsted (Richland AEC), Robert F. Steadman, and Dr. Bradford (DOD) to discuss the problem of the Richland area distress and methods of alleviation being caused by plutonium production cuts.

I had lunch in the Commission meeting room with the other Commissioners, Albaugh, Holsted, Luedecke, Quinn, Tremmel and Mercer to discuss the impending Richland problem. We continued the meeting at 4 p.m. with a larger staff attendance.

From 2 p.m. to 4 p.m. I attended a meeting of the Federal Council for Science and Technology (resume attached) where movies were taken for an oceanography film.

From 5 p.m. to 6 p.m. I attended a briefing in Secretary Rusk's conference room with Rusk, Foster, Thompson, and Senators Aiken, Fulbright, Humphrey, Pastore, Saltonstall and Sparkman, preparatory to our visit to Moscow.

While riding his bike this afternoon, Eric was hit by a car driven by a woman from Illinois. He was just below Military Road, going south on Reno Road. Only his foot was injured which was most fortunate. He was taken in and cared for by some friends.

Thursday, August 2, 1963 - D.C. - Enroute to Moscow

At 10 a.m. I presided over Information Meeting 296 (notes attached).

The letters to President Kennedy on the 1972 stockpile have been further delayed pending McNamara's consultation with the Joint Chiefs and possibly with the JCAE.

Foster and Bradbury testified before the Stennis Committee yesterday and today. Foster went pretty far in identifying so-called pitfalls in the atmospheric test ban treaty.

At 11:30 a.m. the Commission met with NUMEC executive officers--Z. N. Shapiro (President), A. Weiss (Manager of Marketing), O. Gray (Secretary and Treasurer), Charles Barents, Philip Powers and Leon Falk--to hear Shapiro's presentation of their plan to build a waste processing facility on a private basis at Hanford and possibly also a commercial fuel reprocessing plant. This is an interesting proposal but difficult to evaluate.

At 2:15 p.m. I met for a few minutes with Rosslyn Mynott of Albuquerque, New Mexico, who was elected AEC Chairman of the 1963 Girls' Nation.

At 2:50 p.m. I presided over Commission Meeting 1955 (action summary attached). We set negotiating conditions for the SEFOR project and authorized negotiations on the AEC use of the Fermi reactor for testing of fuel elements. We also discussed the safety aspects of SNAP-9A (25 watts, Pu-238) launches. Three are scheduled for September, October and November. This difficult decision was deferred for further discussion next week.

I sent a letter to Secretary of Interior Stewart Udall asking for permission to conduct a survey of Baker and Howland Islands to evaluate their suitability as sites for nuclear weapons testing (correspondence attached).

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FEDERAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Minutes and Record of Action

Meeting of August 1, 1963

A special meeting of the Council was convened at 2:00 p.m., in Room 208, Executive Office Building.

Attendance: Members of the Federal Council - Dr. Jerome B. Wiesner (Chairman) Dr. Harold Brown (DOD); Dr. John C. Calhoun, Jr. (Interior); Dr. H. A. Rodenhiser (for Dr. Willard Cochrane - Agriculture); Dr. Leland J. Haworth (NSF); Dr. J. Herbert Hollomon (Commerce); Mr. Boisfeuillet Jones (HEW); Dr. Ragnar Rollefson (State); Mr. R. J. Shank (for Mr. N. E. Halaby - FAA); Dr. Glenn T. Seaborg (AEC); Mr. Elmer B. Staats (BOB); Mr. James E. Webb (NASA) and Dr. Allen V. Astin (Standing Committee).

Participants: Mr. William Hooper (OST) and Major General William Ely (Committee on Scientific Information).

Guests: Mr. Robert Abel, Capt. S. N. Anastasion, Cdr. Edward Snider and Honorable James Wakelin, Jr. (ICO); Dr. Burton Adkinson and Mrs. Donna Spiegler (COSI); Mr. Richard Hirsch (National Aeronautics and Space Council); Mr. Hugh Loweth and Dr. J. Lee Westrate (BOB); Mr. Bernard Michael and Mr. Howard Stambler (Labor); Dr. George Simpson (NASA); Col. John Splain (State); Dr. Gerald Tape (AEC); Dr. William Torpey (OEP); Mr. David Z. Beckler, Dr. J. Hilary Kelley and Dr. David Z. Robinson (OST).

Resume of Actions

Item 1 — Chairman's Report

The policy paper on Federal reimbursement of faculty salaries for summertime research was adopted.

Item 2 — COSI policy recommendation 4-63 regarding Federal support of non-Governmental publications was adopted.

Item 3 — A draft report on "Engineering and Science Technicians" prepared by the PSAC Panel on Scientific and Technical Manpower was presented and discussed; comments will be referred to PSAC for consideration. Early publication of the report is anticipated.

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UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 15

August 2, 1963

INFORMATION MEETING 296

10:05 a.m., August 2, 1963 - Chairman's Conference Room, D. C. Office

1. General Betts' July 29 Memorandum re Minute Man

The Chairman noted receipt of General Betts' memorandum describing the problem and commented that the AEC is apparently doing all it can on the matter.

2. Preparation of Snap Study

The Commissioners agreed it would be helpful to have a first draft with alternative recommendations on such matters as requirements, use in space, etc. The Chairman suggested Dr. Tape respond to the letter query from the Atomic Industrial Forum.

3. Senator Hart's May 1 Letter re Policy on Equipment Grants and Research Contracts

The Commissioners discussed briefly Mr. Ferguson's July 31 memorandum requesting guidance prior to the 11:00 am meeting today. The General Manager recommended and the Commissioners agreed that for discussion today the general position should be agreement on restriction of equipment grants provided such action would be in concert with other agencies - with respect to research grants and contracts, Mr. Ferguson should point out that this raises many broad questions which require further study. (GC)

4. Chairman's Telephone Conversation with Congressman Chet Holifield

The Chairman said in his conversation with Mr. Holifield he informed Mr. Holifield of the Commission's decision on the Snap 10-A Program and the MCR Program. Mr. Holifield had some questions on the Hallam Project Overrun and a hearing on this project is tentatively scheduled for the middle of next week.

5. Chairman's Departure for Moscow Tonight to Attend Test Ban Treaty Ceremony

The Chairman said he would depart tonight with Secretary Rusk's party and would probably return next Wednesday. Commissioner Wilson will be designated Acting Chairman during his absence. (Brown-Secy)

6. Commissioners' Schedule for the Weeks of August 5, 12 and 19

The Commissioners will be in the D. C. Office during the week of August 5 and in the Germantown Office to the extent possible during the weeks of August 12 and 19. (Secy)

7. D. C. Office Space

The Chairman noted the Washington Post article of August 1 and asked whether this would improve our possibility of obtaining more space in the H Street building. The General Manager responded that this matter is now in staff review. (Traynor)

8. Commission Support of Sodium Graphite Prototype

The Chairman and Commissioner Ramey discussed Mr. Chauncey Starr's (Atomics International) conversations with them regarding the possibility of Commission support in Fiscal 1965 of a sodium graphite prototype project which he is discussing with utilities representatives. The Commissioners noted that this project could be in lieu of a government-financed prototype at a considerable savings and said the matter should be discussed further in connection with review of the FY 1965 budget. (Pittman-Abbadessa)

9. Limitations on Underground Testing under the Test Ban Treaty (see General Manager's August 2 Memorandum to the Commissioners)

The General Manager discussed his memorandum with the Commissioners and it was agreed that a) it would be desirable to clarify the classified testimony of the Stennis Subcommittee hearings (the Chairman suggested Commissioner Palfrey discuss this matter with Dr. Tape), and b) an additional paper for appropriate use later is to be prepared using the General Manager's memorandum as a point of departure. (Betts-Kavanagh)

10. August 1 Letter from ACRS Chairman Hall re Review of Reactor Safety Research Program

The Chairman suggested Dr. Tape review.

11. Ceremony for Signing of the Agreement with India

The Chairman noted the postponement of the ceremony until next week and suggested Mr. Ramey represent the Commission with appropriate staff.

12. Production Planning

The Commissioners requested -

a) The statement on planning should include a reference to the additional efficiency which can be obtained;

b) A report from Dr. John Foster supplementing his statement to the Commission yesterday;

c) The 60-day study is to include reference to the laboratories consideration of alternate designs. (Betts-Quinn)

Mr. Ramey said he understood that Joint Committee hearings on requirements will be held in latter August with the Secretary of Defense testifying, suggesting the possibility that the DoD letter will probably not be transmitted to the Commission until after that hearing. The Chairman requested the White House be informed of the plans for the hearing. (Brown)

13. Dr. John Foster's Proposed Advanced Pluto Concept

The Chairman noted receipt of the proposal.

14. Commissioners Discussions with Messrs. Bradbury and Finger

Noted.

15. Letter to Woodside, California Planning Commission re Power Lines to Stanford Accelerator Site

The General Manager disccused his proposed letter and the Commissioners suggested he discuss the matter with Dr. Panofsky prior to transmittal.

16. Commission Finding on Sale of Additional Land at White Rock

To be discussed at the afternoon Commission meeting. (Secy)

17. Invitations for Proposals for Construction of Fast Reactor Test Facility NRTS (Faret)

The Chairman suggested submission of additional information and later discussion (Vinciguerra)

18. Proposed Letter to Mr. Johnson, GE, Hanford re Conflict of Interest

The General Manager discussed briefly his proposed letter and the Chairman suggested review with Commissioners Wilson and Ramey.

✓19. Proposed Letter to Senator Humphrey re John Birch Society

In response to Mr. Palfrey's query, the Chairman suggested transmittal by the Acting Chairman. attached on 8/8

20. Mr. Ramey's Report on Interdepartmental Meeting Yesterday re Cooperation with the French

Mr. Ramey reported briefly on the meeting and the Commissioners noted the President's press conference comment yesterday.

21. Proposed Announcement by Canada re U.S.-Canadian Cooperation

In response to the Chairman's query, the General Manager said AEC comments had been sent to the State Department and that specific determinations would be necessary. The Chairman suggested close coordination with other agencies involved. (GC-Betts)

22. Organization of the Naval Reactor Program

In response to Mr. Ramey's query, the Chairman said Mr. Holifield had been informed of the Commission's meeting with Naval Reactors personnel and Secretary Korth. Mr. Ramey will inform John Conway, JCAE staff.

23. Private Ownership Hearings

A briefing on toll enrichment is to be scheduled for Dr. Wilson. (Secy)

PRESENT

Dr. Seaborg
Dr. Wilson
Mr. Ramey
Mr. Palfrey
Dr. Tape
Gen. Luedecke
Mr. Hennessey
Mr. Ferguson*
Mr. Hollingsworth
Mr. Brown
Mr. McCool

DISTRIBUTION

Commissioners
General Manager
General Counsel
Secretary

W. B. McCool
Secretary

* Attendance for Item 3

OPTIONAL FORM NO. 10
5010-104
UNITED STATES GOVERNMENT

Memorandum

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NOV 86

TO : A. R. Luedecke, General Manager
J. T. Holladay for

FROM : W. B. McCool, Secretary

DATE: August 2, 1963
Approved G. R. Luedecke
A. R. Luedecke
Date 8/2/63

SUBJECT: ACTION SUMMARY OF MEETING 1955, FRIDAY, AUGUST 2, 1963, 2:50 P.M., ROOM 1113-B, D. C. OFFICE

SECY:MK

Commission Business

1. AEC 352/43 - Proposed Sale of Components and Material to the U.K.

   Approved. (Ketts)

2. Commission Determination with Respect to Sale of Additional Land In the White Rock Area of Los Alamos County, New Mexico

   Approved. (Secretary)

3. AEC 890/93 & AEC 890/99 - Fully Enriched Uranium for Foreign Reactors

   Approved, as revised. (Wells)

   The Commission requested that the first sentence in the press release clearly state that the Commission has raised the percentage enrichment from 90 to 93 percent. The press release should also point out that availability of highly enriched uranium to foreign countries is consistent with domestic policy. (Wells)

4. AEC 1120/3 - Substitute Proposal for the Annual Legislative Program

   ~~Deferred~~ withdrawn by G.M.

5. AEC 971/7 - Southwest Atomic Energy Associates Proposal for Cooperative Project for Experimental Fast Ceramic Reactor

   Approved, as revised. (Pittman)

   The Commission requested:

   a. Establishment of a $5.5 million maximum limitation Phase 1 study;

   b. Elimination of the fallback position under Item 6(g), and accepted a new fallback position that the $2.5 million figure be included within the ceiling of $12.0 million;

c. An annual review of the scope of the program.

Commissioner Ramey reserved on the interpretation of the meaning of Commission guidance to the staff.

6. AEC 523/4 & AEC 523/5 - S.45 and Companion Bills Regarding Foreign Transmission of Naval Nuclear Propulsion Information

Discussed.

The Commission requested modification of the letter to the JCAE and DOD to reflect that the proposed Bill's coverage should be more limited. (Hollingsworth)

7. AEC 331/132 - Proposal to Continue Discussions with PRDC re Use of Fermi Plant for R&D

Approved, as revised. (Pittman)

The Commission requested that the discussions with PRDC be conducted in accordance with the instructions given at the Meeting re Commissioner Ramey's August 1 memorandum. (Pittman/Vinciguerra)

The Commission also requested that the JCAE letter be revised to reflect the need for testing fast reactor fuel elements, and that the Commission is mindful of this project's long history. (Pittman)

The Commission further requested that the last sentence in paragraph 1 of the letter to the JCAE be deleted. (Pittman)

Commissioner Ramey renewed his request for financial data regarding PRDC's financial capability. (Pittman/Abbadessa)

8. AEC 1000/75 - Approval to Use SNAP 9A on TRANSIT

Discussed.

The Commission requested that the paper be rescheduled for consideration at a later date subsequent to development of a report based on latest available data. (DR/GM)

cc:
Commissioners

CROSS REFERENCE SHEET

Document* 902081

TITLE OF DOCUMENT Letter from Interior to Seaborg one page 8/15/63, Proposal to Survey Land for Tests.

This document requires further classification review and has been removed from this folder.

Name Jeffrey B. Hahn

August 25, 1986
Date

32019

At 11 p.m. I left for Moscow, via Copenhagen, on Air Force One (the President's plane), from Andrews Air Force Base, with Secretary Rusk, William Foster, Llewellyn Thompson, Adlai Stevenson, and Senators Aiken, Saltonstall, Pastore, Humphrey, Fulbright and Sparkman, the delegation in connection with signing the Limited Test Ban Treaty.

1963 Girls' Nation Chairman of the USAEC, "H" Street Office, August 2, 1963
L to R: Rosslyn H. Mynatt and Seaborg

Saturday, August 3, 1963 - Copenhagen and Moscow

Our special plane arrived in Copenhagen about noon. I toured Copenhagen by car with Mrs. William McC. Blair, Jr. (wife of the U.S. Ambassador to Denmark), Adlai Stevenson (U.S. representative to the UN) and Roy O. Carlson (Economic Officer, U.S. Embassy) where we saw Tivoli, the waterfront, and Governmental Square (King's Palace, etc.). Our plane flew from Copenhagen to Moscow (leaving Copenhagen at 1:50 p.m. and arriving at Vnokovo 2 Airport in Moscow at about 6 p.m.). I was driven to the Sovietskaya Hotel with the William Fosters (he is Director, USACDA). I attended a buffet supper given at Spaso House for the Test Ban Treaty Delegation. I spent the night at the Sovietskaya Hotel.

Sunday, August 4, 1963 - Moscow

I attended a meeting both morning and afternoon at the U.K. Embassy (Chancellery) with Secretary of State Dean Rusk, Ambassador Kohler, Adlai Stevenson, William Bundy (Deputy Assistant Secretary of Defense), Foster, Alexander Akalovsky (ACDA), Llewellyn Thompson (U.S. Ambassador at Large), Richard Davis (Deputy Assistant Secretary of State), Charles Stelle (U.S. representative to Disarmament Commission),

Adlai Stevenson and Mrs. W. McC. Blair, Jr., with Seaborg in Copenhagen, on the way to the signing of the Limited Test Ban Treaty

August 3, 1963

Lord Home (U.K. Secretary of State), Sir Harold Caccia (U.K. Permanent Under Secretary), P. Thomas (Minister of State, U.K.), Duncan Wilson (U.K. Assistant Under Secretary), Sir Edward Heath (Lord Privy Seal), Trevelyan (U.K. Ambassador to the Soviet Union), and others. We discussed the Limited Test Ban Treaty, its effect on West Germany, the French plan for disarmament (delivery vehicles), the Soviet suggestion of observer posts, non-aggression and anti-surprise attack agreements, the concept of a NATO Steering Committee to discuss non-aggression pact, etc., the possibility that nuclear weapons testing by France will bring an end to the Treaty, our suggestions to the Soviet Union of no weapons in outer space, B47-badger exchange, etc.

I had lunch with the same group at the U.K. Embassy. I toured the Kremlin area with Foster, Stelle and Akalovsky. We then visited Moscow State University, driving by the dachas (residence cottages) of Soviet officials (including Khrushchev's in the Lenin Hills), Gorky (amusement) Park, and along the banks of the Moscow River.

I had a buffet dinner at Spaso House with members of the U.S. and U.K. delegations. I walked in Red Square with Senator and Mrs. Hubert Humphrey, Senator and Mrs. William Fulbright, Senator John O. Pastore, and Mr. and Mrs. Foster. I saw the changing of the guard at Lenin's tomb at midnight (this takes place every hour).

Monday, August 5, 1963 - Moscow

Our delegation had an appointment with Andrei A. Gromyko (Soviet Foreign Minister) in the Foreign Ministry Building, from 9 a.m. to 9:30 a.m. Those present included the U.S. delegation, plus Gromyko, V. V. Kuznetsov (first Deputy Minister, Foreign Affairs, USSR), M. N. Smirnovsky (American Section of the Soviet Foreign Office), Anatoli F. Dobrynin and S. K. Tsarapkin (USSR International Organizations Division Ministry of Foreign Affairs). Press and photographers were present at the beginning. Dobrynin and Rusk voiced hopes for the Test Ban Treaty as the first step toward avoidance of nuclear war. Rusk called on Fulbright, who said he was strongly in favor of the Treaty.

From 11 a.m. to 12 noon the U.S. delegation visited Nikita Khrushchev in his Kremlin office, which is long and narrow. We sat at a table with a green felt top, like a pool table. There were windows on the west side, pictures of Lenin and Marx, an electric clock on Khrushchev's desk, bookcases, and two telephones at the conference table. (I saw only one telephone at Khrushchev's desk.) Gromyko, Kuznetsov, Smirnovsky, and Dobrynin were present. After greetings by Khrushchev and Rusk, Khrushchev said the Test Ban Treaty was only a first step and that the main problem is the German problem. He said liquidation of the Government of the German Democratic Peoples' Republic would not be a victory for the United States, nor would a Communist win (i.e., liquidation of the Federal Republic) be a victory for the Soviets, and that a common solution was needed. Rusk recognized that the German solution is fundamental, and he will discuss it with members of the Soviet Government. Rusk said we understand the historical reasons why it is important to the Soviet Union--we, too, went through two World Wars--but the German people need an opportunity for peace so as not to give them reason to start trouble again. There has been a relaxation of tensions in East Europe in the last year.

Khrushchev observed that Rusk doesn't use the term Socialist country but says "the East." Rusk said that "some people in the United States call us Socialist." Khrushchev said "such a man to say that." Rusk said that the Yugoslav Government is less involved in its country's economy than the U.S. Government is in the American economy. Khrushchev said, "capitalism gave birth to communism, let's compete in culture instead of rockets." Rusk said that Glenn Seaborg, Stewart

Udall and Orville Freeman have visited the Soviet Union and advancement of relations continues; let's cooperate in the peaceful uses of atomic energy, education, etc.

Rusk then called on Senator Fulbright, as Chairman of the Senate Foreign Relations Committee. Fulbright recalled Khrushchev's pleasant meeting with his Committee four years ago. He referred to U.S. internal trouble of 100 years ago, which has been overcome and now the South gets along with "the damn Yankees." Similarly the United States and the Soviets can get along. The United States is capitalistic, but actually, a mixed economy. Someone has said the Soviet Union is promoting capitalism. Also, the U.S. Democratic Party has been accused of promoting socialism. The differences are less than we think. He recalled that someone said Khrushchev would be a good member of Congress and that Khrushchev replied, "You don't get to be Chairman of the USSR Council of Ministers by being stupid." Khrushchev agreed on our common goals.

Khrushchev said, "You (U.S.) go forward on private property; we (USSR) on common property. We are for everyone; you are for 'every man for himself.'" Udall paid eulogy to the USSR achievement in power plants. "The Soviet Union will solve problems in agriculture drastically in seven years, and completely by the 1980's." Khrushchev said they are putting billions of rubles into chemical industry, agriculture, etc. He showed a sample of some plastics and a plastic cup. Khrushchev invited Rusk to come down to the Black Sea for a dip because his vacation begins tomorrow; whereupon Gromyko said Rusk shouldn't swim toward Turkey. On the way out of his office I talked to Khrushchev and he referred to me as "my old friend."

The U.S. delegation then toured the Kremlin Arms Chamber Museum and rooms in the large Kremlin Palace. We had lunch in the oldest room of the Kremlin (built 500 years ago), at a large U-shaped table with about 100 guests. Khrushchev, Rusk, Home and U Thant spoke--all along lines of a test ban as a symbolic step. We retired to an anteroom for coffee and brandy. At lunch I sat next to Ilychev (Secretary for Ideology of the Central Committee, a historian and speech writer) and Ya. V. Peive (Chairman, Council of Nationalities of the Supreme Soviet, a biochemist from Riga), and near Petrosyants and K. N. Rudnev (Deputy Chairman, Council of Ministers, and Chairman, State Committee for Coordination of Scientific Research Work, a mechanical engineer).

At 4:30 p.m. we attended the historic signing of the Limited Nuclear Test Ban Treaty, in Catherine's Hall, by Rusk, Gromyko and Home simultaneously, followed by speeches by Gromyko, Rusk, Home and U Thant. I stood just behind Khrushchev and he and I tipped our champagne glasses together for toasts at least five times. About 50-60 press representatives and photographers were present. (Copy of text of "Treaty Banning Nuclear Weapons Tests in the Atmosphere , in Outer Space and Under Water" attached.)

At about 5:15 p.m. we attended a huge reception in Georgian Hall (magnificent!) where Khrushchev pulled a prepared speech out of his pocket, and delivered it. I took a picture of him with my Minox camera (which was perhaps a risky endeavor). I had a chance to talk to Brezhnev, Petrosyants, Gromyko, Kuznetsov, Dobrynin, Zorin, Tsarapkin, and Voroshilov (of the military).

That evening I went to the circus and walked through Gorky Park with Senator Pastore.

A glorious day.

Krushchev delivering speech in Georgian Hall, Kremlin, Moscow

August 5, 1963

Signing of the Limited Test Ban Treaty, Moscow, USSR, August 8, 1963
L to R (seated): U.S. Secretary of State Dean Rusk, Soviet Foreign Minister Andrei Gromyko and British Foreign Secretary Lord Home.
L to R (behind the three): Senator George Aiken, Senator William Fulbright, Alexander Akalovsky, Senator Hubert Humphrey, Senator Leverett Saltonstall, United Nations Ambassador Adlai Stevenson, U.N. Secretary General U Thant, Soviet Premier Nikita Khrushchev, unidentified, Soviet Deputy Foreign Minister Valerian Zorin, British Lord Privy Seal Edward Heath, unidentified, Seaborg, (behind Zorin and slightly to the left) Soviet Ambassador to the U.S. Anatoly Dobrynin

Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water

Text of treaty done at Moscow on August 5, 1963.
U.S. ratification deposited October 10, 1963.
Entered into force October 10, 1963.

The Governments of the United States of America, the United Kingdom of Great Britain and Northern Ireland, and the Union of Soviet Socialist Republics, hereinafter referred to as the "Original Parties,"

Proclaiming as their principal aim the speediest possible achievement of an agreement on general and complete disarmament under strict international control in accordance with the objectives of the United Nations which would put an end to the armaments race and eliminate the incentive to the production and testing of all kinds of weapons, including nuclear weapons,

Seeking to achieve the discontinuance of all test explosions of nuclear weapons for all time, determined to continue negotiations to this end, and desiring to put an end to the contamination of man's environment by radioactive substances,

Have agreed as follows:

Article I

1. Each of the Parties to this Treaty undertakes to prohibit, to prevent, and not to carry out any nuclear weapon test explosion, or any other nuclear explosion, at any place under its jurisdiction or control:
   (a) in the atmosphere; beyond its limits, including outer space; or underwater, including territorial waters or high seas; or
   (b) in any other environment if such explosion causes radioactive debris to be present outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted. It is understood in this connection that the provisions of this subparagraph are without prejudice to the conclusion of a treaty resulting in the permanent banning of all nuclear test explosions, including all such explosions underground, the conclusion of which, as the Parties have stated in the Preamble to this Treaty, they seek to achieve.
2. Each of the Parties to this Treaty undertakes furthermore to refrain from causing, encouraging, or in any way participating in, the carrying out of any nuclear weapon test explosion, or any other nuclear explosion, anywhere which would take place in any of the environments described, or have the effect referred to, in paragraph I of this Article.

Article II

1. Any Party may propose amendments to this Treaty. The text of any proposed amendment shall be submitted to the Depositary Governments which shall circulate it to all Parties to this Treaty. Thereafter, if requested to do so by one-third or more of the Parties, the Depositary Governments shall convene a conference, to which they shall invite all the Parties, to consider such amendment.
2. Any amendment to this Treaty must be approved by a majority of the votes of all the Parties to this Treaty, including the votes of all of the Original Parties. The amendment shall enter into force for all Parties upon the deposit of instruments of ratification by a majority of all the Parties, including the instruments of ratification of all of the Original Parties.

Article III

1. This Treaty shall be open to all States for signature. Any State which does not sign this Treaty before its entry into force in accordance with paragraph 3 of this Article may accede to it at any time.
2. This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the Original Parties--the United States of America, the United Kingdom of Great Britain and Northern Ireland, and the Union of Soviet Socialist Republics--which are hereby designated the Depositary Governments.
3. This Treaty shall enter into force after its ratification by all the Original Parties and the deposit of their instruments of ratification.
4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.
5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification of an accession to this Treaty, the date of its entry into force, and the date of receipt of any requests for conferences or other notices.
6. This Treaty shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article IV

This Treaty shall be of unlimited duration.

Each Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other Parties to the Treaty three months in advance.

Article V

This Treaty, of which the English and Russian texts are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

IN WITNESS WHEREOF the undersigned, duly authorized, have signed this Treaty.

DONE in triplicate at the city of Moscow the fifth day of August, one thousand nine hundred and sixty-three.

For the Government of the United States of America
Dean Rusk

For the Government of the United Kingdom of Great Britain and Northern Ireland
Home

For the Government of the Union of Soviet Socialist Republics
A. Gromyko

Tuesday, August 6, 1963 - Moscow

I paid a short visit to the Embassy. I toured the Kremlin, saw Moscow sights, including a collective market and the world's largest swimming pool, with Bill Bundy and Mr. and Mrs. Ken Kerst (brother of Don Kerst), who drove us around.

I attended a luncheon given by the Ministry of Foreign Affairs at the Government Reception House, Lenin Hills (near Khrushchev's dacha), with all the members of the U.S. delegation and their wives. Gromyko and Rusk spoke briefly. I sat next to Petrosyants and Tanga Sorotkina (interpreter) and near Nikolai Tikhenov (Leningrad poet, President of the Lenin Prize Committee for Literature and President of the Soviet Peace Committee.)

After lunch I visited Moscow State University with Bundy and Senator Pastore. I later attended a huge reception (300 guests) at the American Embassy. Here I talked to Rudnev and I seconded Rusk's invitation that he visit the United States. He implied he might come with Petrosyants. I talked to Petrosyants here as well as at lunch. He asked me to suggest an itinerary for his U.S. visit to places not seen by Soviets and said there will be twelve in his party. He said they are rushing construction of the Melekess Boiling Water Reactor in view of my reference to it (implying I didn't think they could meet the schedule) in my press conference. He referred to my National Press Club speech, of which he apparently had read a Russian translation, and which he said he liked. I had dinner at Uzbekistan (Asiatic Republic type) Restaurant (at Neglinuaya) with Bundy and Mr. and Mrs. Kerst.

Wednesday, August 7, 1963 - Moscow to Copenhagen and home

We flew to Copenhagen on our special plane (leaving Vnukovo Airport at 10:30 a.m. and arrived in Copenhagen at 10:45 a.m.). I took some movies at both Vnukovo and Copenhagen airports. Most of the members of the delegation were on the plane for the return trip home, but Rusk and some others remained in Moscow for further talks. At Copenhagen airport I was interviewed by Knud Meister, of Berlingske Tidende, via tape recording, on the significance of the Limited Nuclear Test Ban Treaty.

We continued on our special plane (leaving Copenhagen at 11:45 a.m., stopping in New York to let off Ambassador Stevenson and Mr. and Mrs. Arthur Dean, and arriving at Andrews Air Force Base at 4:45 p.m.). I was met by Howard Brown with many papers. My family had already left--apparently on Monday--on our New England vacation.

Thursday, August 8, 1963 - D.C.

I participated in the signing of the Indian Tarapur Agreement with Ambassador Braj Kumar Nehru and Assistant Secretary of State Phillips Talbot at the Department of State.

At 11:30 a.m. Commissioner Tape and I went to the Pentagon to meet with the Joint Chiefs of Staff (LeMay, Wheeler, McDonald and others) to describe the effect of the Test Ban Treaty on the U.S. weapons position as compared with the USSR position.

From 2 p.m. to 4 p.m. I met with a group under Bundy's chairmanship (in the Situation Room) to work on Harold Brown's report summarizing the effect of the Test Ban Treaty.

At 5 p.m. I presided over Information Meeting 298 (notes attached).

UNCL. BY DOE
NOV 86

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 15
August 9, 1963

INFORMATION MEETING 290
5:00 p.m., Thursday, August 8 - Chairman's Conference Room, D. C.

1. August 2 Letter from Jerome Luntz, NUCLEONICS

The Chairman noted receipt of a letter from Mr. Luntz reiterating his feeling that more effort should be made to inform the public on nuclear power. Mr. Ramey indicated that he thought AEC could probably do more than at present. (GM)

2. August 1 Letter from Mr. Brightsen, Nuclear Science and Engineering Corporation

The Chairman noted receipt of another letter from Mr. Brightsen requesting prompt action on his previous letters, and describing a proposed newer arrangement which depends on response from AEC.

3. Commissioners' Schedules

For August 9: Chairman and Dr. Tape: In D. C.
Dr. Wilson: In Germantown
Mr. Ramey: In St. Louis
Mr. Palfrey: On Leave

Dr. Tape is designated Acting Chairman until the Chairman's return on or about August 14.

The Commissioners noted that the location of the Commission August 14 and 15 will be contingent on the final scheduling of testimony by the Chairman at the test ban hearings.

Mr. Hollingsworth indicated that the Commissioners would be asked to consider AEC 1030/73 (and Supplement) - Approval to Use SNAP 9A on TRANSIT - during the week of August 12.

4. Test Ban Hearing Testimony

The Chairman noted that Dr. Tape is completing revision following his review. Dr. Tape expects to have draft for the Chairman by noon, August 9; Dr. Wilson and Mr. Ramey requested copies for their review over the weekend.

5. 1972 Stockpile Goals Hearings August 26

The Chairman inquired into the status of the response to Mr. Conway's August 5 letter, as discussed at Information Meeting 297, August 7. Mr. Hollingsworth reviewed briefly, indicating that the Division of Military Application had been in touch with both Dr. Bradbury and Dr. Foster, who would be submitting the necessary report. The Chairman noted that it would be necessary for the matter to be reviewed by the Commission to assure appropriate response.

6. Senator Stennis' Letter of August 5 Requesting Information on Communications with Laboratories on Preparedness

The Chairman inquired into the status of a response to the Stennis letter. Mr. Hollingsworth, noting that the matter had been discussed at Information Meeting 297, August 7, indicated that DMA expected to have the necessary material assembled for review in about a week. The General Manager reiterated that final response may involve consideration of the question of executive privilege.

7. General Maxwell Taylor's July 30 Letter

The Chairman noted that the response is in hand following meeting with the Joint Chiefs on August 8, and that Dr. Tape is handling the matter.

8. Secretary of Defense Decision on 1972 Stockpile Recommendations to the President

The Chairman inquired into the status of the DoD response and was informed on the basis of informal conversations a letter was expected next week which might reflect a position somewhat different from that previously expected.

9. Hearings August 26 and 27 re 1972 Stockpile Goals

The Chairman inquired whether written testimony would be available. The General Manager indicated that preparation for briefing the Commission and such written testimony as might be necessary were in process.

10. Labor Situation

The Chairman inquired of the General Manager whether there was any change in the labor situation. The General Manager indicated there was no change as of August 8, and that the first shot is still scheduled to go off Monday, August 12.

11. Visit of Russian Team

The Chairman noted that he had had brief conversations in Moscow with Mr. Petrosyants concerning the forthcoming visit of the Soviet scientific team in which he had suggested that the team plan to spend 12 or 14 days visiting U.S. facilities. It was the Chairman's view that the primary visits would be at BNL, ORNL, ANL, Berkeley and Idaho, and possibly additional visits to Stanford and Dresden. It would appear that it might be desirable to start the visits with Oak Ridge November 16 and 17, then BNL, with the Chairman joining the party at the ANS meeting in New York November 20, following which he would accompany the group on their visits to Berkeley and Stanford. The Chairman proposed that other Commissioners take over for the remaining visits. Dr. Wilson suggested that he would be willing to join the group for the Idaho and ANL visits. The Chairman inquired as to whether there would be any problem in arranging visits of the group to Dresden and Yankee, expressing some concern about the Russian emphasis on desiring to visit places they have not been. It was the Chairman's thought that consideration might be given in planning the itinerary to the possibility of the greater value in visiting some of the laboratories previously visited. The Chairman emphasized that a response to Mr. Petrosyants must be expedited and suggested that the General Manager meanwhile write the private companies involved concerning the feasibility of the visits to their facilities. (GM)

12. Briefing on D$_2$O and Seed-and-Blanket Power Reactor Programs, August 15

Mr. Ramey questioned the implication of the heading of the agenda received from the General Manager that the briefing was for the GAC Reactors Subcommittee only. He indicated that the briefing had in fact been requested by the Commission following the July 18-20 meeting of the GAC (Item 15 Information Meeting 291, July 22) and that the Division of Reactor Development should be reoriented on the matter. (GM/Pittman)

13. Laboratory Personnel Matter

14. President's Committee on Equal Opportunity, August 20

The Chairman indicated that he would not be able to attend. It was agreed that Mr. Traynor and Mr. Ferguson would attend in accordance with the General Manager's suggestion.

15. AFL-CIO July 16 Letter

It was agreed that the response would be prepared, suggesting that the question raised would be placed on the agenda for the next meeting of the Labor Management Advisory Committee. (GM)

16. Centrifuge Program Classification Policy

Dr. Wilson cited the increasing problems of classification in the centrifuge program and the need for a sound policy in this area. He requested that a briefing on the centrifuge program be arranged for the Commissioners at the earliest possible time. (GM)

17. Article in NUCLEONICS WEEK August 8 on Private Ownership Hearings

Dr. Wilson indicated that on the basis of informal conversations which he had undertaken, he felt the Commission could disregard the criticisms of AEC contained in this article.

18. ANL Proposal to Invite Russian and Polish Delegates to Conference on Breeding and Economics

The Commissioners approved the General Manager's recommendation that Argonne not issue these invitations in the interest of avoiding any compromise of the forthcoming Petrosyants visit.

19. Letter to John Finney, NEW YORK TIMES

The Commissioners approved the proposed response, subject to addition of costs for H Street office rental. (GM)

20. Executive Seminar Center

The Commissioners approved the General Manager's proposal to participate in the Executive Seminar Center program. The General Manager will submit for the Chairman's signature the letter to the Civil Service Commission. (GM)

21. Addition of Lummus Company to Invitation List for Bids for Construction of Fast Reactor Test Facility NRTS (Faret)

The Commissioners approved the General Manager's proposal to add the Lummus Company to the invitation list and proceed with issuance of the invitations. (GM)

22. Submarine Information Legislation

The General Manager reviewed with the Commissioners the proposed letters to the Joint Committee and the BoB developed in accordance with Commission action at Meeting 1955 on August 2. The Commissioners approved the letters, subject to certain revisions. (GM)

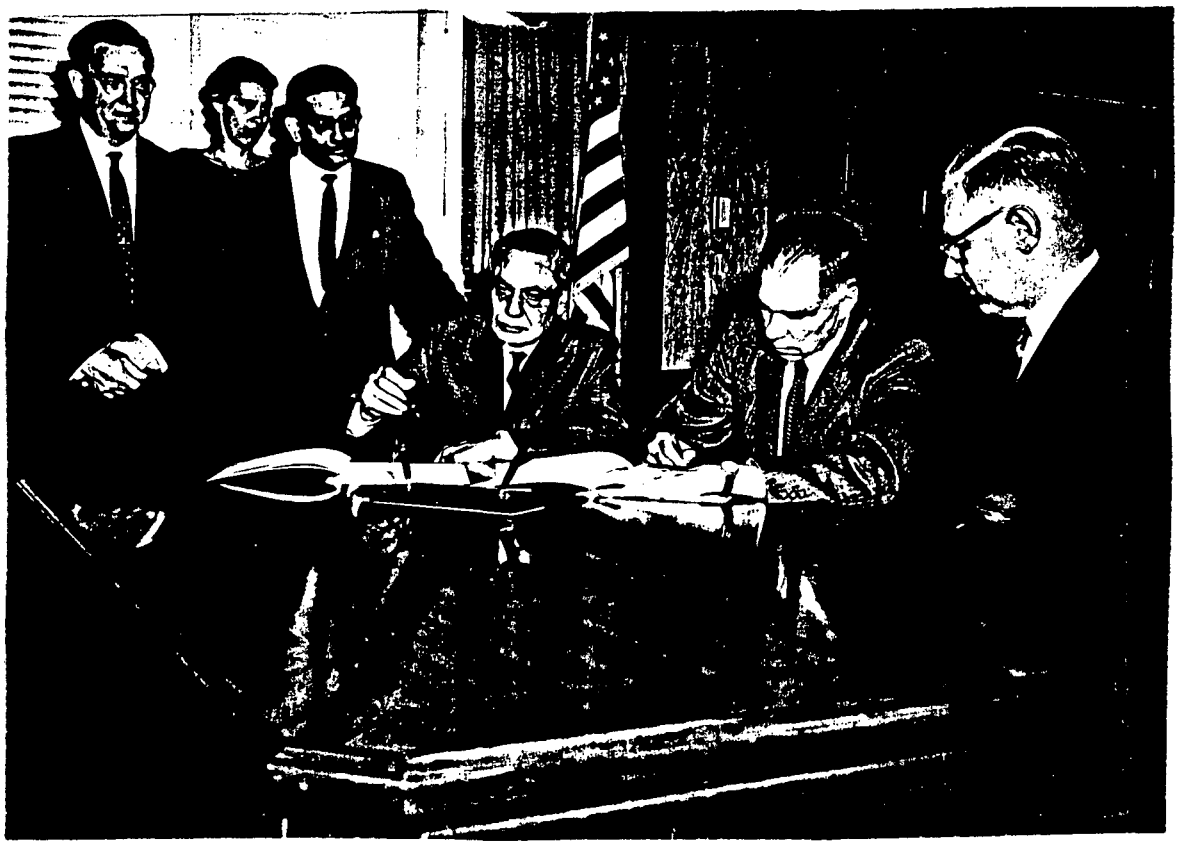
PT

PRESENT		DISTRIBUTION
Dr. Seaborg	General Luedecke	Commissioners
Dr. Wilson	Mr. Hollingsworth	General Manager
Mr. Ramey	Mr. Ferguson	General Counsel
Dr. Tape	Mr. Brown	Secretary
	Mr. Hobbs	

F. T. Hobbs
Acting Secretary

I sent a reply to Senator Humphrey's letter of July 8th regarding the security significance of membership in the John Birch Society (correspondence attached).

I sent a reply to Maxwell Taylor's letter of July 30th asking for answers to specific questions relating to nuclear weapons technology in connection with hearings on the Test Ban Treaty (correspondence attached).



U.S. and India signing Tarapur Power Project Agreement at the State Department, August 8, 1963

L to R: James T. Ramey (AEC Commissioner), A. K. Ghosh (First Secretary of the Indian Embassy), B. K. Nehru (Indian Ambassador), Seaborg, Talbot (Assistant Secretary)

Friday, August 9, 1963 - D.C. - Boston

I called Bundy to get his view regarding Governor Rockefeller's request to talk to Dr. John Foster. Bundy replied that, in his opinion, Foster would be well advised at this stage not to talk to Rockefeller. He said it should be pointed out that Rockefeller should not be treated any differently from any other private citizen.

He said there is a political edginess here; Foster is testifying before congressional committees. Also, he has a contract on sensitive matters, most of which are classified and it doesn't make sense for the Governor to talk to him about classified matters. It is difficult to see how he could avoid talking about classified matters. Bundy said that Foster should do his testifying in appropriate

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

DO FILE

AUG 8 1963

UNCL. BY DOE
NOV 86

Dear Senator Humphrey:

This is in reply to your letter of July 8, 1963, inquiring further about the security significance of membership in the John Birch Society. Specifically, you asked whether the AEC in its security determinations to date has ignored the fact of membership in the Society, or whether it has taken the membership into account regarding it as derogatory information, but in individual cases has concluded that such membership did not justify a denial or revocation of clearance.

The Commission does not ignore the fact of membership in the John Birch Society. At the same time, we do not regard the fact of membership in this Society as derogatory information per se. As you know, this Society has not been designated by the Attorney General under Executive Order 10450.

If non-designated organizations, or individual members of a non-designated organization, are reported to advocate policies and practices which seek to deprive others of their constitutional rights by force or violence, we look behind the fact of membership to the particular facts and circumstances in a given case. We inquire whether the individual's involvement, if any, in an organization is such as to warrant the drawing of any derogatory implications.

In the cases involving membership in the John Birch Society which we have examined to date, we have not found any factual basis for concluding that individuals seeking access authorization were involved in such a manner as to warrant denial or revocation.

We trust you will find this additional information of assistance to you.

Sincerely yours,

(Signed) Glenn T. Seaborg

Chairman

Honorable Hubert H. Humphrey
United States Senate

J. W. FULBRIGHT, ARK., CHAIRMAN
[illegible]RMAN, ALA.
[illegible]. HUMPHREY, MINN.
MANSFIELD, MONT.
WAYNE MORSE, OREG.
RUSSELL B. LONG, LA.
ALBERT GORE, TENN.
FRANK J. LAUSCHE, OHIO
FRANK CHURCH, IDAHO
STUART SYMINGTON, MO.
THOMAS J. DODD, CONN.
GEORGE A. SMATHERS, FLA.

BOURKE B. HICKENLOOPER, IOWA
GEORGE D. AIKEN, VT.
FRANK CARLSON, KANS.
JOHN J. WILLIAMS, DEL.
KARL E. MUNDT, S. DAK.

CARL MARCY, CHIEF OF STAFF
DARRELL ST. CLAIRE, CLERK

United States Senate

COMMITTEE ON FOREIGN RELATIONS

July 8, 1963

DECL. BY 047
NOV 86

General A. R. Luedecke
General Manager
United States Atomic Energy Commission
Washington 25, D. C.

Dear General Luedecke:

I very much appreciate your letter of June 13 in reply to my inquiry concerning the security significance of membership in the John Birch Society.

I am interested in the last paragraph of your letter, in which you state that you are aware of published allegations made against the John Birch Society, but have not found grounds in any case sufficient to deny or revoke access to classified information on the basis of membership in that organization.

It is not clear to me whether this paragraph means that you have ignored the fact of membership in the John Birch Society in making clearance determinations, or whether you have taken the fact of such membership into account as derogatory information, but concluded in individual cases that such membership did not justify denial or revocation of clearance.

I am concerned, based on published information which has come to my attention, that the John Birch Society appears to operate in a conspiratorial manner; that it has acted in some instances to attempt to coerce public bodies, radio stations, and newspapers in an undemocratic manner; and that there is a close relationship, perhaps interlocking, between it and some extreme right wing organizations which are on the "Attorney General's List." In view of the above, I should very much appreciate your informing me specifically whether or not the Atomic Energy Commission regards membership in the John Birch Society as being "derogatory information" within the meaning of its Security Criteria and Procedures.

Sincerely yours,

Hubert Humphrey

Hubert H. Humphrey

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UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

AUG 8 1960

UNCL. BY DOE
NOV 86

Dear General Taylor:

In your letter of July 30, 1960 you requested that I provide the Joint Chiefs with answers to specific questions relating to nuclear technology. I am providing these answers as an enclosure to this letter.

I understand that Dr. Bradbury and Dr. Foster have provided you with their individual responses to these questions. In the event that you or the Joint Chiefs require additional information on this subject, I would be most pleased to provide it.

Sincerely yours,

(Signed) John A. McCone

Chairman

General Maxwell D. Taylor
The Chairman, Joint Chiefs of Staff
Department of Defense

Enclosure:
Answers to Questions, Cys 1&2A

Do not attach per BTS

When separated from enclosure(s) this document is UNCLASSIFIED
(Insert proper classification)

CHAIRMAN OF THE JOINT CHIEFS OF STAFF
WASHINGTON

UNCL. BY DOE
NOV 86

30 July 1963

JCS 7/30/63

Dear Dr. Seaborg:

In preparing themselves to testify in the Congressional hearings on the test ban treaty, the Joint Chiefs of Staff feel the need of your counsel in order to arrive at a thorough understanding of the implications and consequences of the implementation of this treaty. Our specific need is for answers to the attached list of questions bearing on matters in the field of nuclear technology.

We would be most grateful if you would provide your answers to us in writing so that we could study them in connection with the development of our views on the test ban treaty. Thereafter, we hope that you will be willing to confer with us if a further discussion appears desirable. Also, we would probably like to talk with Dr. Bradbury and Dr. Foster.

We are hoping to finalize our study of the treaty by August 14, 1963, a date chosen in relation to an estimate of the time of initiation of Congressional hearings. Hence, we would like to obtain your views well in advance of that date.

Sincerely,

Maxwell D. Taylor

MAXWELL D. TAYLOR
Chairman
Joint Chiefs of Staff

The Honorable Glenn T. Seaborg
Chairman, Atomic Energy Commission
Washington, D. C.

SY DOR
86

TECHNICAL QUESTIONS

1. What is the present relative position of the United States and the USSR in nuclear technology and weaponry in the fields of strategic nuclear weapons, in anti-missile missile defense and in tactical nuclear weapons?

2. What will be the effect on the present relative position if both parties confine their subsequent testing to underground as is contemplated in the proposed test ban treaty?

3. In what kind of underground testing program should the US engage in order to insure continued progress in nuclear technology after signing the test ban treaty?

4. What significant requirements for nuclear testing will we be able to satisfy and what will we not be able to satisfy under this treaty? Specifically:

a. What meaningful data related to ICBM penetrability and re-entry vulnerability can be obtained thru underground testing?

b. What data can the US obtain on the lethal radius of ABM warheads, nuclear blackout effects and ABM self-kill effects thru underground testing?

c. What data can the US obtain regarding integrated effects tests against space vehicles thru underground testing?

d. What data can the US obtain regarding underwater ASW effects tests by underground testing?

5. Assuming the USSR is ahead in the high-yield area, and that we may be ahead in the intermediate or low-yield area, will not this treaty work to the benefit of the USSR by preventing us from progressing in areas where USSR is ahead and allowing USSR to progress in areas where the US is assumed to be ahead?

6. Can the US make and maintain effective preparations for high-yield and other tests in order to be assured of readiness to resume tests promptly? What funding level will be required to maintain readiness to test?

7. What can the Soviets learn through clandestine testing in the prohibited environments that they cannot learn from underground testing? Would the knowledge the Soviets gain from such clandestine testing be worth considerable risks?

8. What will be the effect upon the present relative position if the United States limits itself to underground tests while the USSR tests underground and also engages in clandestine testing in the atmosphere, underwater, and in outer space?

quarters, not with Rockefeller. I said I don't know how amenable Foster will be to a friendly suggestion and if he isn't amenable, I asked whether we should order him. Bundy replied that we can't order him, and he doesn't think we would want to be in the position of doing so.

I sent a note to the President expressing our sympathy to him and Mrs. Kennedy over the loss of their newly born son.

I took the 2:30 p.m. Eastern Shuttle to Boston where I was met by the family.

We spent the night at the Charles River Motel in Cambridge.

Saturday, August 10, 1963 - Boston - North Conway, N.H.

We visited Harvard, the Cambridge Electron Accelerator and Massachusetts Institute of Technology.

We drove to North Conway, New Hampshire, where we spent the night at the Pines Lodge Motel. We met the Fritsches there (Arnie and Betsy and their children Kristen, Kerry, and Read).

Sunday, August 11, 1963 - North Conway, New Hampshire

We drove through the White Mountains through Franconia Notch and Crawford Notch, past the Old Man of the Mountain, Diana Baths, etc. The family hiked to Arethusa Falls, where Eric fell. He was treated at the North Conway Memorial Hospital where he received four stitches in his forehead.

We spent the night at the Waffle Shop Motel in North Conway.

Monday, August 12, 1963 - North Conway, New Hampshire - Boston

We drove with the Fritsches to Pinkham Notch and to Wild Cat Mountain Lodge.

In the afternoon we drove back to the Boston area and spent the night at Chisholm's Hotel in Saugus.

Tuesday, August 13, 1963 - Boston - D.C.

While the family remained in Boston, I flew to Washington on Northeast flight 231, leaving at 9:15 a.m. and arriving at 11:45 a.m. I went directly to the D.C. office.

I talked by phone to Fred Dutton at 1:20 p.m. regarding my appearance at the test ban hearings tomorrow morning. Dutton said that last night he sent me some questions that where asked of Rusk, but which Rusk said I would be better qualified to answer. Today, McNamara was asked the following question by Senator George Aiken, but he replied that I would be the one to answer it: What was the extent of fallout in the 1959-61 period? He said he understood that the Teller testimony had been sent to AEC and DOD for clearance. Senator John Stennis plans to release it at noon tomorrow. He said that Aiken will probably be questioning me about the Teller testimony, counterbalancing his testimony with my testimony as a scientist. He said neither Rusk nor McNamara have gone into the executive session, but he thinks there is a good chance of that with me, McCone and General Taylor.

From 4:35 p.m. to 4:55 p.m. I met with President Kennedy and Mac Bundy at the White House. I told the President that I will be appearing as a witness before the Senate Foreign Relations Committee tomorrow morning, and I want to discuss with him some of the aspects of this appearance.

I said the question will undoubtedly be raised as to whether we will maintain or increase our rate of underground testing. I said that he had approved 30 tests for FY 1964, as opposed to about 50 each in FY 1962 and 1963. I said that to raise the 30 to 50 will mean increasing the present $50 million budget to $100 million. I said I think that the rate of 50 per year in FY 1964 could be presented as satisfactory at the hearings tomorrow. The President agreed that we should go ahead on this basis.

I then raised the question of readiness for atmospheric testing and indicated that one degree of readiness will entail a time of three to six months before developmental air drop tests can be commenced and a time of three to six months before high altitude tests can be commenced. A second lesser capability will allow for high altitude tests to commence after nine to twelve months. I said that there is $50 million in the budget for atmospheric testing at present, and this will have to be increased to $100 million in order to obtain the first-mentioned degree of readiness, and to about $62 million to maintain the second-mentioned degree of readiness. Then, the annual costs for maintaining readiness would be about $20 million for the first, and $12 to $25 million for the second degree of readiness. He favored the first degree of readiness, i.e., three to six months' capability for high altitude testing, but indicated that I might refer to it as a high degree of readiness and point out that some tests might even take longer than this. I also said that we could be ready for proof testing in a period of one month or less.

I pointed out the desirability of being able to respond to questions that preparations for atmospheric tests are being made at Johnston Island, and the President agreed that such an announcement could be made in connection with my testimony.

I then mentioned Senator Wayne Morse's problem with giving atomic information to the French and his question to McNamara today, which McNamara referred to me, as to whether the French had made sufficient progress to meet the conditions of the Atomic Energy Act. The President suggested that, if I thought they had, I should say so in conformance with his recent response to a similar question in his press conference.

Bill Libby called at 5:05 p.m. and said that he and some friends (outside the AEC), as members of a non-profit foundation, are interested in the project of building a canal across the Isthmus of Kra, north of Singapore. They are thinking of offering to do preliminary studies in geology, geophysics, fallout, etc. This would in no way involve the U.S. government. There would be no fees, just reimbursement for expenses. He said this might get us involved with Russia on the Test Ban Treaty. The digging was started before work was begun on the Panama Canal, but this is a much bigger project and it never got very far. He thinks it would be a "natural" as a Plowshare project. It would cost about $2 billion. The SEATO countries are extremely interested, and this would have a tremendous impact on the economy of that part of Asia. The Golden Peninsula Development Corporation is interested, and they have been operating for two or three years.

The Japanese are interested in doing the job with ordinary explosives, and they say it can be done in about three years. Libby maintains that it could not be done in thirty. I said that, if this were to be done under Plowshare, we would have to get an amendment to the new Test Ban Treaty. I suggested that he talk to John Kelly about this and that he contact the State Department regarding the political aspects. I also asked him to maintain an open mind in the event he should run into unforeseen obstacles. He said he would be in touch with Kelly and that he will contact State, probably through Fred Dutton.

I called Gilpatric at 5:15 p.m. regarding the hoped for hearing on the 1972

stockpile on August 26th and 27th. He said that upon receiving his letter he called Conway and told him he understood he wanted a very informal briefing--without prepared statements and without an array of witnesses--for about an hour or so, as to where we stand. He told Conway that, since their original discussion, the DOD time schedule has slipped.

McNamara has decided to change the letter to the President (as we discussed at lunch one day) and just include DOD requirements and then leave it to the other authorities to determine how the requirements would be supplied, i.e., by full blast, by stockpile, etc. Since McNamara now hopes to get away on a short vacation beginning this weekend, Gilpatric doesn't think they will be able to get this letter to the President by the week of August 26th. Gilpatric has called Conway and told him it would be much later than the end of August before DOD could be ready for a hearing with testimony, etc. He said, however, he will still be willing to go up at the end of August and tell them informally where DOD stands, but he won't do it on the record and he won't have a statement. Conway said he will talk to Pastore upon his return from Moscow, but Gilpatric still hasn't heard anything on that. He is, therefore, going on the assumption there won't be any hearings this month, and that, at most, it will be an information discussion. There will be no conclusions or issues because as yet, DOD hasn't reached that stage.

I sent my biweekly report the the President (copy attached).

Wednesday, August 14, 1963 - D.C.

In both the morning and afternoon I testified before the Senate Foreign Relations Committee on the Test Ban Treaty and strongly supported it. Chairman Fulbright and Senators Sparkman, Humphrey, Morse, Gore, Lausche, Symington, Hickenlooper, Aiken, Carlson, Mundt, Russell, Kuchel and Pastore questioned me. (Copy of testimony and questioning attached.)

I had dinner at the Holifields' home. Others present were the Carl Durhams, the Jim Rameys, the John Conways, Mel Price and Admiral Rickover.

Thursday, August 15, 1963 - D.C. - Boston

At 12:20 p.m. I presided over Commission Meeting 1956. Approved by the Commissioners was the guest appointment of a Polish National at BNL. Approved as revised was the atmospheric test readiness posture. The Commission requested the revised letter to the Secretary of Defense be further modified to reflect the substance of the President's position on an expanded underground test program. The Commission approved, for budget planning purposes, the proposed revised funding levels presented on the chart for off-continent test readiness capability and for an expanded underground program.

The Commission reconsidered its decision regarding the proposal on the use of the Fermi Plant for research and development, and in lieu thereof, requested that a letter be sent to Mr. Walker Cisler inviting him to meet with the Commission at an early date and requested that he send AEC appropriate financial data in advance and noted that the staff will undertake no further discussions with PRDC on their proposal pending the meeting with Mr. Cisler.

The Commissioners approved the award of AEC Citation. Among "other business" the Commissioners had no objection to my proposed action on the Knapp Report on Iodine 131. Commissioner Tape requested he be provided additional information on the report. My suggested changes are to be incorporated in my August 14th Testimony on the Nuclear Test Ban Treaty.

UNCL. BY DOE
NOV 86

AUG 13 1963

PERSONAL AND CONFIDENTIAL

Mr. President:

I have the pleasure of submitting to you the regular bi-weekly report on significant developments in the atomic energy program.

1. Labor Troubles at the Nevada Test Site (NTS) -(Secret-RD)

A strike of plumbers and pipefitters at the NTS has resulted in a work stoppage involving most construction crafts and office workers employed by Reynolds Electrical and Engineering Company (test support contractor) at the site. Test events scheduled for August 14th and August 15th are not expected to be affected by this strike (see item 2, below); however, there may be some slippage in the schedule for later events if the strike continues. Meetings between the parties and the Conciliation Service are going on in an effort to resolve the stoppage.

2. U.S.-Indian Agreement for Cooperation (Signed) - (Unclassified)

A 30-year agreement for cooperation with India that provides the legal framework for installing and operating a 300 MW(e) nuclear power station of U.S. design at Tarapur, India, was signed on Thursday, August 8th, at the Department of State, by Indian Ambassador Braj Kumar Nehru, by myself, and by Assistant Secretary of State Phillips Talbot. In compliance with the Atomic Energy Act of 1954, as amended, the agreement has been placed before the Joint Committee on Atomic Energy for a period of 30 days. Following the waiting period, it would become effective upon an exchange of notes between the two governments. The two 190 MW(e) boiling water power reactors for the Tarapur Station will be built by the General Electric Company. As previously announced, the agreement provides that at a suitable time, following adoption by the IAEA of a safeguards system generally

consistent with the provisions of the bilateral agreement, the Agency will be requested to enter into a trilateral agreement with India and the United States for the application of Agency safeguards against diversion to military use.

3. Underground Testing at the Nevada Test Site (Operation Niblick) - (Secret - RD)

The Pekan event was detonated yesterday as planned, and its yield was approximately as expected. The next event is Satsop and is currently scheduled for August 15th.

4. Congressional Notes (Unclassified)

a. Senator John Stennis, Chairman of the Preparedness Investigating Subcommittee of the Committee on Armed Services, has directed to the Commission a request made by Senator Henry Jackson during the course of the arms control and nuclear test ban hearings before Senator Stennis' committee on August 2nd. The AEC is asked to provide for the hearing records: (a) a comprehensive history of all restrictions, delays and suspensions experienced by the U. S. nuclear weapons test program since September 1, 1961, as a consequence of official orders to the laboratories and test organizations emanating from the Atomic Energy Commission either at its own initiative or at the direction of higher authority, and (b) the history of all official communications transmitted between the AEC, the Livermore Radiation Laboratory, the Los Alamos Scientific Laboratory, and the Defense Atomic Support Agency, during the period from November 1, 1958, to September 1, 1961, pertaining to the subject of preparations for readiness to resume both underground and atmospheric testing.

Mr. Bundy's office is aware of this request, and I will plan to coordinate the proposed reply with his office prior to submitting it to the Stennis Subcommittee.

b. Hearings on legislation submitted to Congress on March 15th by the Atomic Energy Commission to permit private ownership of special nuclear material within the United States were held by the Subcommittee on Legislation of the Joint Committee on Atomic Energy on July 30th and 31st and on August 1st. Testimony

by industry witnesses was generally favorable to the idea of private ownership but raised a number of questions about its implementation. A witness representing the AFL-CIO opposed the legislation. Congressman Holifield, Chairman of the Subcommittee, indicated that additional hearings probably would be held, but no date has been set.

c. Senator Hubert H. Humphrey, by letters dated May 24, 1963, and July 8, 1963, inquired of the Atomic Energy Commission concerning the security significance of membership in the John Birch Society. Senator Humphrey was informed by the Commission that the AEC does not ignore the fact of membership in the John Birch Society, but at the same time does not regard the fact of membership in the Society as derogatory per se. The Commission noted that the Society had not been designated by the Attorney General pursuant to the provisions of E. O. 10450. The Senator was also informed that in cases involving membership in the John Birch Society examined to date, the Commission had not found any factual basis for concluding that such individuals were involved in a manner as to warrant denial or revocation of security clearance.

[redacted]. Two bills, H.R. 8068 and S. 2010, were introduced in the Congress on August 8, 1963, by Rep. Holifield and Senator Pastore. The purpose was the establishment of a community at or near the [redacted] Site. No date has been set for hearings.

5. Radioactive Salvage in San Francisco (Unclassified)

A report has been received by the Commission from the California Department of Health that a few radioactive aircraft parts and parts of microwave systems were discovered in some barrels of salvage by employees in a salvage yard owned by Mrs. Yale Levine in San Francisco. The parts were clearly marked radioactive. AEC investigation revealed that the aircraft parts contained radium and the microwave system parts contained Cobalt-60. Radiation levels constituted no health problem. The materials had been disposed of by the U.S. Army and were not related to the AEC programs. The AEC was notified solely because of its regulatory interest.

6. Forthcoming Visit of Soviet Scientific Team to the U.S. -(Unclassified)

While I was in Moscow for the signing of the Test Ban Treaty, [redacted] informed me that he intended to make a visit to

the United States in November. This would be a visit reciprocal to the one I made to the Soviet Union in May. Mr. Petrosyants plans to bring a party of approximately 12 people and will stay in the U.S. about 12 to 14 days. The Soviet party will probably visit the following installations:- the Brookhaven, Oak Ridge, and Argonne National Laboratories, the Radiation Laboratory at Berkeley, California, the National Reactor Testing Station in Idaho, the Stanford linear accelerator, and possibly the Dresden and Yankee reactors.

Respectfully submitted,

(Signed) Glenn T. Seaborg

Glenn T. Seaborg

The President
The White House

HCB:gl

Orig. and Cy 2A - Attn: Timothy Reardon
Cy 3A - Mr. Bundy

NUCLEAR TEST BAN TREATY

WEDNESDAY, AUGUST 14, 1963

UNITED STATES SENATE,
COMMITTEE ON FOREIGN RELATIONS,
Washington, D.C.

The committee met, pursuant to recess, at 10:05 a.m., in room 318, Old Senate Office Building, Senator J. W. Fulbright (chairman) presiding.

Present: Senators Fulbright, Sparkman, Humphrey, Mansfield, Morse, Long of Louisiana, Gore, Lausche, Symington, Hickenlooper, Aiken, Carlson, and Mundt.

Members of Senate Committee on Armed Services: Senators Russell and Byrd of West Virginia.

Member of Joint Committee on Atomic Energy: Senator Pastore.

Also present: Senators Kuchel and Young of North Dakota.

The CHAIRMAN. The committee will come to order.

We have this morning Dr. Glenn T. Seaborg, Chairman of the Atomic Energy Commission, accompanied by Dr. Gerald Tape, member of the Atomic Energy Commission, and Gen. Austin W. Betts, Director of Military Application, Atomic Energy Commission, discussing the nuclear test ban treaty.

Gentlemen, in accordance with the practices of the committee will you be sworn, please?

In presenting your testimony do you solemnly swear to tell the truth, the whole truth and nothing but the truth, so help you God?

Dr. SEABORG. I do.

Dr. TAPE. I do.

General BETTS. I do.

The CHAIRMAN. Do you have a prepared statement, Dr. Seaborg?

TESTIMONY OF DR. GLENN T. SEABORG, CHAIRMAN OF THE ATOMIC ENERGY COMMISSION; ACCOMPANIED BY DR. GERALD TAPE, MEMBER OF THE ATOMIC ENERGY COMMISSION; AND MAJ. GEN. A. W. BETTS, DIRECTOR, DIVISION OF MILITARY APPLICATION, ATOMIC ENERGY COMMISSION

Dr. SEABORG. Yes, sir, I do.

Mr. Chairman and Senators, it is a pleasure to appear before you today to discuss the treaty banning nuclear weapons tests in the atmosphere, in outer space, and underwater, and the impact which it would have, upon ratification, on atomic energy developments in the United States.

There are two aspects to be considered, first, this country's defense posture and, second, the exploitation of nuclear explosives for peaceful purposes. Since these developments are quite different, they will be discussed separately.

First let me state that I support this test ban treaty. The arguments presented by Secretaries Rusk and McNamara plus the factors which I wish to discuss with you today cause me to conclude that ratification of the treaty is in the best interests of the United States.

The terms of the treaty prohibit tests in the atmosphere, outer space, and underwater. It is recognized that testing can be carried out under certain conditions underground; a limitation has been placed upon delivery of radioactive debris outside of a nation's territorial limits. Thus, opportunity is available to each of the parties to carry out testing under defined conditions.

By statutory authority, the Atomic Energy Commission has the responsibility to develop atomic energy so as to make the maximum contributions to the common defense and security of the United States.

We have discharged this responsibility faithfully in the past and will continue to do so in the future. In this connection, I wish to review with you, some of the actions which the Commission, and I as its Chairman, are taking or expect to take in the discharge of our responsibilities within the terms of the treaty.

The limited test ban will not in itself end the arms race nor eliminate the dangers we have faced in recent decades. It is thus essential that the U.S. defense posture be maintained and that opportunities for its improvement be pursued under the treaty.

We will continue to vigorously support research and development in our weapons laboratories; the terms of the treaty permit us to carry out an active underground testing program and we are doing so.

CONDITIONS ON UNDERGROUND TESTING

The intent of the test ban treaty is to prohibit tests in the atmosphere, outer space or underwater, but to permit underground nuclear explosions.

It is recognized that there may be venting to the atmosphere from some of these underground explosions, and a limitation has been set upon the delivery of radioactive debris outside the territorial limits of the state under whose jurisdiction or control such explosion is conducted.

In those cases where venting does take place, no problems are presented if the effects are noticed solely within the United States. The treaty would prohibit a test which resulted in a quantity of radioactive debris delivered outside of the country's territorial limits in amounts sufficient to establish that such contamination resulted from a recent test within that country.

We are in the process of developing guides for the use of those responsible for the carrying out of underground nuclear explosions so that there will be assurance that detectable and identifiable amounts of radioactive debris do not leave the territorial limits. There is nothing in the treaty to prohibit the kind of underground weapons testing we are conducting.

DEFINITION OF TEST TERMINOLOGY

Before proceeding to discuss the benefits to be derived from further underground testing, I would like to take a minute to define a few terms relating to kinds of nuclear tests. The term "development test" refers to any test performed from the conception of the design through all the intermediate stages up to the final warhead or bomb design for a weapon.

In development tests, devices, not weapons, are tested. The term "proof test" includes warhead or bomb tests and systems tests. Proof tests are conducted to determine whether or not the yields are as calculated, and thus usually involve warheads or systems which have entered or are about to enter a stockpile.

"Effects tests" are aimed at determining, by either direct observation or by indirect means, practical results of nuclear detonations. They include (*a*) direct observation of the effects on such things as military equipment (including nuclear warheads) or installations and/or biological systems; (*b*) observation and measurement of the effects on the environment—the ground, the atmosphere, the sea, and so forth—from which effects of practical importance can be calculated or inferred; and (*c*) measurements of the "outputs" of the test device; for example, neutron or gamma ray flux, X-ray intensity, light intensity, and so forth, to be used in predicting results under (*a*) and (*b*) above. Effects tests are usually conducted using a warhead for which the yield has been previously confirmed by one or more proof tests.

WHAT CAN AND CANNOT BE TESTED UNDERGROUND?

It appears technically feasible to test underground up to several hundred kilotons, and perhaps with more experience and greater ingenuity, to even higher levels. This would permit a wide range of development including complete development and proof test of warheads for battlefields, air defense, antimissile, and antisubmarine use.

Included could be more sophisticated weapons for both tactical and anti-ballistic-missile purposes, and reduced fallout weapons for battlefield use at the highest yields required for such applications. A program to develop all-fusion devices could be pursued.

Continued progress could also be made on larger weapons for strategic purposes. It should be possible to develop fully and to proof test the smaller weapons of this type.

For those weapons whose yields are larger than the underground test limitations, full development of some designs by testing at yields considerably smaller than that finally desired is possible so that with some uncertainty in final yield it should be feasible to develop, though not proof test, weapons into the range of several megatons.

Hence, it seems likely that in the weapons development area only the complete development of new types of very large weapons above several megatons in yield would be very difficult if possible at all.

Progress would, of course, be slower in many areas without atmospheric testing, especially at the larger yields where very deep holes and special precautions are necessary, but the ultimate results should be unchanged except in the high-yield range.

Weapons effects tests will continue to be conducted in the underground program. Radiation outputs of test devices and warheads can be studied. The vulnerability of warheads and other systems components can be examined for many effects associated with a nuclear explosion; however, complete studies involving blast and fireball as well as radiation effects directed at major weapons delivery systems would be impossible to carry out.

Also, the study of those effects which are completely dependent on the atmosphere at operational altitudes would be essentially impossible and would thus limit the acquisition of new knowledge bearing on radar and communications. I agree with Secretary McNamara that progress will be forthcoming both from underground testing and from other improvements which can be made without need for nuclear testing.

Thus, we can foresee significant progress in our development program. Where there are limitations on our testing program, there are also limitations on the Soviets and on the other signatories.

RETENTION OF SCIENTISTS AND LABORATORIES

Our ability to maintain a vigorous, imaginative, and productive program including the development of the necessary scientific and technical know-how is dependent on the retention of able scientists and engineers in our weapons laboratories and the attraction of new ones to the program. They must be challenged by new problems, work in a stimulating environment with adequate equipment, facilities, and other support, and have maximum opportunities consistent with national policy to test the products of their laboratory experiments and calculations.

We will strongly support these laboratories and will encourage the planning and execution of the programs, including allowed testing, necessary to meet our requirements.

Public recognition of the need for strong laboratories and of the contributions made by the scientists is necessary.

SURPRISE ABROGATION AND MAINTENANCE OF TEST READINESS

We must always remain alert to the fact that one side may try to acquire a superior advantage through violation or abrogation of the treaty. The effect of such an action on the other parties is decidedly less where underground testing is permitted and where an active program of worldwide nuclear test detection is continued.

It does not seem possible to be forewarned against a surprise abrogation. Even if the 3 months' notice period for any country planning to withdraw is given, it would possibly have been accompanied by an earlier period of preparation.

Consequently, we will pursue the most promising directions of development permissible under the treaty and will maintain a state of readiness for conducting tests in the atmosphere and other media. This readiness posture has been stated as national policy by the President.

To minimize the slowing down of scientific developments which would otherwise provide advantages to a nation considering withdrawal, we will continue vigorous programs of development and

underground testing by the weapons laboratories with strong support by the Government through the provision of necessary advanced facilities and equipment and adequate supporting staff.

Under the test ban treaty, the Nevada test site and possibly other continental sites will be maintained on a continuing operational basis in order to support the test program which must be carried out.

The maintenance of a state of complete test readiness, however, cannot be satisfied by the maintenance of only underground test sites.

If another nation should abrogate, we would find it necessary to carry out promptly atmospheric and other tests—first, proof tests of warheads and systems, along with limited effects tests because they can be staged more quickly, then weapons developments tests and the more complex weapons effects tests.

The major difference between maintaining a readiness to conduct proof tests and to conduct development tests lies in the fact that for the development tests the devices themselves must be developed to the state where a test serves the maximum purpose. This is the primary function of the weapons laboratories.

The simplest proof test requires a safe detonation area which may be over either land or water, a vehicle for delivery of the warhead, means for determining yield, a rather large number of technically trained personnel, and logistical support.

Similar requirements exist for carrying out development tests in the atmosphere; however, in addition, more complex diagnostic instruments will usually be required as will a complex communication system both to provide for safety and to facilitate the collection of data. Additional technical personnel and greater logistical support are obviously required.

Thus, the readiness to resume a full-scale weapons development program after a surprise treaty abrogation involves two independent, though related aspects—the development of devices and experiments to be used in tests and the maintenance of a capability to carry out tests.

As I have previously stated, the weapons laboratories will play a major role in maintaining a state of readiness through their development of new devices. Maintaining a mechanical readiness to conduct field tests on relatively short notice is difficult.

Retention of a high technical test capability, however, will be assisted to a considerable extent by the continuation of an intensive underground test program. Also, under the determined and vigorous policy, which we expect to follow, no nation will be able to gain more than a temporary advantage through surprise abrogation.

PEACEFUL USES OF ATOMIC ENERGY

There is a second aspect to the utilization of nuclear explosives; namely, their application for peaceful purposes. This work is carried out by the Commission under its Plowshare program.

The fact that these applications fall under the treaty results from the close similarity both of the explosive devices used and the conditions under which they are tested to those of the weapons program. This is not a new situation. Ever since man's first use of explosives, he has successfully developed and utilized the energy from explosions for his economic and social well-being as well as for his defense.

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PLOWSHARE PROGRAM

It might be helpful if I take a few minutes to remind you of the scope of the Plowshare program, in order that you will have an appreciation of the impact which implementation of the treaty will have on this program.

There are two broad categories toward which we are directing our attention. In the field of direct application, one finds projects such as excavation, mining, the recovery of oil and gas, and water resources development.

The type of undertakings under consideration are either too costly or just not feasible without the use of nuclear explosives. Let us take excavation as an example.

Nuclear explosives can be used to move dirt and rocks in civil engineeering projects such as digging canals, harbors, passes through mountains for transportation purposes and, in general, any application which requires moving vast amounts of material.

The experimental program to date has indicated that large civil engineeering projects can be carried out with nuclear explosives at a fraction of the cost that would be required for conventional methods.

In many cases the difference is such that these projects would not be undertaken by conventional means. The experimental program has also shown that methods can be developed for doing such projects safely.

Basically, this is accomplished by using nuclear explosives which produce very little radioactivity and emplacing them underground in such a way that nearly all of the radioactivity is trapped underground. The small amount of radioactivity that is released will be deposited from the lower atmosphere close to or immediately downwind from the shot site.

The Commission has received literally dozens of suggestions for using nuclear explosives in excavation projects in the United States and elsewhere in the world. These include digging canals and harbors, clearing navigation obstructions, and cutting passes through mountains for land transportation.

A new trans-Isthmian canal is an interesting example: however, it probably could not be done under the present treaty limitations because of the short distance to territorial boundaries.

SCIENTIFIC EXPERIMENTATION

The second category is concerned more directly with scientific research. Here, nuclear explosives used in an underground environment constitute a new and unique laboratory in which scientists can carry out experiments. The tremendous number of neutrons produced by nuclear explosives, many orders of magnitude higher than that of any other neutron source, can be used, for example, to produce manmade isotopes of very heavy elements which cannot be made in any other way.

Similarly, these neutrons can be used in experiments to get data on neutron spectroscopy, the fission processes, neutron-neutron reactions, and many other data essential to our understanding of nuclear physics that may not be possible by any other means.

The combination of extremely high temperatures and pressure makes it possible to conduct investigations of basic chemical reactions which cannot be duplicated in laboratories.

The various applications envisaged require the development of nuclear explosives with specific characteristics. For example, excavation requires nuclear explosives especially designed to minimize the production and release of radioactive debris. This requires devices which utilize very little fission energy and in which precautions have been taken to greatly minimize induced activity.

Devices which can be used in large-scale excavation projects should be available after 2 to 3 years of test explosion experimentation. Other applications require different devices.

Even though these devices are being developed and tested specifically for Plowshare, they utilize the most sophisticated design principles we know. This device development can be carried out deep underground in the manner used for weapons testing.

A series of experiments has been planned to develop nuclear excavation technology. An important part of this program is to refine the techniques of entrapping radioactive debris underground. This program requires about two experiments per year. We expect that in 4 or 5 years both the devices and technology will be available to undertake almost any of the many worthwhile projects which have been suggested; selected projects may be undertaken earlier as part of the experimental program.

Device development and the program for scientific studies planned for the immediate Plowshare program can clearly proceed under the terms of the treaty. This is also true of applications for mining and water resource developments which would be carried out deep underground and involve the release of very little, if any, radioactivity.

GUIDELINES FOR PERMISSIBLE TESTING

In the excavation application, however, some radioactivity will reach the atmosphere and a careful determination will have to be made that a given project is permissible. Guidelines similar to those which we are developing for the use in weapons testing will be applied here.

Our present considerations lead us to believe that excavation experiments or projects which have a downwind distance of several hundred miles from the project site to a territorial limit probably can be conducted, and that these experiments will be sufficient to develop the excavation technology.

We believe that the Plowshare program has a great potential for the benefit of mankind. We believe that within the next few years this potential and the safety aspects can be demonstrated within the terms of the treaty. At some future time when it is clearly demonstrated that these benefits can be realized through the use of nuclear explosives, I would hope that the parties would seek ways of modifying the treaty so that the technology developed could be put to more widespread practical application.

SUMMARY OF TESTIMONY

I would like now to summarize.

(1) Weapons development activities will go forward under the test ban treaty with the exception of investigations of certain weapons effects and the complete development of complex multimegaton weapons. This situation applies to all of the parties. The rate of progress in any country will be determined by its willingness to undertake extensive underground testing and its ingenuity in planning and carrying out the program.

The importance to a country both of future development of higher yield weapons and of future weapons effects tests prevented under the test ban will depend on the present state of advancement of that country's total weapons program. U.S. progress is at least comparable, if not superior, to that of the U.S.S.R.

(2) The weapons development laboratories will be provided the support necessary to maintain strong programs, including test support activities. Attention will be given to the provision of equipment and facilities required for a modern effective research and development undertaking and for maintaining the confidence and morale of the associated scientists and other personnel.

Continuation of Plowshare development in these laboratories will contribute to their viability.

(3) Systems to detect possible violation of the treaty will be maintained and continually improved.

(4) A state of test readiness will be maintained and improved, including the overt preparations and maintenance required to achieve a readiness to conduct atmospheric nuclear tests at suitable off-continent locations and at continental test sites.

Such preparations will include the maintenance in readiness of forces such as the Defense Atomic Support Agency and the nucleus of a Joint Task Force to plan and prepare for the conduct of off-continent tests.

(5) It is the national policy to maintain a continuing dynamic program of weapons development and a state of readiness to resume atmospheric testing should the treaty be abrogated. This policy will achieve maximum effectiveness with the full support and understanding of the Congress and of the public.

(6) Promising applications of nuclear explosives for peaceful purposes will be developed and demonstrated under the treaty. At such time as the benefits have been demonstrated, the parties may wish to modify the treaty to permit extension of the technology and benefits to all.

Mr. Chairman, this concludes my prepared testimony.

The CHAIRMAN. Thank you very much, Dr. Seaborg.

I think that is a very enlightening statement, even to the uninitiated.

I want to ask one or two questions.

EFFECT OF TESTING IN LAKES

The other day a question came up about the possibility of testing in a lake inside of the Soviet Union—specifically Lake Baikal was mentioned. The question occurred to me, What would be the effect

upon that lake if they did conduct an underwater test which would be difficult to detect, since it is so remote?

Dr. SEABORG. What would be the effect on the lake?

The CHAIRMAN. Yes.

Would this not destroy all of the life within the lake and destroy it for commercial exploitation? It is now used, I am told, as one of their greatest fishing and power lakes.

Dr. SEABORG. Well, Senator Fulbright, it, of course, would depend on the size of the lake and the size of the weapon, but there certainly would be an adverse effect in testing the ordinary weapon, that is the weapon that has a fission component. It certainly would contaminate the lake with the radioactive fission products and this would not be good, would be an adverse effect.

The CHAIRMAN. There would be quite an outcry if we undertook to test in the Great Lakes around Chicago or anywhere in that area, wouldn't there?

Dr. SEABORG. I think it would be very difficult if not impossible.

The CHAIRMAN. There are other factors which would restrain a country from testing under those circumstances?

Dr. SEABORG. That is correct.

Senator MORSE. Mr. Chairman, we can't hear. I wonder if the speaker volume can be increased.

The CHAIRMAN. I don't know how significant this is but this possibility of evasion under the treaty was suggested and it did occur to me that there were other considerations that might well apply to restrain a country from using that technique.

It would have to be for something of very great importance to sacrifice, I would think, a lake such as that.

Dr. SEABORG. Yes, sir, I agree with you. There would be these other considerations and I would think that it wouldn't be practical for very many tests and I should think that it would be difficult for any tests.

LIMITATIONS ON PLOWSHARE PROGRAM

The CHAIRMAN. With regard to your comments about the Plowshare program, if I understand you correctly, you feel that under this treaty, the development of the techniques to be used is in no way restrained. That the only restraint would be in specific cases such as the one mentioned regarding an Isthmian canal where the territorial limits are quite restricted. In many cases within a large area such as our West, in this country, you could still, within the treaty, proceed to apply whatever techniques are appropriate, is that correct?

Dr. SEABORG. Yes. Specifically, we feel that we could develop the devices themselves which clearly can be perfected by underground explosions, completely contained explosions, and we can also develop a good deal of the excavation technology through properly devised experiments in which these explosives were used for earth-moving purposes.

Also, some of the other experiments having to do with the development of oil resources and water resources and so forth can be carried out in completely contained underground explosions.

The CHAIRMAN. That is very reassuring to me.

BLACKOUT PHENOMENON

There is one other question that I am not sure whether I understand well enough even to phrase properly. It concerns this problem of the blackout phenomenon that several members have inquired about yesterday. I wondered if you would be, and I understood you might be, the proper person to comment about this.

Dr. SEABORG. I am not so sure that I am. This is a weapons effect question for which the Department of Defense has primary responsibility. I can say that we have obtained a good deal of information on blackout phenomena in connection with our already performed high-altitude tests.

However, it wouldn't be possible to obtain any substantial further information on blackout phenomena under the terms of this test ban treaty.

The CHAIRMAN. Senator Russell?

RADIOACTIVE FALLOUT

Senator RUSSELL. Dr. Seaborg, I read in the paper, I believe the day before yesterday, that there is twice as much radiation in milk today as there was 3 years ago.

Is that approximately right?

Dr. SEABORG. That would depend on the section of the country that was being referred to. I would like to say that there are probably sections of the country where there is twice as much strontium 90 in the milk now as there was 3 years ago, yes, sir, Senator.

Senator RUSSELL. Has that yet reached a point where it is sufficient to endanger the human family?

Dr. SEABORG. No, sir.

Senator RUSSELL. It is a long way from it?

Dr. SEABORG. It is a considerable distance from it, yes, sir.

Senator RUSSELL. I must express my surprise that you did not refer to any advantages to be gained from lessened fallout. Some of our practicing politicians have been predicating their vote on this treaty on what they call very cynically and irreverently "the mother vote," because the treaty would lessen the dangers of increasing the fallout.

But I commend you for being frank and honest with the committee and not bringing in an objection that is captious and not genuine.

Dr. SEABORG. Of course, I don't mean to imply that fallout is harmless. Certainly the less fallout we have the better it is for everybody.

Senator RUSSELL. I feel better about it myself and I am not a mother or even a father.

[Laughter.]

Senator RUSSELL. Now, with reference to splitting the atom, I have noticed an increase in the use of words which grew out of this project, which are not new, but appear more often than heretofore: extrapolation, proliferation.

Dr. SEABORG. Interpolation.

LIMITS ON EXTRAPOLATION OF TECHNOLOGY

Senator RUSSELL. That is right. And from your statement on pages 4 and 5 I gather that there are very definite limits within which we can trust the doctrine, I might call it, of extrapolation in projecting

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the strength of bombs by mathematical computation. In the weapons development area you have said the complete development of new type weapons above several megatons in yield would be very difficult, if possible at all.

So, there are very definite limitations.

Dr. SEABORG. Yes, Senator Russell, there would be limitations on how far you could extrapolate present know-how and technology to larger and larger yields.

Senator RUSSELL. I won't ask you what those limitations are because it is possible that I wouldn't understand the answer if you go into the scientific field, but many times we have been lulled into complacency by being told we can extrapolate by testing a kiloton and thereby finding out what a megaton will do. But I assume from your statement that is stretching it a little far.

Dr. SEABORG. Yes, that would be a larger extrapolation than we would consider feasible.

RELATIVE EFFICIENCY OF HIGH AND LOW YIELD WEAPONS

Senator RUSSELL. We have had a controversy here about the large bombs. Sometime ago I became very much concerned about the fact the Russians were claiming to have bombs of much greater yield than our bombs, but I was told that the relative blast effect from bombs can be expressed as the cube root of the yield. In other words assuming an 8 megaton bomb has a blast range of 2 miles, 64 megatons would have a range of 4 miles, is that correct?

Dr. SEABORG. Yes, well, that is approximately correct, because it is—the effect has to go off into three dimensions in a spherical way and the formula for the volume of the sphere goes as the third power of distance, that is, of the radius.

We, of course, haven't tested that for yields as large as one of those that you mentioned, 64 megatons, but we feel that that is approximately correct.

Senator RUSSELL. But you have tested up as high as 27, haven't you, or perhaps 20 is as high as you have gone.

Dr. SEABORG. No, we haven't tested that high. The highest test, the largest yield that we have obtained in a test of nuclear weapons is about 15 megatons.

Senator RUSSELL. The military have defended their position in the smaller yield by saying that two or three warheads of from 1 to 8 megatons properly delivered would do much more damage than one of 100 megatons dropped in the same area.

Dr. SEABORG. Yes, sir.

Senator RUSSELL. Do you confirm that?

Dr. SEABORG. Yes, sir, I think so, I agree.

Senator RUSSELL. So it is not vital to have a hundred megaton bomb if you have enough smaller ones?

Dr. SEABORG. You can do the job better with a number of smaller bombs. yes, sir.

Senator RUSSELL. Does the same ratio relate to the fire effect as to the blast, or would it have a wider spread?

Dr. SEABORG. Well, the fire effect would be related to a power of the distance, I don't know whether it would be as high as the cube root or whether it would be more like the square root or something in between.

READINESS TO RESUME TESTING

Senator RUSSELL. If you are given adequate facilities and appropriations, what kind of posture of readiness to resume testing would the Atomic Energy Commission maintain?

In other words, if the Russians were to violate the treaty and start atmospheric testing and you had maintained the greatest possible readiness, how long do you think it would be before we could test in the atmosphere?

Dr. SEABORG. Our plans are approximately as follows: The time at which we would be able to make our tests, of course, depends on the type of tests, and I mentioned the three types in my testimony, the proof tests, and the developmental tests, and the effects test.

We would propose to maintain a readiness that would make it possible for us, if we desired, to make a proof test in a period of perhaps a month and to make a development test in a period as short as perhaps 3 months, and an effects test in a period of the order of 3 to 6 months.

Now, this would be a readiness posture, and this would be, these are the times that would be required or that we could have the capability of resuming tests of those various types if we desired.

It isn't at all clear that we would necessarily want to test that soon. After having tested some 18 years, and having made hundreds of tests, a matter of a few months one way or the other isn't that critical.

KEEPING SCIENTISTS TOGETHER

Senator RUSSELL. Well, isn't testing under great pressure very expensive such as occurred when the Russians broke the moratorium in 1961? Isn't it difficult to keep your scientists together when you are not testing?

Men with very active minds don't like inaction, particularly such men as our first rate scientists. Do you think you can keep the personnel together who would enable this resumption of atmospheric testing within the maximum limit of 6 months?

Dr. SEABORG. I think that there will be a problem in keeping the laboratories strong and keeping a sufficient number of scientists together but this will be helped under this test ban treaty because of the continuance of underground testing.

However, with respect to your specific problem——

Senator RUSSELL. Didn't we lose a good many men during the moratorium and wasn't that one reason we were delayed in resuming atmospheric testing?

Dr. SEABORG. No, sir. We didn't lose very many before and at that time we were not carrying on underground testing. However, with respect to your specific point as to whether a wait of 6 months for the resumption of testing would be a factor with respect to the scientists, I do not think so. I think—if they had been directed to prepare a program of atmospheric testing, that they would feel that they should take the time that is necessary to prepare the most meaningful tests.

Senator RUSSELL. Of course, there are scientists and scientists, just as there are lawyers and lawyers and Senators and Senators.

Do you think you could keep the very best scientists, those who are the topflight men?

Dr. SEABORG. Yes; I am confident of that.

DEVELOPMENT OF ANTIMISSILE MISSILE

Senator RUSSELL. This question is in the field really of weaponry but it is directly related to your activities. Do you believe that if we solve the other problems that are involved, we can complete an antimissile missile without further atmospheric testing?

Dr. SEABORG. Yes; I do. The Atomic Energy Commission, of course, is responsible for the development of the warhead for that missile, and this certainly can be developed by underground testing.

We already have a number of warheads that are eligible for this purpose, so that it is just a matter of choosing the characteristics that are desired by the Department of Defense, and we can improve upon those characteristics and develop a new warhead depending upon the specifications set by the Department of Defense, and this can be done by underground testing.

WITNESS' DISCUSSIONS IN SOVIET UNION

Senator RUSSELL. Finally, Doctor, you went to Russia not long ago, did you not?

Dr. SEABORG. That is right. I have just returned from a trip to Russia, and I visited Russia on another mission just a month or so before my last trip.

Senator RUSSELL. Did you consult with their atomic scientists and their leaders in this field?

Dr. SEABORG. I consulted with a large number of their scientists in the field of the peaceful uses of atomic energy. I didn't talk to any scientist nor do I know who they are in the field of the weapons use of atomic energy.

Senator RUSSELL. Did they give you free access to their installations as far as you know?

Dr. SEABORG. In the field of the peaceful uses of atomic energy they gave me very good access to their installations. They showed our delegation everything we asked to see, and added a few installations that we hadn't asked to see, and included in the installations we visited were a number that had never before been visited by Western scientists or in some cases by foreign scientists of any nationality.

Senator RUSSELL. Did these peaceful-use scientists talk to you any about the dangers of nuclear war that they desired to avoid?

Dr. SEABORG. Essentially no discussions along that line were held. We kept that mission pretty well within the confines of its purpose, namely, the peaceful uses of atomic energy and I do believe that most of the scientists that we talked to in that connection had little, probably nothing, to do with the development of nuclear weapons.

Senator RUSSELL. I am amazed to hear that because everybody I saw in Russia, and I didn't see any scientists, talked to me about it and seemed to think we were just straining at the leash waiting for an opportunity to dump a great many nuclear bombs on them; that was the chief subject they were concerned about.

Dr. SEABORG. I wouldn't say the topic wasn't mentioned but in a general conversational way and not anything in a manner analogous to the other intensive discussions in the peaceful uses field.

The CHAIRMAN. The Senator's time is up.

Senator Pastore?

Senator RUSSELL. Thank you for your indulgence, Mr. Chairman.

Senator PASTORE. Thank you, Mr. Chairman.

First of all, Doctor, I compliment you and congratulate you on a very excellent statement.

Dr. SEABORG. Thank you, Senator.

Senator PASTORE. As you know, I have been a great admirer of yours for a long time and whatever I ask you is not to embarrass you or disagree with you in any way but merely to draw out your opinion on a few points.

Dr. SEABORG. Thank you, sir.

SUPPORT OF TREATY FROM MILITARY AND POLITICAL ASPECTS

Senator PASTORE. The first assertion you make is, "I support the test ban treaty."

Now, as a Nobel Prize winner and as the discoverer of plutonium and as the Chairman of the Joint Committee on Atomic Energy do you predicate this endorsement either on the political, scientific, or the military aspects of the treaty?

Dr. SEABORG. I might say you gave me one title I don't have, the chairman of the Joint Committee on Atomic Energy. [Laughter.]

Senator PASTORE. Well, when you get through with your responsibility that door is still open to you. [Laughter.]

Dr. SEABORG. Maybe I should move in that direction next.

Senator KUCHEL. You mean he wants to run for the Senate from California? [Laughter.]

Senator PASTORE. That is right.

Dr. SEABORG. Well, I believe I support it on all three of those bases, Senator Pastore.

Senator PASTORE. All right, let's take the first one, the military consideration. Do you understand then, even though you do make a moderate statement with regard to that, that we are ahead of the Russians in the balance of power?

Dr. SEABORG. Yes, I do.

Senator PASTORE. You make that statement unequivocally?

Dr. SEABORG. In my belief we are ahead, in the overall view, in the nuclear weapons field.

Senator PASTORE. In other words, do you make the assertion here today if we enter into this treaty, that we do not sacrifice or risk the security of this country in any way?

Dr. SEABORG. I think that there are some risks but they are minor and that in the balance the advantage is in the favor of improving the security of our country if we enter into this treaty.

Senator PASTORE. All right.

Now, let's take the political aspects. Why do you base it on the political aspects involved?

Dr. SEABORG. I believe that the people of the United States want a treaty of this sort; that they regard it as a first step along the roads

of easing tensions and slowing the arms race with all that that portends.

THE FALLOUT PERIL

Senator PASTORE. Could you tell us a little bit about the fallout peril? I mean do you think there is any scientist today who can sit here in this room and tell us just about how much contamination the atmosphere can take before we will reach a point of no return?

Dr. SEABORG. No, I don't think that there is a scientist who could tell you that with any authority, and I, although I said earlier that I felt that the fallout up until now had not led to a serious situation, I do feel that continued testing would lead to an amount of fallout that we certainly should avoid, and it is a statistical matter, of course, and that the fallout that has been—that we have up until now—has certainly led to some adverse health effect, and presumably some genetic effects.

So it is just a matter of a balance of these rather small numbers of people affected against the necessity for testing in order to maintain our defenses strong.

Senator PASTORE. Could you tell us what the half life of strontium 90 is?

Dr. SEABORG. About 28 years.

Senator PASTORE. About 28 years. And the more you shoot up in the atmosphere, the more stays there; isn't that a fact?

Dr. SEABORG. The strontium 90 comes down from the upper atmosphere, stratosphere, and so forth, at a rate faster than corresponds to its half life, that is through the rains and so forth. And then it comes down to earth, of course, which is a worse place for it to be than up in the stratosphere.

Senator PASTORE. Then you would say unequivocally that because of the peril involved in contamination of the atmosphere through explosions in the atmosphere that this is a matter and a problem of immediate concern?

Dr. SEABORG. I don't rate it as great a problem as some of the other reasons for the test ban.

Senator PASTORE. Well, let's assume we continued shooting in the atmosphere, let's assume that the Russians did the same. Let's assume Great Britain did it and let's assume that France did it, and let's assume that one day Red China would do it.

Don't you think we could fast reach the point of no return in contaminating the air?

Dr. SEABORG. Yes, I believe we could under those conditions reach a point where we would agree that the amount of contamination is becoming serious.

Senator PASTORE. As a matter of fact, you could bring about almost the same result by testing as you could through a nuclear war if you kept doing this promiscuously without any limitation, isn't that a fact?

Dr. SEABORG. Well, I think the factor, the amount in a nuclear war, would be greater by something of the order of a hundred as compared to the high rate of testing in peacetime, even the rate of testing that you have indicated.

But if you are saying unrestricted testing so that we have many hundreds of megatons, Senator Pastore, of fission products in the atmosphere, in the upper atmosphere, which would eventually return to earth, I would say, "Yes, that is a serious condition or situation."

QUALITY OF LABORATORIES AND SCIENTISTS

Senator PASTORE. What is the quality of our laboratories today?

Dr. SEABORG. I think that the quality is very high and that we have very good laboratories today, weapons laboratories. We have first-class weapons laboratories with first-class scientists, young scientists, and in some cases older experienced scientists that have been with us ever since the war.

Senator PASTORE. Have you ever had any difficulty in recruiting good scientists for our laboratories?

Dr. SEABORG. Yes, sir. There is difficulty in recruiting good scientists today for any enterprise, and I suppose that there might be a little greater difficulty in recruiting them for weapons work than for some other peaceful applications work.

I think that there is a—somewhat of a natural aversion for scientists to work on these weapons and all of their terrible implications.

Senator PASTORE. As long as you have been Chairman of the Commission, have you ever had any trouble with the Congress in providing you with sufficient money to meet the requests and the needs of the AEC?

Dr. SEABORG. In the weapons laboratories area?

Senator PASTORE. Yes.

Dr. SEABORG. Because in the broader context, I might be able to think of some examples where we had trouble, but in the weapons laboratories area my answer would be "No." I can think of no examples where we have had any difficulty with Congress in providing the funds for their support.

EFFECT ON RELATIVE SUPERIORITY IN HIGH- AND LOW-YIELD WEAPONS

Senator PASTORE. Are you at all alarmed of the fact or concerned with the fact that under this treaty the United States will be prohibited from testing in the very-high-yield range where the Russians admittedly have superiority over us, and that under the treaty they will be permitted to test in the low-yield range underground where we have superiority over them?

Dr. SEABORG. No; I am not alarmed by that. I think we have superiority over the Russians in the region that counts most, in the region of a few megatons, and fractional megatons, in the region of strategic weapons that can be best delivered upon a potential enemy, so I am not worried about the question that you have identified.

Sentor PASTORE. I think you intimate in your statement here that we can proceed by underground testing to produce the cleaner bomb, so-called?

Dr. SEABORG. Yes, sir.

Senator PASTORE. Talking now about the neutron bomb, do you think we are limited in any way in experimenting with that through underground testing?

Dr. SEABORG. Well, I wouldn't identify what I said with the neutron bomb.

However, I will say that through underground testing we can develop cleaner weapons and that we can work, that we can make progress, as much progress as it is possible to make, by the way, toward the development of the all-fusion weapon?

Senator PASTORE. Now to come back to the question that was put by the chairman with relation to conducting tests underwater in a landlocked lake, do you know of any instance or can you elaborate on the fact that anything that they could do underwater in such a lake they couldn't do underground?

Dr. SEABORG. Oh, certainly. The effects of a nuclear weapon on a ship or a submarine in water—that couldn't be done underground.

Senator PASTORE. One further question: Is the entire Commission unanimous in its support of the treaty?

Dr. SEABORG. The entire Commission is unanimous in its support of the treaty, and in its agreement on the prepared testimony that I have just read.

Senator PASTORE. Thank you.

The CHAIRMAN. The Senator's time is up.

Senator from Alabama?

Senator SPARKMAN. Dr. Seaborg, I join in expressing the appreciation of the very fine clear statement you have given. I think practically everything that I wanted to ask you has been covered but there are three or four things that I think will call for very short questions.

MAINTENANCE OF OVERALL SUPERIORITY

As I understand, you are firm in your statement that in your opinion we have an overall superiority at the present time?

Dr. SEABORG. Yes, Senator Sparkman; I am.

Senator SPARKMAN. And that even under the terms of the test ban treaty we shall be able to maintain that superiority?

Dr. SEABORG. Yes; and maintain it for a longer period than we could in the absence of such restriction on testing by both sides.

Senator SPARKMAN. I think that is very important. You not only can maintain it but you can maintain it for a longer time than you could if you did not have a test ban treaty?

Dr. SEABORG. That is right. I feel convinced that we can maintain our overall nuclear weapons superiority over the Soviet Union for a longer period under this nuclear test ban treaty than would be the case in the absence of the treaty.

ATMOSPHERIC TEST READINESS

Senator SPARKMAN. As Chairman of the Atomic Energy Commission, you have jurisdiction over maintaining the laboratories and keeping them in a state of readiness, do you not?

Dr. SEABORG. That is right. That is a prime responsibility of the Atomic Energy Commission.

Senator SPARKMAN. I presume the policy would be set by the Commission under the direction, of course, of the President of the United States?

Dr. SEABORG. That is correct.

The policy with respect to the nuclear weapons laboratories is set by the Atomic Energy Commission.

Senator SPARKMAN. And you state to us today that it will be the policy of the Atomic Energy Commission and of our Government to maintain laboratory readiness?

Dr. SEABORG. It will be the policy of the Atomic Energy Commission and the administration to maintain atmospheric test readiness and to carry on a strong program of underground testing and to maintain strong and healthy laboratories under this treaty.

Senator SPARKMAN. You will be ready to resume testing without delay in the event of a surprise abrogation.

Dr. SEABORG. Ready to resume testing without delay as soon as is feasible, as soon as makes sense in the event of surprise abrogation; yes, sir.

SURPRISE ABROGATION

Senator SPARKMAN. Dr. Seaborg, we have talked a good bit during the time that these hearings have been going on about this subject of surprise abrogation or sudden abrogation. Someone has suggested to me that perhaps we have stressed that to the point as to create the feeling that we expect an abrogation of this treaty. Would you comment on that?

Dr. SEABORG. I think this is just a matter of prudence. I don't feel that I could say anything meaningful with respect to the probability of an abrogation.

I would rather leave that for the representatives——

Senator SPARKMAN. The views that you have presented are not based on the assumption that there would be an abrogation but based on caution and readiness that ought to be maintained under all conditions?

Dr. SEABORG. That is right. That is right. That is my attitude You have expressed it very well.

EFFECT OF RADIOACTIVE FALLOUT

Senator SPARKMAN. With reference to the fallout, you stated that you thought there had been some effect already on health and genetics particularly. Are there specific examples?

Dr. SEABORG. Oh, no. There are no—I don't think that we could. I am sure that we can't identify any specific examples of effect of fallout on health or heredity up until the present time. We know, we have approximate information on the effects of radiation on health and heredity, approximate information. We can relate these effects to the amount of radiation.

Senator SPARKMAN. In other words, you know that the effect can be produced provided there is a sufficient amount of radiation to produce it?

Dr. SEABORG. And because of these approximate relationships that have been established, and I emphasize the word "approximate"—I can't emphasize that too much—relationships between radiation and certain effects on health, leukemia, bone cancer, heredity effects, and so forth, and because we know the amount of radiation present from fallout, we can make calculations that would indicate statistically how

many people will in the course of time be affected by this small amount of radiation, and statistically these are very small figures, very small numbers of people.

But I do want to emphasize we should avoid exposure to radiation as much as possible at all times.

Senator SPARKMAN. We did have the examples of the contamination of fish and of the area in some parts of the Pacific where Japanese fishermen were affected, did we not?

Dr. SEABORG. Yes. In some tests in the Pacific——

Senator SPARKMAN. Of course, that was in a heavily infested or contaminated area.

Dr. SEABORG. Yes; that was near an actual large weapons test, where the people were downwind from the fallout, and were subjected to a substantial amount of actual fallout on a small area. This is something that I am sure will never be repeated. This is what we call local fallout, that is in the immediate area of the tests. The local fallout is so well understood today that this would never be repeated in a weapons test situation, and that, of course, is the only situation in which local fallout would be a problem in a testing, in a peacetime situation.

DISTRIBUTION OF FALLOUT

Senator SPARKMAN. May I ask this question. When we talk about the amount of contamination or radiation that may be present, is there any uniformity in the distribution of that?

Dr. SEABORG. Of the fallout?

Senator SPARKMAN. Yes.

Dr. SEABORG. Yes. The fallout is pretty uniform in the Northern Hemisphere. It varies with the latitude and there is a great deal less fallout in the Southern Hemisphere. I should add, although I think it is probably well known, that the total amount of radiation from fallout is only a small fraction of the radiation that we receive from natural background, from the radiation that is present everywhere.

Senator SPARKMAN. Yes.

Let me ask now if I am clear on this point.

Dr. SEABORG. If I could go on to complete the answer to you question as to uniformity of the fallout, I was speaking grossly, after the material has reached the——

Senator SPARKMAN. I had in mind over a period of time.

Dr. SEABORG. Yes.

Senator SPARKMAN. If we kept on testing would fallout be uniform or would it become spotted perhaps?

Dr. SEABORG. There would be some hot spots because it is carried down by rain and various weather conditions, so that there is some spottiness in the level of fallout.

Senator SPARKMAN. Some areas could become dangerous while others were safe?

Dr. SEABORG. Yes, although I would hesitate to use the word "dangerous." I don't believe any area has become dangerous.

Senator SPARKMAN. I am not talking about now but if testing should be carried on.

Dr. SEABORG. Yes, in the future.

Senator SPARKMAN. As Senator Pastore suggests?

Dr. SEABORG. Yes, sir, if there was unrestricted into the region of many hundreds of megatons some areas could present health problems.

Senator SPARKMAN. Am I safe in my understanding then that whereas the fallout situation is not at dangerous levels at the present time you believe it is not a factor to be dismissed lightly?

Dr. SEABORG. That is right. When I say many hundreds of megatons I mean over a fairly short period of time. We have of the order of hundreds of megatons that have been deposited, of fission product equivalent that have been deposited, up until now. But if we had unrestricted testing and had many hundreds of megatons in a test series over a period of time, in a year, in a period of time of less than a year or something of that sort, then certainly there would be local, I believe there would be local areas, so-called hot spots, that would present somewhat of a health problem.

The CHAIRMAN. The Senator's time is up.

Senator SPARKMAN. Thank you.

The CHAIRMAN. Senator from Iowa.

Senator HICKENLOOPER. Thank you, Mr. Chairman.

I appreciate the Senator from Georgia and the Senator from Alabama pursuing this situation because I think we have utterly failed to make the truth about this fallout business clear to the American people and to the world.

Dr. Seaborg, I join with others in thanking you for your clear presentation of your views. You know of my great respect for you and your work and your integrity in the conduct of your office.

Dr. SEABORG. Thank you, Senator Hickenlooper.

REALITIES ABOUT FALLOUT DANGER

Senator HICKENLOOPER. I want to ask you this, Doctor. Has science been able to pinpoint even one case where fallout can be scientifically attributed to radiation—that is, where one case of leukemia or bone cancer or things of that kind or mutation that can be scientifically attributed to fallout?

Dr. SEABORG. From world-wide fallout, that is?

Senator HICKENLOOPER. Yes, sir.

Dr. SEABORG. Excepting these one or two freak cases of local fallout, I think that the answer would be no. I know of no case where a particular case could be attributed to fallout.

Senator HICKENLOOPER. Scientific evidence has been developed as late as this spring—and we keep it current or try to in the Joint Committee. I am quoting now, for your reference as to what I am talking about, from part one of the hearings of the Joint Committee on the fallout radiation standards and countermeasures and so on, June 3, 4, and 6 of 1963.

Dr. SEABORG. Yes, I am familiar with the hearings and the record.

Senator HICKENLOOPER. Isn't it a fact that the most skilled scientific evidence of geneticists and other were brought out in those hearings and that their best estimate of the number of cases of for instance, leukemia and bone cancer caused by natural radiation—not by the radiation of fallout or man-induced radiation, but by natural radiation—is in the case of leukemia zero to 84,000—that is between zero and

84,000 cases—and in the case of bone cancer between zero and 14,000 cases? The zero means they still can't necessarily trace even one case?

Dr. SEABORG. Yes.

Senator HICKENLOOPER. For sure?

Dr. SEABORG. They can't say with certainty.

Senator HICKENLOOPER. That is right.

Dr. SEABORG. That——

Senator HICKENLOOPER. So scientific proof, acceptable proof, is nonexistent. Isn't it a fact that we have had a great many emotional people over the country in various positions of influence over the public who have talked about this radiation hazard up to date all out of proportion to any scientific basis or background or proof that has been available.

Dr. SEABORG. Well, I think, Senator Hickenlooper, there has been some lack of understanding or some misunderstanding about the actual effects, the amount of the effect, the magnitude of the people that might be involved in the worst case of the statistics.

However, I think we might be leaving the record also in a misleading state if we let it go just at that. I believe that the best or a lot—let me put it this way—that a lot of scientific opinion, a lot of the best biologists, medical scientists, geneticists, and so forth, do believe that it is a fair use of the data, extrapolation of the data, from the known effects of radiation on health and genetics——

Sentor HICKENLOOPER. Yes.

Dr. SEABORG (continuing). That these small amounts of radiation will have a correspondingly small effect in terms of the number of people who are affected.

Senator HICKENLOOPER. Yes.

Dr. SEABORG. So that statistically speaking, there will be a certain number of people that would be affected, people now living with respect to their future health and generations unborn with respect to heredity defects that will be affected. These are small numbers.

Senator HICKENLOOPER. Yes.

Dr. SEABORG. I think that report, or certainly the report of the Federal Radiation Council, suggests numbers of the order of a few per million people with respect to health difficulties, and similar statistics with respect to genetic birth abnormalities.

Senator HICKENLOOPER. Doctor, I am quoting from the Federal Radiation Council and they start with zero.

Dr. SEABORG. Yes.

Senator HICKENLOOPER. They don't start with a few numbers.

Dr. SEABORG. Yes, I know.

Senator HICKENLOOPER. They start with zero to a possible number. Doesn't zero mean that they don't have even one case that they can confirm?

Dr. SEABORG. They don't have absolute proof.

Senator HICKENLOOPER. That is right.

Dr. SEABORG. And they are taking as scientific an attitude as possible.

Senator HICKENLOOPER. I understand.

Dr. SEABORG. And envisaging the possibility that that might be zero. What I am saying is there is a large body of competent scientific opinion that feels that zero is not the proper number, who interpret

experiments that are still in progress to mean that there will be some effect.

Senator HICKENLOOPER. Yes.

Dr. SEABORG. That it may be somewhat linear with the amount of radiation and there will be some people affected and that when we think in terms of large numbers of people, 100 million or a billion people or more, small fractions like a few parts per million multiplied together will give you thousands or tens of thousands or hundreds of thousands of people particularly over a period of time if we are talking about genetic effects.

Senator HICKENLOOPER. Yes.

Dr. SEABORG. So this is the situation. It depends on where you focus your attention.

Senator HICKENLOOPER. I know you are not a geneticist, but you know a lot more about it than most people do.

Dr. SEABORG. I have talked to a lot of good geneticists and biologists.

Senator HICKENLOOPER. We have, too, but I don't think many of us have the capacity of assimilating what they say that you do.

GENETIC MUTATIONS THROUGHOUT HISTORY

Isn't it a fact that throughout history we have had mutations, that we have had abnormalities in birth, even before anybody ever thought of letting off an atomic bomb. History is replete with countless instances of definite mutations.

Dr. SEABORG. Of course.

Senator HICKENLOOPER. Definite alterations.

Dr. SEABORG. Oh, of course.

Senator HICKENLOOPER. Definite deficiencies and so on.

Dr. SEABORG. Yes. I think that is a known thing.

Senator HICKENLOOPER. That has been going on as long as we have any history, hasn't it?

Dr. SEABORG. Yes. But the question that is—a question that is—being vigorously investigated now by the biologists and the geneticists is how much of that is due to the natural background, how much of it is due to the cosmic rays, to the radioactivity that is present in small amounts everywhere including a little bit in this table here, and other sources.

Senator HICKENLOOPER. Other unknown phenomena?

Dr. SEABORG. Yes, and X-rays, medical X-rays, and so forth.

Senator HICKENLOOPER. These things occurred long before they ever heard of an X-ray.

Dr. SEABORG. Yes, that is true, that is more recent. But the cosmic ray background and the natural radioactivity present essentially, in small amounts, present essentially everywhere, has been with us ever since there have been people on earth so this may have played a role——

Senator HICKENLOOPER. Yes.

Dr. SEABORG (continuing). Yet to be determined with any exactitude.

Senator HICKENLOOPER. I don't mean to be interrupting you but my time goes very rapidly and there is one more point I want to make here.

Dr. SEABORG. Yes.

HOW MUCH RADIATION IS HARMFUL

Senator HICKENLOOPER. It is true we can take biological life and subject it to enough radiation to kill it?

Dr. SEABORG. Certainly.

Senator HICKENLOOPER. A man can take a cup of water and drink it. It is beneficial and it won't hurt him and he gets along all right. But throw him in a tank of water over his head when he can't swim and he is going to drown and die. We could take any number of examples where a little bit is not necessarily proved to be harmful and a little bit of some things are actually beneficial, and where a tremendous overdose of one kind or another is harmful.

Dr. SEABORG. Yes.

Senator HICKENLOOPER. We are searching for answers in that field with regard to radiation, isn't that correct?

Dr. SEABORG. That is right, Senator Hickenlooper.

My own opinion, though, trying to evaluate these data and the opinions of my friends who are experts in this field, would be that a little bit of radiation is not beneficial and is probably harmful in this statistical sense.

Senator HICKENLOOPER. We are getting a little far afield in this discussion this morning—at least I am getting you a little far afield—but it runs in my mind that we do have evidence in some kinds of life that a little stepped up radiation has actually increased the strength of the recipient. I am talking about fish life and things of that kind. I think there is some statistical evidence along that line. So that has also, I believe, created some doubts.

Dr. SEABORG. Yes. There is evidence of that type. The interpretation of some of that evidence is not, of course, agreed upon. Of course, there are many instances where radiation has saved life, has helped in medical diagnosis and therapy and so forth, and in cases like that no one should fear to take—to have the radiation that is required. That so far outweighs—the benefits in a case like that—so far outweigh, these small statistical probabilities that something might happen that would be adverse in the long run that people shouldn't hesitate to have the necessary——

Senator HICKENLOOPER. My time is up, Doctor.

The CHAIRMAN. The Senator's time is up.

Dr. SEABORG (continuing). To have the necessary X-rays and neutron treatments and so forth properly administered, of course.

The CHAIRMAN. Senator Aiken?

EFFECT OF UNDERGROUND TESTING ON KEEPING SCIENTIFIC TEAMS TOGETHER

Senator AIKEN. Dr. Seaborg, I think my first question was partially answered to Senator Pastore. In the days before the voluntary suspension of tests, the days before the efficient testing of nuclear power underground, it was said if we could not test in the atmosphere we would not be able to hold our scientific teams together. Has this situation been ameliorated by reason of our more extensive underground testing?

Dr. SEABORG. Yes.

Senator Aiken, it certainly has been ameliorated by that, and I don't know that it was a widespread opinion or that the statement was made very extensively that we couldn't hold our scientists together if we didn't conduct atmospheric testing. Certainly this would depend on whether the other side is conducting atmospheric testing or not.

I would say if the Soviets were conducting atmospheric testing, and our scientists were not allowed to do the same, then it would be a serious problem.

Senator AIKEN. Does atmospheric testing necessitate the assembling of different teams of scientists from what would be used for underground testing?

Dr. SEABORG. The scientists that are involved in the undeground testing, some of the scientists that are involved in the underground testing, would be keymen in the atmospheric test series as well.

Senator AIKEN. Does the Atomic Energy Commission have much attrition due to the inducements offered scientists by private enterprise?

Dr. SEABORG. That is spotty. We have lost some good men from our nuclear weapons laboratories as a result of offers, from industry of salaries that were perhaps twice as large—or maybe greater—as we can pay them in the nuclear weapons laboratories.

USE OF UNDERGROUND SITES

Senator AIKEN. How often can the same underground site be used for testing?

Dr. SEABORG. The actual site, if I interpret that to be the actual hole in which the test was performed, can usually only be used once.

But there is plenty of room at our test site to prepare as many tests—sites for tests—as we consider necessary and desirable and to conduct as many tests as we want.

Senator AIKEN. In the same general area?

Dr. SEABORG. In the same general area; yes, sir.

Senator AIKEN. But when one site has been used?

Dr. SEABORG. It has been used.

Senator AIKEN. It is never used again?

Dr. SEABORG. It is——

Senator AIKEN. Is that because of the demolition or the radiation?

Dr. SEABORG. Radiation.

Senator AIKEN. Radiation?

Dr. SEABORG. It is not used again because there would be no advantage in using the same site again.

Senator AIKEN. No.

Dr. SEABORG. It would have been destroyed, and to dig down into that same area again would just produce unnecessary difficult problems of radioactivity and so forth.

Senator AIKEN. You mean it might be difficult to locate it a second time?

Dr. SEABORG. Well, we would—we know where it is, we know where every site is where an underground nuclear detonation has taken place.

WHAT CAN BE LEARNED FROM OUTER SPACE TESTS

Senator AIKEN. I believe yesterday that Secretary McNamara stated that if the Soviets should cause a nuclear explosion 20 million miles in space it might be difficult to detect it. You agree with that?

Dr. SEABORG. Yes, sir; I agree with that.

Senator AIKEN. But what would the Soviets expect to learn from an explosion 20 million miles in space that would be helpful to them?

Dr. SEABORG. Well, should they attempt such an explosion, and I have grave doubts that they would consider it worth while, they would accompany the explosion with the necessary diagnostic equipment, that is, they would send up diagnostic equipment with similar launch equipment, rockets and so forth, that would place the diagnostic equipment in the neighborhood, in the chosen neighborhood of the explosion, and then the instrumentation would make the measurements and radio the information back to earth.

This would be an aditional expense, and as I have indicated, I think that the amount of trouble and the amount of cost for what they would get out of such a test makes it very doubtful that there would be very much of that.

Senator AIKEN. Do you think that the cost to a nation in need of money would be greater than the probable benefits would warrant?

Dr. SEABORG. Yes; and, of course, a good deal of the information could be obtained much cheaper and legally by underground testing. But there are some things that could not be done underground which could in principle sometime in the future with proper preparation be done at 20 million miles as you indicated.

UNDERWATER TESTS

Senator AIKEN. When you referred to the damage that could be done to fish or to shipping, including submarines, by underwater explosions, would that damage come from the radiation developed by the explosion or the concussion?

Dr. SEABORG. Or the shock, both.

Senator AIKEN. Or the shock?

Dr. SEABORG. Well, both. Shock, I suppose, would be the most important from the standpoint of——

Senator AIKEN. You mean the shock would be?

Dr. SEABORG. The shock of the explosion.

Senator AIKEN. Our game wardens have a lot of trouble with evil-minded men who dynamite fish areas, fishponds?

Dr. SEABORG. Yes; this would be like a huge dynamiting action.

Senator AIKEN. It would be the same type of damage?

Dr. SEABORG. Yes, sir.

FALLOUT AND OTHER AIR POLLUTION

Senator AIKEN. I will just ask one more question.

In regard to fallout, I think we have had misguided people in this country who, in their attempt to panic people into supporting a posi-

tion which they may have taken, have put great stress on deformed babies because of fallout. I think I saw more deformed babies in the first years of my life than I have in the last 25 years of my life. When I have referred to the report of the Federal Radiation Council they come back and say, "Oh, we are not speaking of immediately deformed babies but babies that are going to be deformed 100, 200 years from now." So I say what progress we have made to date has been in spite of their tactics rather than as a result of their tactics.

Dr. SEABORG. Yes.

Senator AIKEN. They have been harmful to their own announced objective.

One other question and this relates to fallout, too.

As you drive along the highway behind a diesel-powered truck, or as you drive through Washington behind a bus, would you say the greatest source of contamination comes from fallout or "foulout"? Haven't we got to do something about this constant contamination, this increasing contamination, of air within a hundred feet of the ground?

Dr. SEABORG. Oh, there is no doubt in my mind whatsoever that air pollution is a much greater hazard to the health of the people than is fallout.

Senator AIKEN. We might divert some of our brains and efforts which are now devoted to developments of nuclear weapons to means of preventing this wholesale contamination here on earth?

Dr. SEABORG. Yes.

Senator AIKEN. Controlling smog, as the Senator from Iowa says.

Dr. SEABORG. Yes; and, of course, I can't resist pointing out that the development of electricity from nuclear power doesn't result in air pollution and this is one of the advantages. It is a clean source of electrical power.

Senator AIKEN. If you had to discontinue all efforts toward developments of nuclear weapons today—which you are not going to have to do even in the next generation so far as I can see—would you still find some outlet for your knowledge of nuclear power and energies in putting it to useful purposes?

Dr. SEABORG. Oh, yes. There is a large area of the peaceful uses of nuclear energy that is occupying the energies of our scientists and engineers and which, of course, could occupy the energies of a larger number of scientists and engineers.

Senator AIKEN. That is all, Mr. Chairman.

The CHAIRMAN. Senator Humphrey?

Senator HUMPHREY. Dr. Seaborg, I want to join with the others in commending you on your statement. I couldn't be here for your oral presentation but I went through it. I am going to stay with you just a little bit longer on this matter of radioactive fallout and I have also a question or two on our detection and identification capabilities.

EFFECT OF RADIOACTIVE FALLOUT

I was becoming a little bit concerned for a while that we were going to get an endorsement of radioactive fallout in this conversation and dialog but I gathered that was cleared up.

Dr. SEABORG. I hope I didn't come even close to that.

Senator HUMPHREY. I know that. I understand.

Doctor, the reason I think there are some doubts about this whole subject of radioactive fallout is because science in these areas is not perfect.

Dr. SEABORG. That is right.

Senator HUMPHREY. A few years back very few people attributed lung cancer to smoking. There is even doubt now, but there is a strange correlation between smokers and lung cancer. I don't know whether smoking brings lung cancer or not but there happens to be more lung cancer among smokers than nonsmokers.

A few years ago there was no correlation at all between animal fats and arteriosclerosis. Dr. Ansel Keys at the University of Minnesota has made quite a direct correlation—at least he feels there is one. This isn't for sure, either. You can find scientists that deny that. Many of the drugs that we have today a few years ago were looked upon as either being injurious or helpful and there has been a complete reversal in their therapeutic application.

What I am getting at is, It is very difficult, is it not, to be positive about these matters?

Dr. SEABORG. Yes, sir; it is.

The scientific information upon which to base the theory in these fields—and theory, of course, is complicated at best in the biological area—that scientific information is lagging.

A great deal of work, by the way, is going on. The Atomic Energy Commission alone had a budget of some $75 million in fiscal year 1963 for its Division of Biology and Medicine, and that Division is carrying on a large program of investigation on the effects of radiation.

Senator HUMPHREY. How much is the budget, Doctor?

Dr. SEABORG. About $75 million.

Senator HUMPHREY. $75 million. Very good.

The Food and Drug Administration, for example, today will withhold drugs from the market that have what we call side effects of 1 in 100,000 or 1 in 500,000. For example, the drug thalidomide has been taken by hundreds of thousands of people and didn't have any detrimental effect. It was taken by some and it did. What I am getting at is you can't judge these things necessarily by some one or two mutations or one or two side effects. You have to take some rather long-term calculations.

PERMISSIBLE LEVEL OF RADIATION

What is the permissible level of radioactive fallout, Doctor? I mean what can the average person be content with when he reads in the morning press that the rain that fell today has such and such point radioactive material. It is a permissible level.

Dr. SEABORG. I might point out, if I may go back just to your analogies with drugs and so forth——

Senator HUMPHREY. Yes, sir.

Dr. SEABORG (continuing). That there certainly are some differences between that analogy and the field of radiation.

For example, as I said earlier, there are many beneficial effects of radiation, both in diagnosis and in therapeutic uses, and I feel that the risk from the adverse effects of radiation are so small that in those cases under proper medical advice——

Senator HUMPHREY. Yes, under controlled use.

Dr. SEABORG. Under controlled use, the person should do it, you see, and as opposed to the situation that you describe where a drug might be withdrawn.

Now, to answer your question as to what is the permissible level, this is something that more expert minds than mine have labored with long and hard, the Federal Radiation Council, for example, and they have come up to the—they have come to the conclusion that they can't come up with any meaningful absolute limit.

Senator HUMPHREY. Have they adjusted the levels in the last 10 years, Doctor, I mean of what was considered to be safe or unsafe or permissible?

Dr. SEABORG. The Federal Radiation Council, using the Federal Radiation Council which has responsibilities in this field as an example, is only some 3 years old.

Senator HUMPHREY. I understand that.

Dr. SEABORG. If I recall, I don't know that any absolute numbers for permissible amounts of fallout have ever been set or had any official sanction. I think this, as I have indicated, would be very difficult and it would depend—it wouldn't be a single number in any case.

Senator HUMPHREY. It was my impression——

Dr. SEABORG. It would depend on the rate, you see, and, of course, which radioactive isotope it is, what amount of that might get into people, and it would certainly, in my opinion, have to be related to the reasons for the fallout; that is the testing that led to the fallout might be of paramount importance to the country, and, therefore, that would be a factor also that couldn't be ignored.

So, I think attempts to come up with what you might call a number that people could just say, "This is it," haven't led to an acceptable solution.

Senator HUMPHREY. I understand that.

But my understanding is that there had been this flexibility, this adjustment in these figures, that there has been no absolute figure. It is very difficult to obtain one.

My concern is not so much over the radioactive debris in the atmosphere today. Going back to the earlier questioning of Senator Pastore and others, what if we did have again a rash of atmospheric explosions such as we had a year ago or 2 years ago, with the tremendous number of explosions of the Soviet Union then followed by ours. Again other nuclear powers would come into this—France with a developed nuclear weapon, and the British feeling they had to do something. Can anybody really believe if France and Britain and Russia and the United States have these weapons that ultimately the Germans would not want to test them and then maybe somebody else. If you had this buildup of nuclear explosions then the question becomes, I think, quite germane and pertinent, is there a danger from radioactive fallout to the human race?

Dr. SEABORG. Yes. I—of course, this is a relative word "danger to the human race."

Senator HUMPHREY. Yes.

Dr. SEABORG. But I would begin to use that word particularly with respect to hotspots if the situation that you suggest should prevail.

HOTSPOTS

Senator HUMPHREY. Where are some of these hotspots, Doctor?

Dr. SEABORG. I tried to make this a little more quantitative by saying we got into the region of hundreds of megatons. By hotspots——

Senator HUMPHREY. Where are they? I know what they might be.

Dr. SEABORG. I don't know where any of them are in the country today. We couldn't predict where they would be. It would depend on local weather and rain and things of that sort, and with respect to the time of the particular large explosions.

That might lead to the concentration of radioactivity in certain areas—that I would be willing to use the word "danger."

Senator HUMPHREY. Where have they occurred in the past?

Dr. SEABORG. As I understand it, Senator Humphrey, one of them occurred in the State of Minnesota.

Senator HUMPHREY. Yes, Utah?

The CHAIRMAN. The Senator's time is up.

Dr. SEABORG. Another area has been Utah, yes, sir.

Senator HUMPHREY. Thank you.

Dr. SEABORG. I don't regard those, however, as having reached—with respect to those areas, I wouldn't personally use the word "danger."

The CHAIRMAN. Senator from Tennessee?

EFFECTS OF EXPOSURE TO RADIATION

Senator GORE. Doctor, although you do not use the word "danger," in those areas of the United States largely in the north temperate zone, where heavy concentrations have occurred, you would not be prepared to say, would you, that some individual might have indeed received a dangerous dose of radiation?

Dr. SEABORG. That is right; I wouldn't have enough information nor does anyone, to say that some individual hadn't received a dangerous amount of—somebody particularly susceptible to radiation hadn't received an amount where the word "danger" wouldn't be applicable and similarly we couldn't say that anyone had.

Senator GORE. If an individual or several individuals—whether adult or child—has or should receive dangerous doses of radioactive contamination, this would not be a statistical matter particularly, would it?

Dr. SEABORG. No, sir; not if it were your child or mine. But as I said we don't have enough knowledge to be able to say whether there is a child——

Senator GORE. Or whether there isn't?

Dr. SEABORG. Or whether there isn't. Either way we don't have enough information.

Senator GORE. I am not trying to draw you into a controversy but just trying to develop the possibility.

Dr. SEABORG. Yes, sir; and this is, Senator Gore, as you know, a very complicated subject, and very difficult to explain completely.

Senator GORE. I do know, Doctor. I am not a scientist as yourself, particularly in this field, but I studied it a little in college. I have listened to you and other eminent scientists many times discourse

upon this subject. No one would say, so far as I know, that any real good would flow from further radioactive contamination.

Dr. SEABORG. I certainly would not say that.

Senator GORE. Do not all scientists knowledgeable in this field rather generally agree that further contamination would be dangerous or would be harmful. I will withdraw the word "dangerous."

Dr. SEABORG. I think that all scientists would agree that further radiation should be avoided if at all possible. I would imagine that most of them, as you yourself indicated, would not use the word "dangerous"—a great number of them probably would employ the word "harmful" having in mind that according to the best, or according to an interpretation made of the sparse data by a number of expert biologists and geneticists there will be a certain number of cases where there will be adverse health effects or genetic effects.

Senator GORE. I was at the biological laboratory at Oak Ridge a few days ago and I saw X-rays made of the chromosomes, blood cells of people who have suffered radiation accidents in the AEC program.

I wonder if you had seen those X-rays?

Dr. SEABORG. I haven't seen them personally, but I am sure that the people in our Division of Biology and Medicine have seem them unless they are very recent. I am not familiar, Senator Gore, with the particular X-rays you refer to.

Senator GORE. Did you have some further statements?

Dr. SEABORG. Dr. Dunham, who is the Director of our Division of Biology and Medicine, confirms my surmise that he has seen the photographs. They are photographs of chromosomes in which radiation damage apparently has been identified; yes, sir.

Senator GORE. Mr. Chairman, I wonder if it would be permissible for the doctor to give us his observation of these X-rays?

The CHAIRMAN. I think that is proper.

Dr. DUNHAM. These chromosome break aberrations and such as breaks and sticking together of chromosomes have been demonstrated in the case of the Y–12 accident workers.

They have also been demonstrated in experimental animals and there seems to be a general relationship between the amount of exposure and the amount of demonstrable damage.

These are all with acute exposures that took place in a matter of a few seconds in high doses of 50 rad and higher, which is in a different ball park from fallout. I think this is the point I wanted to make.

Senator GORE. Did you observe, as I observed, an irregular pattern of deformity in these chromosome X-rays?

Dr. DUNHAM. Yes, sir.

Senator GORE. Thank you, Doctor.

Mr. Chairman, this, I think, illustrates more than anything I could say or anything that any of us have said thus far this morning that this is a hazard to the human race.

Dr. SEABORG. Oh, yes, sir, Senator Gore, I think in these higher doses there—what you say is definitely true, and we reach an area where the information is available, and there is very little controversy about it.

Dr. Dunham mentioned doses of the order of 50 rads. That certainly is an area where anybody would use the word "harmful," "dan-

gerous." It is only at a few times more than that that it begins to be lethal and that is well known at some 400 rads or so about half of the recipients would die.

THE TREATY AS AN INTERNATIONAL CONCERT

Senator GORE. Since I did not have an opportunity to develop this particular point while Secretary Rusk was before the committee, I would like to intrude upon your appearance to express the view that as a greater and greater number of nations become party to the treaty, this treaty becomes a growing international concert. I recall having seen in both the European and Asiatic theaters of war in World War II capacity for the use of poison gas. Neither side used it.

I will not ask you, but rather express the opinion myself, that this was because of the overwhelming world opinion that had been developed as a result of the international concert against the use of poison gas. I would hope that as the signatories to this treaty approach the 100 mark it would then be an international concert of such portent that all nations would be most reluctant to resume testing in the atmosphere.

Thank you, Mr. Chairman.

Dr. SEABORG. I join you in that hope, Senator Gore.

The CHAIRMAN. Senator Morse?

APPLICABILITY OF M'MAHON ACT TO PROVIDING NUCLEAR INFORMATION TO FRANCE

Senator MORSE. Dr. Seaborg, under date of August 2, 1963, I sent you the following letter:

DEAR DR. SEABORG: Much is being said these days about the possibility of the United States making available to France the information she needs to perfect her nuclear weapons without need for further atmospheric testing. I would appreciate knowing from you just what the criteria are under the McMahon Act which determine when a country has sufficient nuclear capacity to facilitate in nuclear sharing with the United States.

Second, I would also like to have as good an estimate as can be given of nuclear capacity outside the United States, Russia, and Britain among countries in the free world and the Communist world.

Third, is it likely, in your opinion, that in the near future the Soviet Union may find it possible to apply the same criteria under which we share nuclear secrets to her allies in the Communist bloc and make available these secrets, say, to East Germany and perhaps even to China on the basis that by so doing she is eliminating her need to test in the atmosphere?

Sincerely yours,

I would like to ask you, Dr. Seaborg, in connection with this letter, is it your opinion if France does not sign this treaty—and she gives every evidence of not signing it and intention of not signing it—and continued atmospheric testing, which apparently would be her right as a nonsignatory, would we under the McMahon Act, as amended, be permitted to supply her with nuclear information or nuclear material? If we did it under the McMahon Act, would we in fact be guilty of at least violating the spirit and intent of this treaty and give Russia a good excuse for abrogating the treaty?

Dr. SEABORG. Well, Senator Morse, I would like in my response—and by the way a response to your letter has been sent.

22-310—63——16

Senator MORSE. I am glad to know that. It hasn't been received this morning.

Dr. SEABORG. I think that it was sent a couple of days ago and——

Senator MORSE. I checked before I came down.

Dr. SEABORG (continuing). In the usual course of events perhaps you should receive it in another couple of days.

Senator MORSE. Am I? I am glad to have it made a part of the record at this point.

Dr. SEABORG. I would think it could be made a part of the record; yes, sir.

Senator MORSE. I ask, Mr. Chairman, that the response I have not seen be made a part of the record.

The CHAIRMAN. All right.

(The letter referred to follows:)

U.S. ATOMIC ENERGY COMMISSION,
Washington, D.C., August 12, 1963.

Hon. WAYNE MORSE,
U.S. Senate.

DEAR SENATOR MORSE: The following is in reply to your letter of August 2, 1963, concerning the United States making available to another country the information needed to perfect nuclear weapons.

The Atomic Energy Act requires that before information concerning the designs of atomic weapons can be transmitted to another country under section 144c, or parts of atomic weapons transmitted under section 91c, the receiving nation shall have made "substantial progress in the development of atomic weapons," as well as have met the other requirements of the act.

The question of what constitutes "substantial progress in the development of atomic weapons" was discussed by the Joint Committee on Atomic Energy in Report No. 1849 to accompany H.R. 12716. The enclosure to this letter contains an excerpt from that report discussing the intended meaning of the above phrase.

In view of the intelligence nature of your questions concerning the nuclear capabilities of other countries and the relations of the Soviet Union with Soviet bloc countries, we have referred the last two questions of your letter to the Director, Central Intelligence Agency, for direct response to you so that you might have the best possible estimate.

Please let us know if we can be of further assistance.

Sincerely,

———— ————,
Acting Chairman.

CRITERIA FOR "SUBSTANTIAL PROGRESS" AS USED IN SECTIONS 91c AND 144c OF THE ATOMIC ENERGY ACT

With regard to the words "substantial progress" in the second proviso of subsection 91c(4) it is intended that the cooperating nation must have achieved considerably more than a mere theoretical knowledge of atomic weapons design, or the testing of a limited number of atomic weapons. It is intended that the cooperating nation must have achieved a capability on its own of fabricating a variety of atomic weapons, and constructed and operated the necessary facilities, including weapons research and development laboratories, weapon-manufacturing facilities, a weapon-testing station, and trained personnel to operate each of these facilities. It is intended that full information shall be provided the Joint Committee as to the basis of any such determination. In reaching the conclusion as to the intended meaning of "substantial progress," and the types of material and the conditions established under subsection 91c, the Joint Committee relied heavily upon the good faith of the executive branch in its assertion in the January 27, 1958, letter forwarding the proposed amendments that "it is not intended that manufactured nuclear components of weapons could be transferred under this amendent, nor that we promote the entry of additional nations into the field of production of nuclear weapons."

Dr. SEABORG. I would like to, if I may, confine my remarks to the technical or the more technical aspects of your question, and leave the political aspects of whether this information should be given to the French to representatives of the State Department.

The criteria for whether they are eligible are that the French should have made substantial progress in the nuclear weapons field, and by this it is—and we have one example of that so far. We have one example of a nation that has met that criterion so far and that is England. It is intended that the cooperating or the potentially cooperating nation must have achieved considerably more than a mere theoretical knowledge of atomic weapons design or the testing of a limited number of atomic weapons.

It is intended that the Nation must have achieved a capability on its own of fabricating a variety of atomic weapons, and shall have constructed and operated the necessary facilities including weapons research and development laboratories, and weapon manufacturing facilities and a weapon testing station and so forth, and should have an adequate number of trained personnel to operate such facilities.

If a nation has obtained this status then it is felt that substantial progress has been made, and that the Nation is eligible for the determination by the President with the advice of the Atomic Energy Commission and the Department of Defense.

Senator MORSE. Has any finding been made that France has met these criteria?

Dr. SEABORG. No such finding has been made by the Atomic Energy Commission, although I would say that so far as these criteria themselves are concerned, and I want to make it clear I am not talking about the political desirability of cooperating with France in this way, I would think that a study would show that, and this would be my personal opinion, I have not made the study, a study very likely might show that these criteria are being met, have been met by France to date.

Senator MORSE. If France has met the criteria then would she, under the terms of the McMahon Act, be eligible to share with the United States our nuclear information?

Dr. SEABORG. She would be eligible if the United States then decided—it isn't automatic by any means, of course, that that would be the decision of the United States.

She would then be eligible for it, for an agreement for cooperation in this field.

Senator MORSE. That is what I am seeking to establish first—the foundation as to whether or not she would be eligible for sharing our nuclear secrets and material with us if we, as a matter of public policy, decided to share it.

Dr. SEABORG. Well——

COMPATIBILITY OF M'MAHON ACT AND TREATY OBLIGATIONS

Senator MORSE. This raises the question as to whether or not we ought to amend the McMahon Act. I do not see how this administration—and it is my administration, too—possibly could escape the fact that if it provides a nonsignatory to this treaty with material that

would help her testing it is a subterfuge and amounts in effect to an indirect violation of this treaty by the United States. This would put Khrushchev in a position where he could say that the United States, in fact, is violating the spirit and intent of this treaty. If my administration is going to take that policy or will not pledge to the American people—as I think the President clearly pledged to the American people in his message to the people over television—I could not possibly vote for this treaty because it would be a hypocritical act on the part of my country.

Dr. SEABORG. Yes, sir.

Senator MORSE. I am not asking you to pass on the political question but I am asking my administration to pass on it and promptly. I think the Secretary of State should have had a statement down here this morning explaining what the position of this Government is on this issue. As far as I am concerned we are going through an empty gesture here unless this Government of ours is willing to pledge to this country and to the world that we are not going to violate this treaty by a subterfuge if France has met the criteria that you have just testified she has met.

We have a right to know whether we are going to aid France or not aid France as long as France remains a nonsignatory to the treaty. Once she signs the treaty then the problem is removed.

I want to say, Doctor—and I use this moment to say it, I shall speak at greater length on the floor this afternoon about it—I want to say that this is the issue that the Kennedy administration ought to meet up with in the next few hours, and not let this matter go on for some days.

The American people are entitled to know whether those in charge of carrying out this treaty are going to keep the President's pledge, for I consider the President of the United States made a very clear pledge in this statement to this country that we are against the extending of these nuclear weapons and that we ought to restrict them. You cannot assist De Gaulle in this matter as long as De Gaulle takes the position he is going to go on and test. That is why I have taken this moment to raise what I consider to be the most vital issue connected with this whole treaty. Either cross this bridge now or in my judgment the treaty falls or should fall in the river.

That is all, Mr. Chairman.

Dr. SEABORG. You understand, Senator Morse, that I only rendered a limited technical opinion with respect to——

Senator MORSE. That is good enough for me.

Dr. SEABORG (Continuing). With respect to the law.

Senator MORSE. That is good enough for me.

Dr. SEABORG. And that no such determination has been made.

That if the conditions of the law of substantial progress are met, it, of course, isn't automatic that such an arrangement, such an agreement, for cooperation with France would be made. That would be for the administration to determine, and in that process the Congress would have a voice, and they could disagree.

Senator MORSE. Doctor, there has been a lot said in this hearing about not trusting Khrushchev. I don't trust him either, but I don't trust De Gaulle any more. Let the record be clear on that one.

The CHAIRMAN. The committee will recess until 2 o'clock.

(Whereupon, at 12:05 p.m., the committee recessed, to reconvene at 2 p.m., the same day.)

AFTERNOON SESSION

The CHAIRMAN. The committee will come to order.

Is the Senator from Kansas ready to ask some questions?

Senator CARLSON. Mr. Chairman, I am available for asking questions, but this is a field, I can assure you, that I even hesitate to get into because it is far beyond me. I do appreciate Dr. Seaborg's appearance here and testimony this morning.

PEACEFUL USES OF ATOMIC ENERGY

Senator CARLSON. I want to discuss briefly, because I surely need some help on it, the aspect of this field that deals with peaceful uses of nuclear energy. Do we in any way inhibit or reduce the opportunities for peaceful uses of this fissionable material?

STATEMENT OF DR. GLENN T. SEABORG, CHAIRMAN OF THE ATOMIC ENERGY COMMISSION; ACCOMPANIED BY DR. GERALD TAPE, MEMBER OF THE ATOMIC ENERGY COMMISSION; AND MAJ. GEN. A. W. BETTS, DIRECTOR OF DIVISION OF MILITARY APPLICATIONS, ATOMIC ENERGY COMMISSION

Dr. SEABORG. Skall jag svara i Svenska spraket, Senator Carlson? (English translation: "Should I answer in the Swedish language, Senator Carlson?")

Senator CARLSON. I think the chairman should know that vi talar Svenska. (English translation: "We are speaking Swedish.")

The reporter will have to get this as best she can.

Dr. SEABORG. I assure you it wasn't very good Swedish.

Senator CARLSON. Same here.

Dr. SEABORG. The treaty will, of course, not inhibit the peaceful uses in any of the fields that don't have to do with nuclear explosives; that is, the field of civilian nuclear power, and the use of nuclear energy for propulsion and auxiliary power in space and the use of isotopes in medicine and industry and research, and so forth.

I am sure you are referring to the possible peaceful applications of nuclear explosives; that is, our Plowshare program, and here we feel that it will be possible to develop the nuclear devices required for the various aspects of the Plowshare program, and to carry out a number of the experiments required for the use of these nuclear devices to develop such technologies as excavation and earthmoving experiments in general. And, in addition, to carry out a number of the practical applications such as excavations within the United States and other practical applications such as aids to mining, aids to the recovery of certain types of low-grade oil, the development of underground water resources, and aboveground water reservoirs, and things like that, within the United States.

It will also be possible to carry on practically all of the scientific experiments that we have planned. The production of isotopes, rare isotopes, new isotopes of the transuranium elements, certain experiments in neutron physics, certain advanced chemical reactions depending on high temperatures and high pressures, and things of that sort. All of these it will be possible to carry on in underground explosions within the terms of the treaty.

It will not be possible at the present time to apply nuclear explosives to excavation experiments where the debris, detectable amounts of radioactive debris, will be found and be detected outside of the continental limits of the country where the experiment is performed.

This, then, for a while, until the treaty is amended, means that these kinds of applications could not be carried out.

However, in the meantime, a large part of the Plowshare program, much of which must precede these applications in other countries before they could be carried out in the other countries, can be carried out under the treaty.

WHAT LIMITS DOES TREATY PLACE ON APPLICATION OF PEACEFUL USES

Senator CARLSON. Doctor, I take it from earlier testimony that we had from Secretary Rusk that such excavations, as the construction of a canal across the Nicaraguan Isthmus, or maybe the opening up of some barriers to a great harbor in Alaska, would not and could not be permitted under this treaty. Is that your understanding?

Dr. SEABORG. I think that a harbor in Alaska probably could not now be built until the treaty is amended. Other projects, inland projects, of which we had some in mind, the building of dams, and so forth, in Alaska probably could now, or as soon as the explosives and the excavation technology is ready which is not yet the case—such projects could be carried on under the treaty now.

Senator CARLSON. Let's assume under the treaty that your experimentations and your studies would permit us to state that we are now ready to move a mountain in the United States or in Russia, for instance. Under the treaty could we do that?

Dr. SEABORG. Under the treaty we probably could do that. We would have to develop the proper nuclear explosives before we would be ready to do that. We wouldn't be ready with the explosives at the present time but would require a few more years of experimentation both with the development of explosives themselves and with the excavation technology before we would be ready for such a project whether there was a treaty or not. But under the treaty, after the development of these proper explosives, which means clean explosives, and the development, the experimental development of the excavation technology, after we learn how to use these in experiments to move large amounts of earth, we feel that under the treaty we could perform such a mountain-moving experiment within the continental United States, yes, sir, Senator Carlson.

Senator CARLSON. Let's assume that Russia decided that they wanted to use nuclear power to remove some great obstruction internally, a mountain, for instance. Your instruments, I gather, would record that explosion. Would we know from the instruments that you have whether this was an explosion for constructive use, peaceful use, or for military experimentation and improvement of nuclear bombs?

Dr. SEABORG. There wouldn't be any prohibition so far as our instruments recording the explosion is concerned. The prohibition would lie in whether there was a detectable amount of radioactive debris actually detected in sufficient detail so that it could be identified as an explosion within the Soviet Union. Only if sufficient radioactive debris were detected outside of the Soviet Union would it be prohibited.

Senator CARLSON. It occurs to me that we are just on the verge of a new era in the field of peaceful uses such as excavations for very important projects. I take it from your statement you feel that nothing in this treaty will seriously retard that program.

Dr. SEABORG. That is right, for a number of years. However, in a few years the treaty would require an amendment, if we were going to be able to go forward at that time to do the things that the technology would permit by that time.

Senator CARLSON. That is all, Mr. Chairman.

The CHAIRMAN. Senator Mundt?

ENUMERATION OF RISKS INVOLVED IN TREATY

Senator MUNDT. Dr. Seaborg, twice this morning during your testimony you mentioned that this treaty was not without risk. Will you please enumerate for the record the risks involved as you envision them.

Dr. SEABORG. Yes. I referred to risks but I regarded them as minor risks. The risks I referred to were the possibility of some small amount of clandestine testing of small weapons. I think this would be very difficult. I don't think that it could be extensive enough without being detected to make any substantial difference in the Soviet's nuclear weapons capability.

Senator MUNDT. That would be one. Are there others?

Dr. SEABORG. I referred to the possibility of tests in outer space, and in that case, I said that I thought that the costs would be so great for the launching of the weapon to be tested and for the launching of the instruments that would be needed for the diagnosis that I doubted that it would be practical and that any nation would want to spend their money that way for what little they would get out of it. That is what I meant by the risks. They are small in my opinion.

Senator MUNDT. You have no other risks in mind.

Dr. SEABORG. Well, I don't know—the word "risks," of course, has a broad meaning. I had that sort of risk in mind that I suppose one might call the risk of abrogation, but I don't consider that something that need concern us, because we are going to maintain a high state of readiness so that we will be able to resume atmospheric testing very soon, as soon as it would be sensible to test after any such abrogation.

DETECTABILITY OF AN UNDERWATER TEST

Senator MUNDT. Let me ask you a specific question in this field of detection. Several people who have made a lifetime study of geopolitics are concerned about the fact that while underwater testing in the interior waters of Russia in a lake as vast as Lake Baikal—which is so deep that you could use it for submarines and so vast that it is virtually an interior ocean—is barred by the treaty. Do we presently have the means of detection so that we could find out if they violate the treaty in this area by underwater tests, 3,000 or 4,000 feet under the surface of the water, in Lake Baikal in the interior of Russia?

Dr. SEABORG. No. We don't have the means of detecting such a test by instrumentation, by the methods of detecting nuclear tests through physical means.

Senator MUNDT. Does this mean that we simply have to rely on the unsupported veracity and word of the Russians that they are fulfilling their treaty in this area. We are told by Secretary Rusk that it is intended that the treaty prohibit underwater tests of that nature in Lake Baikal.

Dr. SEABORG. Well, I think that more important than that is that we don't see any great gain that they could make by making such a test or tests and that the hazards to the Soviets themselves are considerable in contaminating the inland waters, and so forth.

I think that I would be motivated more by that consideration, that it would be the sort of test that wouldn't bother me very much, that there isn't a great deal that they could learn there that would be of concern to us so far as our national security is concerned.

Senator MUNDT. The fact that underwater tests are prohibited by the treaty would imply to me that they must have some value to somebody or they wouldn't be prohibited.

Dr. SEABORG. Yes, they do, but the value is an order of magnitude less than the value, much, much less than the value of atmospheric tests.

Senator MUNDT. They do have some value.

Dr. SEABORG. They have some value, yes, very specific value, though, namely, the effect of the nuclear explosion on a ship or a submarine.

WHERE THE RUSSIANS ARE SUPERIOR

Senator MUNDT. Is there any area of nuclear development in which you feel that the Russians are now ahead of us?

Dr. SEABORG. Yes. I feel that the Russians are now ahead of us in the area of the very large weapons, in the area of weapons with yields greater than tens of megatons.

Senator MUNDT. Is that the only area where you feel they have outdistanced us?

Dr. SEABORG. I think that there is a gradation between our relative capability from that area of, say, 20 megatons and above, as we go down, so that our relative capability becomes more and more superior to that of the U.S.S.R.

Senator MUNDT. As we go down.

Dr. SEABORG. As we go down.

QUESTION OF AIR POLLUTION

Senator MUNDT. Are underground tests completely safe from this whole problem of contamination or is there a danger of contaminating underground water sources by continuation of our underground tests?

Dr. SEABORG. Well, we think that danger is essentially negligible in the area that we have chosen to conduct our underground testing, namely, in Nevada. We have enough experience with the area and understand the underground situation there sufficiently that we are entirely confident that there is no appreciable or sensible danger in conducting tests in that area.

Senator MUNDT. Did I understand you correctly this morning in response to a question by Senator Aiken to say that the hazards and the dangers and the harmful results growing out of exhaust contamination are greater than they are from fallout?

Dr. SEABORG. Oh, yes, sir. Pollution of atmosphere in our country in terms of the number of people, where it has adverse effects on their health, is clearly more dangerous than the situation from fallout with respect to adverse effects on the health, in my mind, in my opinion.

Senator MUNDT. Yes. That being true, it would seem to be putting these problems in the proper perspective that the comparatively remote health hazards from fallout in themselves do not comprise a very realistic and persuasive reason for a test ban treaty of this nature. We leave untouched the major source of contamination as far as health is concerned, it would seem.

Dr. SEABORG. Yes. As I have indicated, I don't think this is one of the major reasons for this treaty. On the other hand, I do want to say that I think we should avoid radiation insofar as is possible, that we should always have a reason when we expose ourselves to radiation, whether it is individually, as I mentioned for medical reasons or as a nation, and it is a matter of balance when it is in our interests to put up with the radiation in a particular case.

Senator MUNDT. I raised the point simply to try to put these potential hazards or real hazards in the proper perspective. Some of our mail indicates near-panic attitude concerning the health hazards of fallout. It seems to me if people generally realize that the health hazards that they encounter every day from exhaust fumes are considered greater by far by our scientific community than the health hazards of fallout, this gives them a little better standard of comparison than they apparently have been utilizing in some of the mail that I have received about the contamination from fallout. I think it is good to have that nailed down in the record.

That is all, Mr. Chairman.

The CHAIRMAN. The gentleman from Ohio?

Senator LAUSCHE. Yes.

Dr. Seaborg, I just have a few questions. You stated to Senator Mundt that in the high yield bombs, the Soviets surpass us in strength and that as the bomb grows smaller, we catch up with them. Is that correct?

Dr. SEABORG. Yes. Our relative position is increasingly advantageous compared to the Soviet Union as we go down the yield scale below 10 megatons.

RELATIVE STRENGTH OF UNITED STATES AND U.S.S.R. IN ANTIBALLISTIC MISSILE FIELD

Senator LAUSCHE. I direct your attention to the subject of antiballistic missiles. How do you compare our strength with that of Russia on that subject?

Dr. SEABORG. I don't know enough about the position, the capability of Russia in antiballistic missiles. If I were going to try to venture an opinion on what little I know or what little anybody who I have talked to knows about it, I would think that our positions are pretty comparable.

Senator LAUSCHE. It has beeen reported in the newspapers that the Russians have set up a whole system of ABM's encompassing Leningrad. Is that correct?

Dr. SEABORG. I don't know that that is correct. I don't know how firm that information is.

Senator LAUSCHE. Do you approach the treaty on the basis that we are of equal strength in the development of an ABM?

Dr. SEABORG. You mean in supporting the treaty?

Senator LAUSCHE. Yes.

Dr. SEABORG. Do I do so on that basis? No. I do so on the basis of all the other advantages of the treaty and in recognition of the fact that we are not in a disadvantageous position with respect to the ABM—and that we will not get into a more disadvantageous position with respect to the ABM as a result of the treaty.

Senator LAUSCHE. From the standpoint of defending our country, especially protecting the lives of our people, which operation in this field do you put in the first position? Is it the development of the antiballistic missile?

Dr. SEABORG. I think that here, Senator Lausche, you are getting into an area where the opinion of a representative of the Department of Defense would have more value than my opinion. I think that the antiballistic missile would be very important, but certainly our strike capability and our second strike capability would also have great importance.

Senator LAUSCHE. Presently on the basis of priority, where does the development of the ABM stand?

Dr. SEABORG. I think that I would defer to the Department of Defense on that question.

Senator LAUSCHE. You are not able to say whether it is valued as the No. 1 problem, No. 2, or No. 3?

Dr. SEABORG. I don't believe I am.

Senator LAUSCHE. All right.

Among the scientists is there an opinion that Red Russia has excelled us in the development of the antiballistic missile?

Dr. SEABORG. No. I don't think that among scientists generally there is such an opinion.

LIMITATIONS OF TREATY

Senator LAUSCHE. I direct your attention to your paper and I want some explanation of this. On page 5, in the first full paragraph, you stated, among other things:

> The vulnerability of warheads and other systems components can be examined for many effects associated with a nuclear explosion. However, complete studies involving blast and fireball as well as radiation effects directed at major weapons delivery systems would be impossible to carry out.

I am not a member of the committee that deals with this subject. Will you explain in just ordinary language what is meant by that?

Dr. SEABORG. Well, that is what—what I meant there is the integration of all the effects in a system, that is, the measurement of what actually happens when an ABM is directed against, one way or the other, an incoming missile.

Senator LAUSCHE. You say:

> However, complete studies involving blast and fireball as well as radiation effects directed at major weapons delivery systems would be impossible to carry out.

Dr. SEABORG. Yes.

Senator LAUSCHE. Why would it be impossible to carry out?

Dr. SEABORG. Because this is the total effect in the atmosphere I am referring to here on the integrated system, the whole system. We can carry out component studies, that is, the effect of the radiation from an ABM on a warhead, and things of that sort, underground. We can do that underground. But in order to study the effect of an ABM and its kill radiation on an incoming warhead, under the conditions that you would encounter in actual use, you have to do it in the atmosphere where the use would—in the environment where it would take place, and that is what I mean by that statement.

Senator LAUSCHE. Yes.

Dr. SEABORG. And that is we can't——

Senator LAUSCHE. Determine what would happen on the whole system.

Dr. SEABORG. On the whole system.

Senator LAUSCHE. You could not make the test underground. You would have to make it in the atmosphere.

Dr. SEABORG. That is right, and that is what I meant by that statement.

Senator LAUSCHE. Now, again, the next sentence:

Also the study of the effects which are completely dependent on the atmosphere at operational altitudes would be essentially impossible and would thus limit the acquisition of new knowledge bearing on radar and communications.

Will you explain that?

Dr. SEABORG. Yes. This has to do with the acquisition of new knowledge bearing on radar and communications. We made some—both the Soviet Union and the United States in their high altitude effect test programs, in their recent atmospheric testing series, made some tests on the effect of the fireball, and so forth, of a nuclear explosion on radar—the radar being necessary in order to locate an incoming missile—and also the effect on communications. Tests of that sort have been made. These obviously are tests that must take place in the environment where the events would take place and could not be performed underground. They would require again on both sides tests in the atmosphere, in the upper atmosphere.

Senator LAUSCHE. Is there any other field in which you would be limited in development and in the acquisition of knowledge except these two items that I have thus far mentioned in your paper?

Dr. SEABORG. No. I think that we could make progress in all of the other areas of the ABM.

Senator LAUSCHE. You say also:

UNDERGROUND TESTING VERSUS ATMOSPHERIC TESTING

I agree with Secretary McNamara that progress will be forthcoming both from underground testing and from other improvements which can be made without need of nuclear testing.

It is your judgment that knowledge which ordinarily would be acquired out of atmospheric testing through further study will become available through underground?

Dr. SEABORG. Well, I also was—yes. There are two types of knowledge there. The type of knowledge that could be obtained from weapons testing underground: that is, the effect of the radiation of an ABM on a warhead, for example. That is one type of information.

The other type of information which is probably even more important for the development of an ABM is the nonnuclear information, the problem of the development of the radars, the discrimination radar that is needed to make an ABM operable. The problem of the reaction speed, the speed with which the radar information could be translated into the launch mechanism for launching the ABM. The general improvement of missile performance and the capacity for decoy discrimination and things of that sort.

All of these are very complicated, have not been perfected, and are probably more important in obtaining an operable ABM than the effects tests themselves.

And they are all nonnuclear.

Senator LAUSCHE. In your opinion, will the adherence to the treaty impede the development of missile defenses in the United States?

Dr. SEABORG. No: I don't think so. I think it will not.

Senator LAUSCHE. You think it will not.

Dr. SEABORG. That is right.

Senator LAUSCHE. Is there disagreement among your associates on this?

Dr. SEABORG. Well, let me say, when you say "impede the development," it will slow down the development on both sides, but not to our disadvantage.

Now, I don't know——

Senator LAUSCHE. In examining that thought, it is necessary to accept the thesis that both sides now have equal capability in the antimissile fields.

Dr. SEABORG. Well, at least that they haven't—the Soviets haven't developed some almost mysterious capability that depends on weapons effects in testing. At least I would summarize it that way. It is necessary to assume that.

The CHAIRMAN. The Senator's time is up, and also there is a vote. So we will have to recess, in any case, for about 10 minutes, and then we will resume.

Senator LAUSCHE. I have no further questions, as far as I am concerned.

The CHAIRMAN. We will be back in about 10 minutes.

(A short recess was taken.)

The CHAIRMAN. The committee will come to order.

SURVEY OF NOBEL PRIZE WINNERS

I asked the reporter to put into the record a communication from Mr. I. I. Rabi of August 14 addressed to the chairman of the committee relative to this treaty.

(The document referred to follows:)

NEW YORK, N.Y., *August 14, 1963.*

Hon. J. W. FULBRIGHT,
Chairman, Foreign Relations Committee,
U.S. Senate.

DEAR MR. CHAIRMAN: I am sending you the results of a poll on the test ban treaty which, I together with my colleagues, Drs. P. Kusch, of Columbia University, Owen Chamberlain, of the University of California at Berkeley, and others have conducted amongst the American Nobel Prize winners in all fields. The intervention of the summer holidays prevents the poll from being more complete, but we do have a majority of the Nobel Prize winners on record.

Each prizewinner was asked if he approved of, and was willing to sign the enclosed statement with the understanding that it would be submitted to the President of the Senate, the chairman of the Foreign Relations Committee, and the majority and minority leaders of the Senate. It was also understood that the statement would have such additional distribution as may be appropriate and, in this connection, I plan to release the statement to the press at 1 p.m. this afternoon.

The overwhelming majority of the replies were positive. We have no negative letters. Of those queried by telephone, five declined to sign. Some gave no reason, others stated that they did not feel in a position to make such a public statement, although they would agree, privately, to the opinions expressed in the statement.

I append a list of the names of those who agreed to the statement, their affiliations and the field for which they received the Nobel Prize.

Yours respectfully,

I. I. RABI.

[Press release, August 14, 1963]

One of the early Nobel Prize winners of the United States, I. I. Rabi, of Columbia University, together with some of his colleagues, has recently polled all of the U.S. Nobel laureates to ascertain their feelings about the nuclear test ban treaty now under consideration by the U.S. Senate. Thirty-four of these Nobel Prize winners have so far expressed approval of and a willingness to sign the attached statement. There have been no replies indicating disapproval.

The statement, together with the list of signers to date, has been sent today to the President of the Senate, to the chairman of the Foreign Relations Committee, and to the majority and minority leaders of the Senate.

The attached list of signers of the statement includes information about their affiliations and the field of sciences in which they received their Nobel Prize. The group includes some of America's most eminent scientists; their fields of endeavor range from pure physics to clinical medicine.

STATEMENT BY NOBEL LAUREATES

We, the undersigned, wish to make public our approval of the test ban treaty recently negotiated in Moscow by representatives of the United States, the United Kingdom, and the Soviet Union. We believe that this treaty marks a significant if minimal first step in reducing the tensions of a continued nuclear arms race, thereby enhancing the security of the United States. We hope that this treaty will be approved by the Senate of the United States as a concrete expression of our country's desire for peace.

SIGNERS OF STATEMENT BY NOBEL LAUREATES ON NUCLEAR TEST BAN TREATY

Anderson, Carl David, professor of physics, California Institute of Technology. Nobel Pribe in physics, 1936; Gold Medal, American Institute, 1935; Cresson Medal, Franklin Institute, 1937; member of National Academy of Sciences; fellow, Physical Society; Philosophical Society; X-rays, gamma rays; radioactivity; cosmic rays.

Brattain, Walter Houser, Bell Telephone Laboratories, Murrayhill, N.J. Nobel Prize in physics, 1956; Stuart Ballantine Medal from the Franklin Institute, 1952; John Scott Award, city of Philadelphia, 1955; fellow, American Physical Society; member of American Academy of Arts and Sciences; Franklin Institute, National Academy of Sciences. Coinventor of transistor, specializes in study of semiconductors.

Bloch, Felix, professor of physics, Stanford University, Stanford, Calif. Born Zurich, Switzerland. Nobel Prize in physics, 1952; fellow, American Physical Society; American Academy of Arts and Sciences; National Academy of Sciences; war research Los Alamos, 1942–45; atomic physics.

Chamberlain, Owen, Physics Department, University of California, Berkeley. Nobel Prize for physics for discovering antiproton, 1959. Civilian physicist, Manhattan District, Los Alamos, 1942–46; Guggenheim fellow, 1957–58; Loeb lecturer at Harvard, 1959.

Cournand, Andre F., 1361 Madison Avenue, New York, N.Y.; born Paris, France, naturalized 1941. Nobel Prize in medicine and physiology, 1956; Lasker Award, USPHS; fellow, Royal Society of Medicine; member, National Academy of Sciences; American Physiological Society; Association of American Physicians; British Cardiac Society.

Enders, John Franklin, professor, Children's Hospital, Harvard Medical School. 300 Longwood, Boston, Mass. Nobel Prize in medicine and physiology, 1954; Ameron Prize, University of Edinburgh, 1960; Lasker Award, 1954; fellow, American Academy of Arts and Sciences; member, National Academy of Sciences; American Philosophical Society; Soc. Gen. Microbiology; viral infections; virus and rickettsial diseases.

Erlanger, Joseph, 5127 Waterman Avenue, St. Louis, Mo. Nobel laureate in physiology, 1944; member, American Physiological Society (president 1926–29); Association American Physicians, National Academy of Sciences, American Medical Association; physiologist.

Doisy, Edward Adelbert, St. Louis University School of Medicine, St. Louis, Mo. Professor of biochemistry; shared Nobel Prize in physiology and medicine, 1943, with Dr. Henrik Dam; Gold Medal, St. Louis Medical Society, 1935; Willard Gibbs Medal, 1941. Member, American Society of Biological Chemists; American Chemical Society; National Academy of Sciences; American Philosophical Society; sex hormones and antibiotic compounds.

Franck, James, address: care of Physics Department, Duke University, Durham, N.C. Professor of physics and chemistry. Nobel Prize in physics, 1925; Rumford Medal, American Academy of Arts and Sciences, 1955; Max Planck Medal, German Physical Society, 1953; member, National Academy of Sciences, American Philosophical Society, molecular physics and application to chemistry.

Glaser, Donald A., radiation laboratory, University of California, Berkeley, Calif. Physicist. Nobel Prize in physics, 1960; Henry Russell Award, 1955; Guggenheim fellow 1961–62; Fellow, American Physical Society.

Hofstadter, Robert, professor of physics, Stanford University, Stanford, Calif. Nobel Prize for physics with Dr. Moessbauer 1961 for work on atomic nucleus; Guggenheim fellow, Ford Foundation, 1958–59; California Scientist of the Year, 1959; fellow, American Physical Society; Physical Society, London; National Academy of Sciences; American Association University Professors; infrared spectra; photoconductivity; nuclear and nucleon charge distributions.

Kornberg, Arthur, head, Department of Biochemistry, Stanford University, Stanford, Calif. Corecipient, Nobel Prize in medicine, 1959; recipient, Paul-Lewis Award in enzyme chemistry, 1951; member, American Society Biological Chemists, American Chemical Society; National Academy of Science.

Kusch, Polykarp, Columbia University, Physics Department, New York, N.Y. Nobel Prize in physics, 1955; born Germany, naturalized 1922; Fellow, American Physical Society, member, National Academy Sciences; research in atomic, molecular, and nuclear physics.

Lamb, Willis Eugene, Jr., Clarendon Laboratory, Oxford, England. Nobel Prize in physics, 1955; Guggenheim fellowship, 1960–61; fellow of American Physical Society, Physical Society, London, National Academy of Sciences.

Lee, Tsung-Dao, professor of physics, Institute for Advanced Study, Princeton, N.J. Physicist. Nobel Prize in physics, 1957; Albert Einstein Award in science, Yeshiva University, 1957: member, American Physical Society.

Lipmann, Fritz Albert. Rockefeller Institute, New York, N.Y. Biochemist. Nobel Prize for medicine and physiology, 1953; Mead Johnson & Co. award for outstanding work on vitamin B-complex, 1948; Carl Neuberg Medal, 1948; fellow, New York Academy of Sciences, Danish Royal Academy Sciencies; National Academy of Sciences.

Muller, Hermann Joseph, professor of zoology, Indiana University, Jordan Hall, Bloomington, Ind. Nobel laureate in physiology, medicine, 1946; Darwin Medal, 1959; member, American Academy Arts and Sciences, American Philosophical Society; American Society Zoologists, American Genetic Association, Royal Society London.

Murphy, William Parry, physician: 1101 Beacon Street, Brookline, Mass. Nobel Prize in medicine 1934; Gold Medal of Humane Society of State of Massachusetts 1935; National Order of Merit; diplomate in internal medicine 1937; member American Medical Association, Association of American Physicians, New York Academy of Sciences: anemia in practice, pernicious anemia.

Ochoa, Severo, New York University, College of Medicine, 550 First Avenue, New York, N.Y. Biochemist: Nobel Prize 1959 in medicine with Arthur Kornberg; fellow, New York Academy of Sciences, American Academy of Arts and Sciences; Society for Experimental Biological Medicine; born Spain, naturalized 1956.

Pauling, Linus Carl, professor of chemistry, California Institute of Technology, Pasadena, Calif.; Nobel Prize in chemistry 1954; Fermat Medal, Pasteur Medal, medal with laurel wreath of International Grotius Foundation, 1957.

Rabi, Isidor Isaac, Columbia University, Department of Physics, New York. Nobel Prize in physics 1944; Barnard Medal, National Academy of Sciences, 1960; Elliot Cresson Medal of Franklin Institute 1942; Medal for Merit 1948; King's Medal (British) 1948; fellow, American Physical Society (president 1950); member, American Philosophical Society.

Richards, Dickinson W., 180 Fort Washington Avenue, New York, N.Y. Nobel Prize in medicine and physiology 1956; director, first medical division, Bellevue Hospital, New York, since 1945; member, Association American Physicians; research on problems of pulmonary and cardiac physiology.

Seaborg, Glenn, Chairman, Atomic Energy Commission, Washington, D.C. Nobel Prize in chemistry, 1951.

Segre, Emilio, University of California, Berkeley, Calif. Nobel Prize in physics 1959; Guggenheim fellow 1959; group leader Los Alamos, 1943–46; fellow, American Physical Society; codiscoverer slow neutrons, also elements technetium, astatine, plutonium, and of antiproton.

Shockley, William Bradford, Shockley transistor unit, clevite transistor, Stanford Industrial Park, Palo Alto, Calif. Physicist: Nobel Prize in physics 1956: Fellow of American Physical Society (Buckley Prize); American Academy Arts and Science; Institute of Radio Engineers (Morris Liebmann Prize); inventor of junction transistor; awarded Medal for Merit.

Stanley, Wendell M., University of California, Berkeley, Calif., Department of Virology. Nobel Prize in chemistry 1946; Gibbs Medal of Chicago section of American Chemical Society, 1947; Isaac Adler Prize by Medical School, Harvard, 1938; Copernican citation by the Copernican Quadricentennial National Committee 1943, certificate of merit 1946; American Cancer Society Award 1959; member, National Cancer Institute, American Association Immunologists, American Philosophical Society; American Chemical Society.

Stern, Otto, 759 Cragmont Street, Berkeley, Calif. Nobel Prize in physics, 1943.

Szent-Gyorgyi, Albert, biochemist Marine Biological Lab., Woods Hole, Mass., Nobel Prize in medicine, 1937 and 1955; Lasker Award, Heart Association, 1954; born, Hungary; naturalized, 1955; member, National Academy of Sciences; muscle research, submolecular biology.

Tatum, Edward Lawrie, Rockefeller Institute, 66th Street and York Avenue, New York, N.Y., Biochemist; Nobel Prize for medicine and physiology, 1958; member, American Chemical Society; American Society of Biological Chemists; National Academy of Sciences.

Urey, Harold Clayton, professor of chemistry at large, University of California. Home: 7890 Torrey Lane, La Jolla, Calif., Nobel Prize in chemistry in 1934; Priestly Award, 1955; Davy Medal, Royal Society of London; Distinguished Service Award, Phi Beta Kappa, 1950; member, American Chemical Society, National Academy of Sciences, American Geophysics Union; discoverer of hydrogen atom of atomic weight two; research for production heavy water and U^{235} for atomic bomb.

von Bekesy, Georg, Harvard University, Cambridge, Mass. Nobel Prize for medicine for research on how the human ear hears, 1961; Gold Medal, American Otological Society, 1957; Achievement Award, Deafness Research Foundation, 1961; Fellow of Acoustical Society of America; member, National Academy of Sciences.

Waksman, Selman Abraham, Rutgers University, New Brunswick, N.J. Nobel Prize in medicine, 1952; born Kiev, Russia; naturalized, 1916; member, Society American Bacteriologists; American Chemical Society; National Academy of Sciences; decorated Commander, French Legion of Honor; soil microbiology; actinomycetes and their antibiotics, microbes.

Watson, James Dewey, professor of biology, Harvard University, Cambridge, Mass., Biochemist, educator; Nobel Prize, 1963; John Collins Warren Prize, Massachusetts General Hospital, 1959; Eli Lilly Award in biochemistry, American Chemical Society, 1960; Albert Lasker Award, 1960; member, American Academy Arts and Science, Society Biological Chemists; research on bacterial virus, molecular genetics, protein synthesis.

Whipple, George Hoyt, pathologist, University of Rochester, Rochester, N.Y., Nobel Prize in medicine, joint ward, 1934; William Wood Gerhard gold medal, 1934; Rochester Civic Medal, 1943; member, American Association of Pathologists and Bacteriologists, National Academy of Sciences, American Philosophical Society.

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Purcell, Edward Mills, professor of physics, Harvard University, Cambridge, Mass. Nobel Prize in physics, 1952; member, President's Science Advisory committee; member, National Academy of Sciences, American Physical Society, American Academy Arts and Science. Microwave phenomena, nuclear magnetism, radiofrequency spectroscopy.

The CHAIRMAN. Dr. Seaborg, I have a few questions here that have grown out of earlier testimony that I thought perhaps you might enlarge upon.

EFFECT OF A LARGE NUCLEAR BLAST ON A GUIDED MISSILE

In your opinion is there a possibility that guided missiles could be neutralized or destroyed by the explosion in the upper atmosphere of a very large nuclear bomb such as the Soviets have developed?

Dr. SEABORG. Would you repeat the question? I——

The CHAIRMAN. You have touched upon this in an effort to clarify one of your points. In your opinion is there a possibility that guided missiles could be neutralized or destroyed by the explosion in the upper atmosphere of a very large nuclear bomb such as the Soviets have developed or could develop?

Dr. SEABORG. Yes, I think so. If the bomb was exploded close enough to the guided missile.

COST AND COMPLEXITY OF UNDERGROUND TESTING

The CHAIRMAN. This treaty limits further testing to underground where the United States has broad experience and the Soviet Union apparently limited or negligible experience. Would you comment on the cost and complexity of underground testing so as to give the committee some idea of what is involved in undertaking an underground testing program.

Dr. SEABORG. Well, the cost of underground testing is considerable. Our budget—I think we might have to furnish the figures for the record, but it certainly is on the order of——

The CHAIRMAN. Could you indicate how much?

Dr. SEABORG. On the order of about $100 million a year, I believe, something of that order. And it is—the technique of testing weapons underground is more complex than testing the same weapons under the simple conditions of the atmosphere, but we have gained a great deal of experience in the last 3 years, have learned a great deal about how to conduct such tests and how to get the maximum information from such tests.

Our tests underground of 3 years ago would be rather crude in comparison to the techniques that we have now perfected and learned how to use.

WHO PAYS FOR NUCLEAR ELEMENTS

The CHAIRMAN. In the manufacture of nuclear warheads does the Atomic Energy Commission bear the cost of the nuclear elements or is this paid for directly by the Department of Defense?

Dr. SEABORG. No. The cost of the nuclear elements is shown in the budget of the Atomic Energy Commission.

The CHAIRMAN. The Atomic Energy Commission.

Dr. SEABORG. Of the Atomic Energy Commission; yes, sir. The Defense Department does carry within their own cost accounting system items that depict the cost of the nuclear weapons that are transferred to them.

The CHAIRMAN. You mean they reimburse the AEC?

Dr. SEABORG. No, they do not reimburse the AEC. They merely carry it as an entry for cost effectiveness purposes. We carry the cost in our budget. Our budget through the Bureau of the Budget carries the cost of the raw materials, of the transformation of the raw materials to the special nuclear materials, and for the fabrication from the special nuclear materials of the weapons. That shows in our budget. That amounts to—has over the last many years amounted to something of the—between $1.5 and $1.8 billion a year.

The CHAIRMAN. Do you happen to have the accumulative total? This is not a classified figure, I take it?

Dr. SEABORG. No, no. This is a matter of record. The Atomic Energy Commission's budget.

The CHAIRMAN. How much——

Dr. SEABORG. Of course, it is a little—it is necessarily approximate because the nature of our operations is such that we can't precisely allocate all of the operations to the nuclear weapons themselves.

The CHAIRMAN. Could you estimate for the information of the committee how much the AEC has supplied in value for this purpose since you began this program?

Dr. SEABORG. We could furnish from our budgetary figures a pretty good estimate, I think, but I suppose it would be of the order of some 10 times the figure that I mentioned, some 10 times the $1.5 to $1.8 billion per year.

The CHAIRMAN. Somewhere between $18 and $20 billion a year?

Dr. SEABORG. $20 billion, something of that order.

The CHAIRMAN. $20 billion.

Dr. SEABORG. Just estimating like this, off the top of my head.

The CHAIRMAN. I know. I understand.

Dr. SEABORG. I would say that is about what it would be.

SUPPLY OF NUCLEAR WEAPONS IN BEING

The CHAIRMAN. Would you venture an opinion as to whether or not you think we have an adequate supply of nuclear weapons in being?

Dr. SEABORG. Well, I find it difficult to state whether we have an adequate supply. I think that that would be a question I really would like to defer to the Department of Defense if I could.

The CHAIRMAN. It is quite all right. We have read a great many articles. There was a speech referred to and discussed yesterday by Secretary McNamara—a speech made on the floor by Senator McGovern on this question of whether or not the existing supply of warheads or nuclear weapons is sufficient to destroy Russia 1 time or 10 times or 100 times.

It has been stated by some professors—I am not sure whether they were physicists or not—that there is a vast, what they call, overkill capacity. I am not competent to comment on this. I wonder whether or not you care to comment on it.

Dr. SEABORG. No. I don't think so. I would only make the remark that there is the problem of reserves there, that of being assured that we have a sufficient number of weapons after a first strike by the enemy to make an adequate second strike. So in a sense, to refer to it in the terms that you suggest is an oversimplification. But other than that I wouldn't care to try to estimate.

DETERIORATION OF ATOMIC WEAPONS

The CHAIRMAN. Do these weapons deteriorate in their effectiveness through the years? I mean, do they deteriorate rapidly? Do they become obsolete? Do they become ineffective?

Dr. SEABORG. The weapons themselves don't deteriorate, but they become obsolete and we have a program of continually upgrading and modernizing the weapons and reworking as we make improvements the older weapons. So in that sense they deteriorate.

The CHAIRMAN. Does the nuclear element deteriorate or merely the method by which it is delivered?

Dr. SEABORG. No. The nuclear elements do not deteriorate. The plutonium——

The CHAIRMAN. They do not lose their strength?

Dr. SEABORG. They do not lose their strength at all.

The CHAIRMAN. At all.

Dr. SEABORG. The plutonium and the uranium 235. I might say that where tritium is used in a weapon, it decays with its half-life which is about 12 years. That is, about half of the tritium decays into its product which is a form of helium, helium 3, a stable isotope—about half of it decays in a period of about 12 years. So that in that sense there is a deterioration or a change in the situation, but the plutonium and the uranium 235, although radioactive, have such slow rates of decay, such long half-lives that there is no detectable change in a human lifetime, for example, detectable in a sense of changing the weight. I mean, we can measure it, of course, but it is completely negligible from a standpoint of subtracting from the weight of the material that we have available.

MEASURING NUCLEAR ELEMENTS BY HALF-LIFE

The CHAIRMAN. I am sure this seems to be a very naive question, but why do you refer to half-life rather than whole life? Why do you measure these matters by half-lives?

Dr. SEABORG. Well, now, here is something with my background that I could go into a very long discussion on.

The CHAIRMAN. I probably wouldn't benefit adequately from a long discussion. It seems rather odd that you should call it a half-life rather than its whole life.

Dr. SEABORG. Well, I will try. The decay is a statistical matter and each atom has an average life which we can translate for practical reasons into a half-life. This means that if we have, let us say, 1 million atoms of a material like tritium, in 12 years half of those will be transformed into the decay product and you would have half a million or 500,000 atoms.

Then in another 12 years, half of what remains transforms into the product, so you have 250,000 atoms left. And then in another 12 years, half of what remains transforms into the product, and so forth.

So I think, in a sense, on that basis it never all decays because it is always half that is left, but, of course, in actuality you finally get down to where your last atom is gone.

AEC BUDGET AND ITS ALLOCATION

The CHAIRMAN. Is it your plan to continue this purchase or supply of, say, approximately a billion and a half dollars worth of nuclear material to the weapons program?

Dr. SEABORG. Well, as we—as the Atomic Energy said in a statement that was issued a month or two ago, the administration in recognition of the fact that we have an enormous productive capacity and do have large amounts of fissionable material now available, is making a long-range study of the future needs and this—no conclusions have yet been reached. This study includes a consideration of the defense requirements, and as I say, it is being undertaken in recognition of the fact that we have this large productive capacity, and with the feeling that it is time to have a look at it.

I might say in this connection that we have a number of long-range obligations for the purchase of raw materials, of uranium ore, as a result of contracts that—long-range contracts that—were made some years ago when the supply of uranium ore was small and when we felt that it was necessary to give incentives and encourage the producers of uranium ore.

The Atomic Energy Commission has taken steps within the last year to stretch out the purchase of these ores because we have more ore, a larger quantity of uranium ore, than is required for our program.

The CHAIRMAN. One last thing. Could you refresh my memory for the record. When did the AEC start to operate?

Dr. SEABORG. January 1, 1947.

The CHAIRMAN. What has been the cumulative total of the appropriations for the AEC up to date, including the current fiscal year—approximately, if you haven't it exactly.

Dr. SEABORG. I would say about $30 billion.

The CHAIRMAN. $30 billion.

Dr. SEABORG. $30 billion.

The CHAIRMAN. Of which about half of that has gone in for nuclear weapons, approximately.

Dr. SEABORG. Slightly more, yes. That would be consistent with my other figure when I said something like $18 to $20 billion for the weapons part, $18 to $20, I believe I said, $20 billion.

PRIORITY OF MOONSHOT OVER OTHER NEEDS

The CHAIRMAN. Do you have anything to do with or were you consulted about the Apollo moonshot? Does that come within your field?

Dr. SEABORG. No, sir, Senator Fulbright.

The CHAIRMAN. If I understand it correctly, we are preparing to spend almost or approximately as much to go to the moon as we spent on the AEC since its beginnings; is that correct?

Dr. SEABORG. So far as I know, the figure for the Apollo moonshot is in that ball park; yes, sir.

The CHAIRMAN. In that neighborhood.

Dr. SEABORG. In that neighborhood.

The CHAIRMAN. Does this strike you as a fair proportion of allocation of resources?

Dr. SEABORG. No comment, if I may.

The CHAIRMAN. You don't have to comment.

Dr. SEABORG. I believe in the moon program.

The CHAIRMAN. You do. You give it a high priority.

Dr. SEABORG. Yes, sir.

The CHAIRMAN. Over education, urban renewal, mental retardation.

Dr. SEABORG. No, sir. I don't——

The CHAIRMAN. What priority? The whole question is where do you put the moonshot in the scale of priorities. Everybody is for going to the moon, I suppose, at some time. Do you really give it a high priority?

Dr. SEABORG. Yes. But I would assume that we can do the projects that you have named at the same time.

The CHAIRMAN. Well, we are not doing them. You know that we are not doing them, don't you?

Dr. SEABORG. Well, Senator Fulbright, do you think we would be doing them if we weren't undertaking the moon project?

The CHAIRMAN. I think we might. I think we might. It is within the realm of practicability of our budget, and so forth. I think we might. The Secretary of Defense says it is merely a matter of will, but in the Congress I often find it is a question of money, sometimes.

The Senator from Missouri.

Dr. SEABORG. We find that with our program, too.

Senator SYMINGTON. Thank you, Mr. Chairman.

The CHAIRMAN. I just want to add, your total cost is a little less than I thought it was, as a matter of fact.

Senator SYMINGTON. Mr. Seaborg, you will agree you do not want the people that go to the moon to be mentally retarded, don't you?

The CHAIRMAN. If they do, they are likely to be.

Dr. SEABORG. Certainly not. I think that would be a waste of funds.

Senator SYMINGTON. Thank you, Mr. Chairman.

UNITED STATES AND U.S.S.R. NUCLEAR STOCKPILES

Have you seen an analysis of the stockpiles in the U.S. News & World Report of August 12, "Today's Nuclear Stockpiles," how they compare with—the Soviet Union's with our own?

Dr. SEABORG. I do remember perusing it but I don't recall what is in the article.

Senator SYMINGTON. I would like you to look at it, sir. I have a reason for asking this question. It shows that the Soviets have 5,000 weapons and we have 50,000. You might examine that.

Dr. SEABORG. I remember that.

Senator SYMINGTON. It gives as its source of information a Government department. Would you say that is about right?

Dr. SEABORG. No, sir. Senator Symington, I don't feel that I am free to comment on it.

Senator SYMINGTON. You mean—how do you mean you are not free?

Dr. SEABORG. From the standpoint of classification and security.

Senator SYMINGTON. How can one Government agency comment on it but another Government agency not comment on it if it is classified?

Dr. SEABORG. I believe the comment that was made by Secretary McNamara was tens of thousands.

Senator SYMINGTON. No. I am just referring to the article in front of you.

Dr. SEABORG. Is there a comment by a Government agency in the article?

Senator SYMINGTON. That is what it says in the article.

Dr. SEABORG. I don't know whether that is a true statement of the source of this information or not, Senator Symington.

Senator SYMINGTON. You don't know whether the other agency is——

Dr. SEABORG. I do not know.

Senator SYMINGTON. In other words, you don't know whether what is stated in the article is accurate?

Dr. SEABORG. I don't know; that is right.

The CHAIRMAN. Would the Senator state what is said? You have aroused this mystery.

OFFERS TO TRANSFER URANIUM 235 FOR PEACEFUL PURPOSES

Senator SYMINGTON. I have, let me say, Mr. Chairman, a reason for asking this because I notice today we made a new offer in Geneva and that is that we will offer to cut out materials, specifically U^{235}, to be used for bombs and substitute its use for peaceful purposes, and it says that Mr. Stelle is now offering more than was offered before. In other words, it said in order to meet any objections, any Soviet objections, today in Geneva Mr. Stelle offers to increase the American transfer to 60,000 kilograms of U^{235}, accepting a Soviet transfer of only 40,000 kilograms.

Do you know about this?

Dr. SEABORG. I had seen the news dispatch on it but that is——

Senator SYMINGTON. Had you heard about it before you had seen it?

Dr. SEABORG. I know that it is—something of that sort had been discussed; yes, sir.

Senator SYMINGTON. If we want to be fair on this, maybe we should offer the Soviets over 40,000, if we have 10 times more.

Dr. SEABORG. Well, I think that I would like to defer discussion of this to the ACDA or representatives of the Department of State if I could.

Senator SYMINGTON. All right. All I am trying to do is get some information about it.

As I understand it—under the treaty you are not going to have operations like Plowshare?

Dr. SEABORG. No, sir. I think that would be perhaps an overstatement, Senator Symington. We feel that under the treaty we can develop the explosive devices that are required for Plowshare by underground testing and that we can develop a great deal of excavation technology that would be required for applications of Plowshare and that we could carry on, after these developments, some of the actual applications within the continental limits of the United States, but——

Senator SYMINGTON. So this transfer of peaceful uranium proposed today by our negotiator in Geneva would be to utilize in underground testing?

Dr. SEABORG. No. I believe that would be more for the use in civilian power reactors to develop electricity, things of that sort. That would be the greater use of that fissionable material.

Senator SYMINGTON. How would you transfer it? Where would you put it? Would it be under the United Nations?

Dr. SEABORG. Well, I don't think that the details of that have been worked out and I certainly wouldn't be qualified to respond in any detail.

Senator SYMINGTON. Mr. Chairman, I ask unanimous consent the article be inserted in the record.

The CHAIRMAN. Yes; without objection.

(The newspaper article referred to follows:)

[From the Washington Daily News, Aug. 14, 1963]

PEACEFUL USE OF URANIUM AGAIN URGED—U.S. ASKS HALT TO FISSION WORK

GENEVA, August 14 (UPI).—The United States today proposed immediate agreement with Russia to stop making fissionable material and to use large amounts of stockpiled uranium for peaceful purposes instead of nuclear bombs.

U.S. negotiator Charles C. Stelle told the 17-nation Disarmament Conference that agreement on the proposed measure would be a logical followup to last week's Moscow Treaty banning nuclear testing in the atmosphere, in outer space, and under water.

He said accord on such steps "are feasible now and are in the interest of all parties over more complicated issues such as a ban on underground nuclear tests."

The Disarmament Conference resumed Monday after a recess that began as the United States, Britain, and Russia prepared to sign the partial nuclear test ban treaty August 5. Western negotiators are hoping to achieve more agreements on side issues to create a further easing of East-West tension.

UNTIL SEPTEMBER 17?

It is expected, however, the next major effort on disarmament will await a meeting of the United States, British, and Soviet Foreign Ministers at the United Nations General Assembly session opening in New York September 17.

The dual proposal is similar to one made by Washington last April, but it contains a new offer designed to increase chances of Soviet acceptance.

The original proposal suggested that besides stopping production of fissionable material, the United States and Russia should each transfer 50,000 kilograms of stockpiled uranium 235 to purposes other than use for nuclear weapons.

Today Mr. Stelle offered to meet any Soviet objections that the United States has more U^{235} than Russia by increasing the American transfer to 60,000 kilograms and accepting a Soviet transfer of only 40,000 kilograms.

SOVIET REJECTION

Mr. Stelle conceded in his speech that up to now the Russians have rejected the U.S. idea on the ground it would not eliminate nuclear weapons.

It was pointed out later, however, that Moscow also rejected the limited test ban proposal but eventually accepted it.

"We have not abandoned hope that after further study the Soviet Union will find our proposals worthy of serious consideration and negotiation so that we may reach agreement on what in our view would be another step in the direction both sides desire," Mr. Stelle said.

Senator SYMINGTON. The staff has prepared a question I would ask, namely, it is reported in the press that the U.S. negotiator, in Geneva, Charles C. Stelle, proposed today as a "logical followup" to the test ban treaty that the United States and Russia cease making fissionable material and divert stockpile uranium 235 to peaceful uses. Mr. Stelle offered to divert 60,000 kilograms of U^{235} if the Russians would divert 40,000 kilograms to peaceful uses.

What is the meaning and purpose of this proposal?

Dr. SEABORG. Yes. The use of the material, as I have indicated, would certainly be for nuclear fuel in civilian power reactors to develop electricity.

CAN A CIVILIAN REACTOR BE USED FOR MILITARY PURPOSES?

Senator SYMINGTON. When you apply for a peacetime reactor of that type, can you——

Dr. SEABORG. Use the same material.

Senator SYMINGTON. Clandestinely to build a bomb?

Dr. SEABORG. When a reactor, a civilian nuclear power reactor which is developing electricity operates, for example, on uranium fuel, natural uranium, as it is available in the ground after refinement, in the reactor, or slightly enriched uranium, or uranium of a higher enrichment, it produces inevitably as a byproduct the synthetic element plutonium which is suitable, which is one of the main ingredients of a nuclear weapon—so that in the operation of civilian nuclear power reactors, where other countries are concerned, where we are involved in the furnishing of the reactor and the fissionable material for the operation of the power reactor, we have in our bilateral agreements with those countries provisions, so-called safeguard provisions, to keep track of the material and to prevent its diversion to weapons uses.

Senator SYMINGTON. Specifically, we understand Israel is moving toward a peacetime atomic reactor, on their own. Do we have any control of their use of the plutonium that would result from the operation of a unit of that character in Israel?

Dr. SEABORG. They didn't acquire the reactor from us, so that we do not have control in the sense that I have indicated.

Senator SYMINGTON. As I understand it, there is a proposal to erect a reactor in India which would cost several hundred million dollars.

SAFEGUARDS ON CIVILIAN REACTORS

Dr. SEABORG. That is right. In that case the reactor is being acquired from a commercial supplier in this country, and we have a very good agreement there for the application of our safeguards.

Senator SYMINGTON. Do they agree to give you so much plutonium per uranium shipped and used? You say you have a safeguard; what kind of a safeguard?

Dr. SEABORG. We have the right to have our inspectors go in and watch the operation and account for the plutonium.

Senator SYMINGTON. Well, in that way, do you think we could——

Dr. SEABORG. I might add that we also have a provision in that particular agreement that we will discuss the—with the Indians the transfer of the safeguards to the International Atomic Energy Agency in Vienna when they have established an adequate safeguard system themselves.

Senator SYMINGTON. Do you think it would be more in the interest of stopping proliferation to control the plutonium developed by the Indians ourselves, or to transfer it to some international body?

Dr. SEABORG. We would not transfer it to an international body under the International Atomic Energy Agency safeguards plan. We will use the international body to keep track of it—to account for the plutonium.

Senator SYMINGTON. Thank you. I will not ask more questions along these lines, although I would like more information.

The CHAIRMAN. May I clarify it? When you say keep track of it, do you, as a matter of practice, repossess or repurchase it or what do you do?

Senator SYMINGTON. A very good question.

The CHAIRMAN. That is, the plutonium.

Dr. SEABORG. Yes.

Well, most of the time—we do not have a number of precedents on this yet—but we would probably buy the plutonium back in the case of the Indian reactor because we have need for it, and this is often the arrangement when we furnish the nuclear fuel, the enriched U^{235}, as is the case in the Indian reactor.

Senator SYMINGTON. Suppose they did not want to sell it?

Dr. SEABORG. I would say that this is not a matter of force. We would then be in a position—we know how much plutonium is produced. We keep track either through our bilateral arrangement or——

Senator SYMINGTON. I understand. But if you build a reactor over there, and they then do not want to give the plutonium back, what are you going to do?

Dr. SEABORG. We know we have a problem then. We know they produce plutonium and then we ask what their intentions are.

Senator SYMINGTON. Do you think that is the best we can do, just to know what the problem is?

The CHAIRMAN. That is a vote. Do you want us to come back?

Senator CARLSON. I have half a minute.

COMMENTS ON DR. TELLER'S STATEMENT

Dr. Seaborg, earlier this afternoon you and I discussed peaceful uses of this nuclear fissionable material on the earth. I have here Dr. Teller's statement which has just been released from the Preparedness Subcommittee.

I wanted to read this:

> Nuclear explosives constitute a small and easily transportable energy package. Nuclear explosions may be needed for carrying out required civil engineering jobs on the moon.

Maybe we have just started in this field of peaceful uses.

Dr. SEABORG. On the moon?

Senator CARLSON. Yes. It says we can get water up there if we need it on the moon, so maybe we had better keep the packages available and be in a position to use them regardless of the treaty.

Senator SYMINGTON. Mr. Chairman, I would like to ask one more question.

Senator PASTORE. Don't you think we have to come back to earth first?

Dr. SEABORG. We will have plenty to make it possible if we were to do that, and plenty of time, too.

QUESTION OF PROLIFERATION AND CIVILIAN REACTORS

Senator SYMINGTON. One of the chief reasons you give for the advantages of this test ban treaty is that it will reduce proliferation. Does not financing an atomic reactor in a foreign country which takes a neutralist position, without having in the contract some method to be sure the plutonium comes back to this country, read against the expressed desire to reduce proliferation?

Dr. SEABORG. No. I think that that is another matter. They would still have to—they won't have any source of supply, any continuing source of supply, if at some stage they sort of violated the bilateral agreement we have, and then began to divert the plutonium, then they would have to go through the whole process of testing and building up weapons capability and things of this sort.

Senator SYMINGTON. Won't they be able to get the U^{235} if they get the reactor from, say, China or France?

Dr. SEABORG. The particular U^{235} in this reactor is not suitable for weapons.

The CHAIRMAN. We will have to recess for 10 minutes, and then we will be back.

(Short recess.)

The CHAIRMAN. The committee will come to order.

The Senator from Missouri is recognized.

Senator SYMINGTON. Thank you, Mr. Chairman.

POSSIBLE REDUCTION IN AEC BUDGET

Mr. Seaborg, yesterday I referred to the talk the distinguished Senator from South Dakota gave the other day, in which he tied in the test ban treaty ratification situation with the possibility of relatively heavy reductions in the military and atomic energy budgets. He made a very cogent and thought-provoking speech.

The Senator suggested that $4 billion be taken out of the military, and $1 billion be taken out of the AEC budget.

I asked some questions on this of the Secretary of Defense. He referred them to you. I would read the colloquy, which is short.

Dr. SEABORG. All right.

Senator SYMINGTON (reading):

> Somebody in the General Accounting Office pointed out that most of the construction in the Atomic Energy Commission is over. Also that at one point a very large portion of the AEC budget had to do with construction. But now even though most of the construction is over, the budget seems to stay at the same size—

the budget of the Atomic Energy Commission at the same size.

For instance, in 1960 the AEC budget was $2.8 billion; 1961, $2.8 billion; 1962, $2.6 billion; 1963, $3.1 billion; 1964, $2.9 billion.

If the premise is true, that construction has been largely eliminated, doesn't that mean you are now increasing nuclear weapons production?

That was my question to Secretary McNamara. He replied:

I believe it does, Senator. I believe that Dr. Seaborg would be more authority—speak more authoritatively than I to the Atomic Energy Commission budget.

PERCENTAGE OF AEC BUDGET DEVOTED TO FULFILLING DEFENSE REQUIREMENTS

Do you build weapons and produce materials from the ore in accordance with tailored directives from the Defense Department as to what is required for strategic and tactical nuclear weapons or do you use your own reasoning. If you do the latter, how much is that reasoning affected by those interested in selling the Government the raw product?

Dr. SEABORG. Well, it is a little bit of both, Senator Symington. But basically we build to the requirements of the Defense Department. Our budgeting process carries the cost of the raw materials, the costs for the conversion of the raw materials to the special nuclear material, and the cost for the fabrication of the weapons from the special nuclear material, and the cost of the research of the weapons laboratories. Those are the four main items that make up this approximately one and a half to 1.8 billion that I have referred to earlier as going into weapons.

Now, I think I can best respond to your question by giving some approximate budget figures.

Our total budget, the total budget of the Atomic Energy Commission for the weapons-oriented costs, and all the other nonweapons things we do—reactor development, physical research, biology research, isotopes research, and training and education, and so forth—was $2.3 billion in fiscal year 1958, and climbed to about $2.9 billion in fiscal year, the present fiscal year, 1964.

Now, of the $2.3 billion in fiscal year 1958, about 66 percent or about $1.5 billion went into these weapons-oriented costs that I have identified in those four categories; and of the $2.9 billion in fiscal 1964 that dropped to about 55 percent, so that the weapons-oriented costs are about, maybe, $1.6 billion. So it is true there is a drop in the percentage there, but not a drop in the cost of the weapons-oriented activities.

Senator SYMINGTON. What you are saying is that it is a drop in percentage but not in dollars.

Dr. SEABORG. That is right.

Senator SYMINGTON. All right.

PERCENTAGE DEVOTED TO OTHER AEC ACTIVITIES

What did you do with the additional money?

Dr. SEABORG. With the other dollars?

Senator SYMINGTON. Yes.

Dr. SEABORG. They went into increased programs in the other fields.

Senator SYMINGTON. Like what?

Dr. SEABORG. For example, in the reactor development field the cost went up from—the program cost went up from—about $400 million to about, in the present fiscal year, $670 million.

In the physical research program field, the cost went up from something over $100 million to something a little over $300 million. A lot of this is reflected, by the way, in the high cost of high-energy nuclear physics, the cost of these expensive accelerators and the operation of these accelerators, but, of course, there is expansion in other important physical research work. And in the field of biology and medicine that I mentioned this morning, the cost went up from 1958 when it was about $40 million, to about, as I have indicated this morning, $75 million this year, and about $85 million in fiscal—when I said this year I meant fiscal 1963—to about $85 million in fiscal 1964.

The answer then to your question briefly is that our budget has gone up a little, that the increase in the budget has been due largely to these nonweapons programs.

Senator SYMINGTON. You call $300 million a little?

Dr. SEABORG. It has gone up $600 million.

Senator SYMINGTON. $600 million a little?

Dr. SEABORG. It is a little in comparison to some budgets in the Government.

Senator SYMINGTON. Actually, it is some 30 percent of your budget.

Dr. SEABORG. In 7 years it has gone up about 25 percent; yes, sir, which is like——

QUESTION OF SECRECY IN AND SUPERVISION OF AEC

Senator SYMINGTON. Do you think the secrecy that surrounds the Atomic Energy Commission is one of the reasons, comparable to other stockpile problems I have an interest in, when we suddenly end up with these gigantic stocks? If this all was in the open, and if you had to tailor the number of engines to the number of planes, and it was all a matter of public record, do you feel you would have the same stocks of uranium, or products from uranium, and number of bombs that you have today? We have a great deal of talk on the floor about overkill. The fact we can hit each target, say a thousand times; and a statement was made on the floor that even if that was a hundred times wrong we still have 10 times more than we need. I would like to ask as a Member of the Senate, not in the inner sanctum of the Joint Atomic Committee, like my distinguished colleague here from Rhode Island, if the time has come to begin to look at what is going on in nuclear weaponry? According to Senator McGovern, a high official in the Department of Defense says we have a good deal more than we need, in the form of weapons. Maybe we could make some savings for the taxpayer and put the money into where Chairman Fulbright recommends, into education, instead of building a lot more weapons when we already have more than enough.

Senator PASTORE. Will the Senator yield on that point there?

Senator SYMINGTON. I will be glad to yield to my friend from Rhode Island. I know he knows the spirit in which I am asking these questions.

Senator PASTORE. Not only the spirit but I know the Senator from Missouri is not only proficient in the area not only because he was in the executive branch not too long ago, but surely he is a member of the Armed Services Committee and he is pretty much informed on these matters of defense.

I merely want to say for the record that up until this year the Joint Committee on Atomic Energy had supervision alone of the authorization on the construction side of Atomic Energy Commission budget. This year the law has been changed, and we will have complete authority over the entire authorization; not that that in itself makes any difference, except in that it will give responsibility to the Joint Committee on Atomic Energy to go into some of these problems which are of concern not only to my distinguished friend from Missouri, but to all of us as well, including, I would suppose, the chairman and the members of the committee.

One of the first things that I did upon becoming chairman of the Joint Committee on Atomic Energy was to raise this question with the White House. The administration is very much interested in the subject matter that has been raised by the Senator from Missouri. As a matter of fact, I was told only recently that this matter is being completely reviewed.

I am afraid that in the past, because the allocation of the money was to the AEC, and the requirements were submitted by the Defense Department, I am afraid that the need or the requirements were predicated more on the capacity of the AEC to produce than on the need for some of these weapons. Now, that may be true or may not be true, but that is one of the matters that is being investigated.

I merely interrupt at this point to make the record clear that this is a matter that is of deep concern to the Joint Committee on Atomic Energy. It is of very, very great concern, I know, to the Atomic Energy Commission. It is of great concern now to the Department of Defense, and it is of especial concern to the White House.

The matter is now being reviewed very thoroughly, and I would hope that the report would be an exhaustive one: that we here would not relax in providing all the bombs that are necessary to guarantee the security of this country, and maybe a little plus, but that I would hope that we would not go on unchecked in merely producing these weapons because they can be produced, without any regard at all to what the needs are and the requirements are because somewhere along the line I think the interest of the taxpayer must be taken into account.

Dr. SEABORG. Yes.

I wonder if I could respond partially to Senator Symington's question?

Senator SYMINGTON. I will be glad that you do. But, first, I express my appreciation to the Senator from Rhode Island for his kind and constructive comments. You always have the problem of excess production getting out of hand when you run into a classified Government secrecy setup. Also you have the problem, getting back into the defense field, of the threat of counterforce as against overkill, those who say "what is the use of retaliating by destroying an empty silo that has already fired its missile." When you have a reputable magazine run an article which states that the information comes from a Government agency that you have 10 times more nuclear weapons than the Soviets have, it occurs to me that here, in this field, the Government might save a great deal of money for the taxpayer. I am glad to hear some facts that I did not know about from the distinguished senior Senator from Rhode Island, with respect to the plans to look into this matter.

I thank the Senator. Now I would be glad to hear from the witness anything he has to say in the matter.

QUESTION OF SECRECY

Dr. SEABORG. Well, I would like to make three general points. One is that I believe that Senator Symington has a point in this matter of secrecy. I might say in that connection that the Joint Committee on Atomic Energy, of course, has been aware of just about what the situation is over the years, and I know from firsthand experience that they have been aware of it since I came to Washington as Chairman of the Atomic Energy Commission.

SUPPLY AND PRODUCTION QUESTIONS

I would say that there has been, secondly, a growing realization in the last year that, perhaps, there is more than a sufficient supply of fissionable material here, and the administration has in progress a thorough study of the long-range needs for weapons, for fissionable materials. This is a study that is being carried out in cooperation with the Department of Defense and the Atomic Energy Commission, and I believe some recommendations will be forthcoming from that shortly.

I won't try to predict at this time what those recommendations might be.

Then I would like to say, third, that the Atomic Energy Commission itself has been very aware of this problem, and very soon after I came to Washington we began to take steps to reduce production—about 2 years or so notice is required—that we would want to reduce the power for the gaseous diffusion plants by about 1,000 megawatts, from about 5,800 megawatts to about 4,800 megawatts, the final reduction to be effective next summer.

Senator SYMINGTON. To whom did you give that notice?

Dr. SEABORG. To the power companies.

Senator SYMINGTON. Two or three power companies or one?

Dr. SEABORG. I think that this involved two power companies.

Senator SYMINGTON. What were their names?

Dr. SEABORG. TVA was one, and the other was a private company, I believe. OVEC, Ohio Valley Electric Co. I believe that is the situation.

QUESTION OF PRODUCTION CONTRACTS

Senator SYMINGTON. Are we still taking in heavy quantities of materials on contracts?

Dr. SEABORG. Yes, sir: for the uranium ore by commitment contracts that we are honoring.

Senator SYMINGTON. Materials heavily in surplus, because of previously made contracts.

With all due respect to what you did in 1961 when you came into this position, are we still going to take much material under contracts made before you came in, heavy deliveries?

Dr. SEABORG. Oh, yes, sir; we are honoring those contracts. But——

Senator SYMINGTON. How long do they go? How many years do we have to continue to buy what we do not need?

Dr. SEABORG. Contracts run through 1966. But we negotiated a stretchout of a number of these; we are negotiating and have succeeded in negotiating, we adopted it as a Commission policy, I should say, to attempt to negotiate—and we have negotiated a stretchout of a number of these contracts so that——

Senator SYMINGTON. If you do not need it, what is the advantage in stretching it out?

Dr. SEABORG. We will need it in the seventies, and this will save money not to have to pay for it that long before we will need it. We will need it for the peaceful uses, for the nuclear fuel for the civilian nuclear power reactors in the seventies. So that we save money if we buy it at the latest possible time.

However, in order to get the stretchout so that some of the material that we had committed to buy and have delivered before the end of 1966 could be delivered in 1967 or 1968, we are also committed as an incentive to buy some additional material in 1969 and 1970.

However, the net effect, after a careful study of the situation, led us to conclude this is very much to our advantage, this sort of a stretchout.

Senator SYMINGTON. Mr. Chairman, I have many other questions I would ask along these lines, but just want to conclude by again saying how very glad I am the Senator from Rhode Island plans to look into the various ramifications of these purchasing programs.

The CHAIRMAN. The Senator from Rhode Island.

EFFECT OF TREATY ON FURNISHING FISSIONABLE MATERIALS TO NONSIGNATORIES

Senator PASTORE. Just a question or two. I know the answer to this, and I know the answer to anticipate, but I think it ought to be spread on the record. There is a prohibition in this treaty against encouraging or giving assistance to other nations to conduct a test in the three environments that are prohibited by this treaty.

Now, we do have a bilateral with France to furnish to them U^{235} for their land-based nuclear submarines, and we do have a bilateral with France to furnish them U^{235} for peaceful uses.

Now, the question I raise is this: If France uses her own U^{235}, let us assume, to conduct a test in the atmosphere, could it be said that it would be a violation of this treaty, because we have these bilaterals to furnish U^{235} for the land-based submarine and for peaceful uses in their reactors?

Dr. SEABORG. Well, I suppose that I should defer to legal advice on that, but it does not seem to me offhand that it would be a violation.

Senator PASTORE. It would not seem so to me, but I thought I would raise the question so it would not be raised later on.

If you have anyone there who should comment or would want to comment on it, I would like to get a comment in the record.

Dr. SEABORG. Well, nobody seems——

Senator PASTORE. I wish, then, you would supply that for the record.

Dr. SEABORG. All right, we will attempt to do that.

(The information referred to appears on p. 236.)

Senator PASTORE. The reason why I raise it here is because this is public knowledge.

Dr. SEABORG. Certainly.

Senator PASTORE. We have these two bilaterals. We are furnishing this material to France, and that this material, not that which we furnish because that is pretty well supervised——

Dr. SEABORG. Yes, sir.

Senator PASTORE. But her own material of like quantity and same grade——

Dr. SEABORG. Sure.

Senator PASTORE (continuing). Could be used for a test. Now, whether or not that could be raised that would be a violation of this section of the treaty I think that ought to be stated in the record.

Dr. SEABORG. Sure.

Senator PASTORE. With the permission of the chairman.

The CHAIRMAN. Certainly.

Dr. SEABORG. Of course, so far as U^{235} is concerned this won't be a problem for years because the French gaseous diffusion plant is not in operation and won't be for several years.

Senator PASTORE. No question at all that it will be, and the question could be raised at that time.

Dr. SEABORG. Yes, it could be raised at that time.

EFFECT OF TREATY ON PEACEFUL USES

Senator PASTORE. One final question. There has been so much said here about peaceful uses of atomic energy, and there is this prohibition in this treaty against the use of tests for peaceful purposes, that would produce radioactivity outside the continental limits of the United States. I realize the prohibition is in this treaty, and in this respect it is different from the proposal that was submitted by President Kennedy in August of 1962. I think that the prior proposed treaty had an exception as to peaceful uses in all environments; am I correct?

Dr. SEABORG. Yes, it did.

Senator PASTORE. Now, how much does this disturb us or what disadvantage or inconvenience is this going to be?

Do we have any immediate plans to begin exploding atomic energy to build canals or to build harbors or to blow up mountains? We have no such program contemplated now, do we?

Dr. SEABORG. We are not ready. It will take a few years of device development and experiments in excavation technology before we would be ready, and those things can be accomplished under the treaty. Also some practical applications of actual excavation within the continental United States, when we are ready, can take place within the treaty.

I am not disturbed about the treaty.

Senator PASTORE. You are not disturbed about that at all?

Dr. SEABORG. No.

Senator PASTORE. Wouldn't you go so far as to agree with me that it is in all probability just as well to leave peaceful uses explosions which produce radioactivity outside our continental limits out of the treaty for the simple reason if you reserve this unto yourself you would have to give the Russians the same reservation, and then you would be in a quandary that every time they shoot off an explosion or a test they could say it was for peaceful uses when, in fact, you could

gather information that would be important even for weaponry; isn't that true?

Dr. SEABORG. Well, so far as—yes, sir; so far as atmospheric explosions are concerned.

Senator PASTORE. That is what I am talking about.

Dr. SEABORG. Yes.

Senator PASTORE. I mean if you made that exemption, then they could shoot a device in the atmosphere and say, "We are doing this for peaceful uses."

Dr. SEABORG. Yes, sir; I agree with that. That would present——

Senator PASTORE. As a matter of fact, this makes this much more an ironclad agreement to have peaceful uses of the type mentioned exempted from the treaty.

Dr. SEABORG. Yes.

Senator PASTORE. That is prohibited under this treaty.

Dr. SEABORG. Yes; it does.

Senator PASTORE. It makes it a stronger agreement.

Dr. SEABORG. Yes, sir.

Senator PASTORE. That is all, Mr. Chairman.

COMMENTS ON DR. TELLER'S TESTIMONY

The CHAIRMAN. Mr. Seaborg, have you seen the release of Mr. Teller's statement made earlier today?

Dr. SEABORG. Yes, I have a copy in my hand and I have glanced at it. I have thumbed through it and read it.

The CHAIRMAN. Would you care to comment on it generally or specifically?

Dr. SEABORG. Well, Edward is a good friend of mine and a colleague at the University of California. I have known him essentially all of my adult life. I am fond of him and I have great respect for him and I know that he is very sincere in his views.

However, from the perusal that I have made of the statement of his testimony the day before yesterday, I would say that all of the points that he makes have been considered carefully and over and over again by the advisers in Government, by the scientists who have advised the Government on this treaty, and I believe that the conclusion has been that these points that he makes are not important enough to forego the treaty; that is, that the results to be obtained from the treaty transcend the degree of risk that he points out here, and I am not as worried. I personally am not as worried, about the particular risks that he points out in this testimony.

I believe that the value of the treaty and what it can accomplish far transcends the risks that are pointed out in Edward's testimony.

INVESTIGATION OF EFFECTS OF NUCLEAR WEAPONS

The CHAIRMAN. I do not know whether you care to be too specific. Dr. Teller made one statement on the second page of the draft I was given which says:

> There is one field of particularly great importance where we have reason to believe the Russians have acquired a decisive lead. This is the investigation of the effects of nuclear weapons.

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Would you comment on that?

Dr. SEABORG. Yes. I think that he makes—he starts from a different premise that we do there. We do not believe that. It is not, in our best judgment, a fact that the Soviets have a decisive lead; that they have learned more than we have in their testing program on the effects of nuclear weapons.

The CHAIRMAN. Well, is there any reason to believe he has access to information about the Russians' capability that you do not?

Dr. SEABORG. No, I do not think he does. I think this is a matter of judgment, and his conclusions come from data similar to that available to us.

DETECTING TESTS IN DISTANT SPACE

The CHAIRMAN. He makes very positive statements on page 5. He says:

"The treaty cannot be completely policed." Then he makes a number of points in justification of that: tests in distant space are feasible; information can be broadcast back in complete secrecy; in the absence of a system of police satellites such a test will not be discovered even in the multimegaton range.

The testimony we have had yesterday would indicate this is not so. Would you comment on that?

Dr. SEABORG. Yes. Tests in distant space are feasible, that is right. That the information can be broadcast back in complete secrecy, this is doubtful; that is, we can set up, if we want to, a system of satellite detection that would—well, not intercept the information from the test—but indicate, reveal to us, whether such a test had taken place.

He says in the absence of a system of police satellites such tests will not be discovered. Well, yes, in the absence, but it wouldn't be in the absence of such satellites if we had any reason to believe that testing of this sort was taking place. But as you will recall, earlier this morning I indicated that I feel that the amount of information that you can get from tests that are as expensive as these tests in outer space, would not be worth it, and that it would be doubtful that anybody would go to that much trouble to obtain that information when they have the ability to test legally and much more efficiently underground.

CIVIL ENGINEERING ON THE MOON

The CHAIRMAN. I notice that he is very interested in the use of nuclear energy on the moon. Did you notice that passage on page 18?

Dr. SEABORG. Yes, I noticed that, for the production of water.

The CHAIRMAN. Yes.

Dr. SEABORG. That it would be as valuable as gold in its weight.

The CHAIRMAN. He says in that case 100 tons of water will be worth more than 100 tons of gold. Does this strike you as a responsible statement?

Dr. SEABORG. I believe that this is based on a calculation of what it costs to raise 100 tons of water to the moon, and I do not know offhand whether that cost would be equivalent in value to 100 tons of gold. But to me it is conceivable that it would: yes, sir.

The CHAIRMAN. Is this idea of the exploration on the moon and the need for water there something which appeals to you as something practical or of importance? Had you thoroughly investigated this?

22-310—63——18

Dr. SEABORG. Well, I would say that this is a matter for very long in the future, decades. So that I would not consider it as a problem that would bother me at all in connection with the present test ban treaty that is under discussion here.

The CHAIRMAN. It struck me—not knowing about it as you do—that this was a flight of fancy—this idea of required civil engineering jobs on the moon. What do you think he had in mind by civil engineering jobs on the moon? You know him very well. Is he given to flights of fancy about such matters?

Dr. SEABORG. Well, I do not know that I would call it flights of fancy. Edward is very much sold on the Plowshare program.

The CHAIRMAN. On the moon?

Dr. SEABORG. Anywhere.

The CHAIRMAN. This is on the moon.

Dr. SEABORG. Anywhere.

The CHAIRMAN. Oh, anywhere?

Dr. SEABORG. He feels very strongly about it. I do not know whether he is quite the originator of the Plowshare program, but he certainly has been one of the strongest advocates of it from the very beginning.

COLONIZING THE MOON

The CHAIRMAN. What does he have in mind doing on the moon—even if he got some water? What is the purpose of this is what puzzles me.

Dr. SEABORG. Well, I do not think that I am prepared to answer just what he had in mind. I suppose that it would refer to a time far in the future when there would be sort of a minor colonization of the moon.

The CHAIRMAN. You think that is what he meant?

Dr. SEABORG. Yes, and that he would have in mind the problems of supporting life on the moon at that time. I suppose that is what he has in mind.

The CHAIRMAN. Is it your impression that conditions on the moon are likely to support the kind of life we are accustomed to?

Dr. SEABORG. Not the natural conditions. You would have to bring your own environment in and, as I understand it of course, all of your supplies like water and foods.

The CHAIRMAN. Would you have to create your own oceans and your own atmosphere—air to breath? Would that be part of this? I did not know it had progressed to the point where noted physicists were contemplating a colony on the moon. It surprised me.

Dr. SEABORG. I do not think it is part of our national program yet. But, as I say, this is an imaginative program for the far future, and I would put it as decades in the future.

The CHAIRMAN. But even in decades you think it is possible that this program to colonize the moon is feasible?

Dr. SEABORG. I think so: yes.

The CHAIRMAN. You do? What purpose would it serve?

Dr. SEABORG. Yes, so far as I know.

The CHAIRMAN. For what purpose would you colonize the moon?

Dr. SEABORG. Well, at the beginning it would be, I suppose—we are getting a little afield here.

The CHAIRMAN. I did not get afield. He got afield on it. It seems very far afield.

Dr. SEABORG. First, it would be exploration parties, I suppose, and then it would be—it would depend on the results of that, and the general status of civilization and the degree of adventure of man at that time as to whether there would be more permanent colonies following that. I could conceive of it as a possibility; yes, sir.

But, as I say, decades in the future, and it has very little relevance to the present test ban treaty that we have under discussion.

The CHAIRMAN. Perhaps he was thinking of this in case we did have a nuclear war. This would be one place we could retreat to. Do you think maybe that was it?

Dr. SEABORG. Would that be——

The CHAIRMAN. Is that one of the considerations he had in mind?

Dr. SEABORG. Well, I doubt it; I doubt it.

The CHAIRMAN. Well, I won't pursue it any further. It is an interesting exposition of imagination, I would think.

Do you have anything further you would like to add before we close this meeting?

Dr. SEABORG. No, I do not.

The CHAIRMAN. I think all of our colleagues have exhausted their questions.

Dr. SEABORG. It looks very hopeful up there from my standpoint.

The CHAIRMAN. It looks very hopeful.

I think you have had great patience, I must say, aside from your great knowledge and understanding.

Dr. SEABORG. I think I have been treated very well.

The CHAIRMAN. For a scientist you speak most intelligibly.

Dr. SEABORG. For a scientist you say?

The CHAIRMAN. For a scientist you speak most intelligibly to Senators.

Dr. SEABORG. Thank you.

The CHAIRMAN. Thank you very much, Dr. Seaborg.

The committee is recessed. We will hear General Taylor tomorrow morning at 10 o'clock.

(Whereupon, at 4:10 p.m., the committee recessed to reconvene at 10 a.m., Thursday, August 15, 1963.)

I flew to Boston on the 2:30 p.m. Eastern Shuttle and joined the family at Chisholm's Hotel.

Friday, August 16, 1963 - Boston, Augusta, Maine

We drove along the Maine coast to Augusta, Maine. We stopped in Portland to have Eric's stitches removed then spent the night at the Senator Motel.

Saturday, August 17, 1963 - Augusta - Canada

We drove into Canada and spent the night at the Souvenir Motel in St. Georges.

Sunday, August 18, 1963 - Canada

We drove to Quebec where we visited the Citadel and adjoining park.

We spent the night in St. Genevieve House.

Monday, August 19, 1963 - Canada

We spent the day with the Fritsches. We took a buggy ride, a walking tour of Quebec and a two-hour boat ride on the St. Lawrence River to Quebec Bridge, down to Montmercy Falls and back. Arnie, Kristen, Kerry, Pete, Lynne, Dave, Steve, Eric, Dianne and I went on the boat trip.

We again spent the night at the St. Genevieve House.

Helen and Dianne at
White Mountain, NH,
August 16,1963

Quebec, Canada, August 18, 1963
Peter, David, Eric (in front),
Dianne, Lynne and Stephen Seaborg

St. Lawrence River, Quebec, Canada, August 19, 1963
L to R: Eric Seaborg, Kristen Fritsch, David Seaborg, Seaborg (holding Dianne Seaborg), Kerry Fritsch, and Steve Seaborg

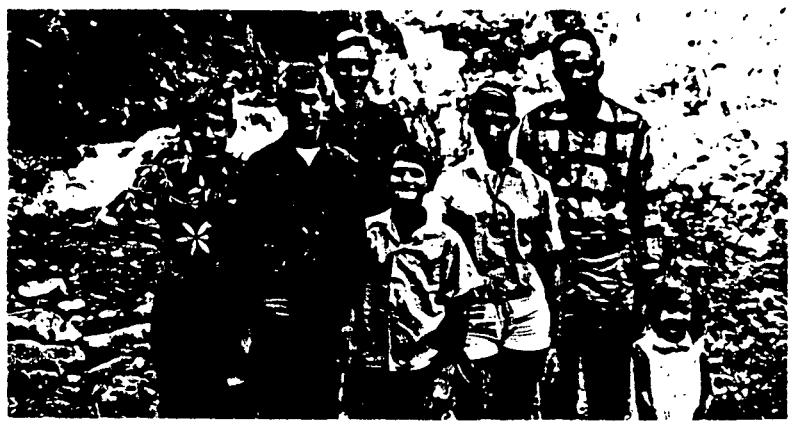
Tuesday, August 20, 1963 - Canada

We drove to Montreal where we visited Mont Royal Park.

We drove almost to the U.S.-Canadian border and spent the night at the Continental Motel.

Wednesday, August 21, 1963 - Canada - New York State

We drove through the Adirondack Mountains. We hiked off the highway to Split Rock Falls and then drove on to Cooperstown. We spent the night at the Mohican Motel.



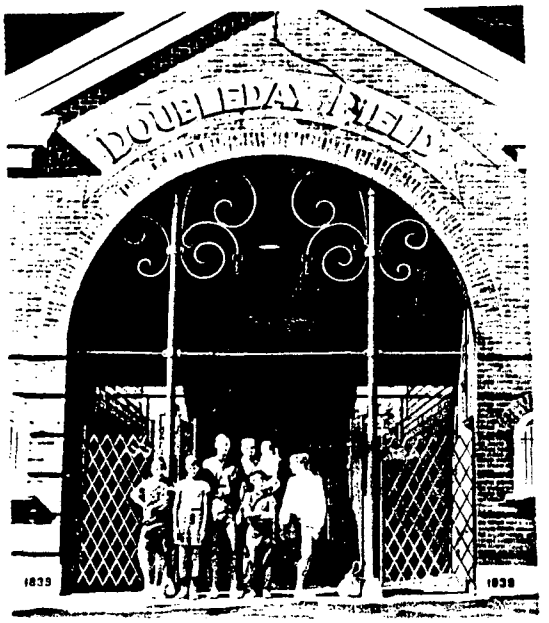
Adirondack Mountains, New York, August 21, 1963
L to R: Steve, Dave, Pete, Eric, Lynne, Glenn and Dianne

Thursday, August 22, 1963 - New York State

In Cooperstown we visited the National Baseball Hall of Fame and Museum, the Fenimore Cooper Museum, the Farmers Museum (where Cardiff Giant is kept).

We drove through the Catskill Mountains to the College Inn Motel just south of Kingston, New York.

David Seaborg in front of Babe Ruth's locker at the Baseball Hall of Fame, Cooperstown, NY August 22, 1963



Seaborgs at Doubleday Field, Cooperstown, August 22, 1963

Friday, August 23, 1963 - New York State - Washington

We left the motel about 9:30 a.m. and drove home where we arrived about 4:30 p.m. having traveled 300 miles.

I was faced with four briefcases of work.

Saturday, August 24, 1963 - D.C.

I worked in the office in the morning and at home the remainder of the day catching up with AEC papers, journals, etc.

Sunday, August 25, 1963

I worked on AEC papers, read journals, and worked on the speech I will give at Notre Dame on September 18th.

Monday, August 26, 1963 - D.C.

At 10 a.m. I presided over Information Meeting 301 (notes attached). We discussed our reply to Gilpatric's letter of July 19th requesting AEC support for Phase II of Air Force Program 437 (copy of correspondence attached).

I called Jim Killian at 11:45 a.m., and, in his absence, spoke with his secretary

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

DECL. BY DOE
NOV 86

COPY NO. 15
August 26, 1963

INFORMATION MEETING 301
10:00 a.m., Monday, August 26, 1963, Chairman's Conference Room, D. C. Office

1. Meeting with Pratt & Whitney Representatives Thursday, August 29, 2:30 p.m.

The Chairman indicated that the meeting would be held in his office and asked that Mr. Hollingworth and Mr. Brown make the necessary arrangements.

2. Water Resources Research Committee

The Chairman noted receipt of a letter from Dr. Wiesner requesting Commission representation on a new committee on water resources. It was the Chairman's feeling that Commission level participation was desirable and it was agreed that Commissioners Wilson and Ramey would follow activities in this area and would plan to attend the forthcoming meeting. (Secy)

3. Technological Applications from AEC Research

The Chairman noted Dr. McDaniel's report on the subject, indicating that he felt this report provided good material for possible use in forthcoming hearings before Congress. Dr. Tape, with the assistance of Dr. Fritsch, will review and comment as requested by Dr. McDaniel. (Fritsch)

4. Test Ban Treaty and Hearings

There was a brief review of actions taken during the Chairman's absence. The General Manager was requested to expedite the clearance of testimony transcripts as requested by Senator Stennis. The Chairman emphasized the need to proceed as expeditiously as possible with the study of the problems of compliance with Article I b of the test ban treaty. The Chairman noted that he would sign the response to Senator Fulbright regarding the number of U. S., Soviet, U.K. and French tests and requested that the Commissioners be provided reference list of shots broken down by underground and atmospheric and that it be kept current. (GM)

5. NSAM 205

The Chairman noted that the panel established by NSAM 205 had been abolished.

6. 1972 Stockpile Recommendations

The Chairman noted the dispatch of the AEC letter to the President. It was agreed that staff should proceed with the AEC study on assumption of Presidential approval and should be prepared to review the status with the Commission within one week. It was noted that the General Manager would initiate discussions with BPA and power suppliers. (GM)

7. Submarine Information Control Legislation

The Chairman indicated that he would review the proposed letters to the BOB and Senator Pastore with Admiral Rickover before signature.

✓ 8. Letter to Secretary Gilpatric Re Program 437

9. Proposed Letter to Mr. Glenn Lee

It was agreed that the proposed letter should be revised to confirm Mr. Tremmel's availability to review the report. (GM)

10. Private Ownership Legislation

In response to Mr. Ramey's query re status, the Chairman noted that he had been briefed by Dr. Wilson and Dr. Wilson, in turn, indicated that he was scheduled to meet with key AEC and JCAE staff on possible revisions.

11. Forthcoming Hearings

Mr. Hollingworth reviewed as follows:

a. Production Goals - No word on definite schedule but probably not to be scheduled this week.

b. Community Hearings - September

c. Army Reactor Program - This will be an executive hearing, schedule depending on availability of Senator Pastore. A Commissioner should plan to attend.

d. Thresher - This is being handled by Admiral Rickover.

e. Amendment to Euratom and Indian Agreements - A Commissioner should plan to attend.

f. Elk River and Piqua Projects - A Commissioner should plan to attend.

12. Over-runs on Hallam, Elk River and Piqua

Mr. Ramey emphasized the importance of informing the Commissioners well in advance of over-runs such as those being encountered at Hallam, Piqua, and Elk River. The Chairman said that he shared Mr. Ramey's concern and asked that the record be checked to determine whether the Commission had been advised in advance. (Secy)

13. Usmani Luncheon - August 26

It was noted that all present Commissioners would attend and there was a brief discussion of topics of particular interest.

14. Meeting with New York design firm Representatives

The Commissioners noted that a meeting would be arranged with Commissioner Palfrey and the General Manager. (Brown/Hollingsworth)

PRESENT		DISTRIBUTION
Dr. Seaborg	Mr. Hollingsworth	Commissioners
Dr. Wilson	Mr. Hennessey	General Manager
Mr. Ramey	Mr. Brown	General Counsel
Dr. Tape	Mr. Hobbs	Secretary

11. Forthcoming Meeting

F. T. Hobbs
Acting Secretary

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

8/24/63

DECL. BY DOE
NOV 86

Dear Ros:

This is in reply to your July 19, 1963 letter to me requesting support for Phase II of Air Force Program 437.

As you know, in response to a February 5, 1963 request by Dr. Harold Brown, Director of Defense Research and Engineering, the Atomic Energy Commission through the Sandia Corporation has funded and assumed responsibility for significant portions of the research and development portion of the program, Phase I. This effort involves the design, engineering, modification and test of six Mark Two re-entry vehicles into interceptor vehicle configurations for use with THOR missiles and providing equipment and technical operations support at Johnston Island for burst command, tracking and telemetry. AEC qualification tests referred to in your letter are included in this effort.

By an April 9, 1963 message, Chief of Staff, U. S. Air Force, requested comments concerning AEC ability to provide support for implementation of the operational phase of the program, Phase II. Following further correspondence related to requirements, priorities and authorization, the Sandia Corporation was requested on July 23 to proceed immediately with the required actions in support of the operational phase. The Air Force was advised of this action, and close program coordination is being effected with the Space Systems Division, Los Angeles, California, program manager for the project. Phase II is being funded by the Air Force, with the exception of the nuclear warheads for the live intercept vehicles.

In accordance with Department of Defense guidance we are handling the mission objective of this program as Secret Defense Information, with dissemination on a strict need-to-know basis.

Sincerely yours,

Chairman

1A&2A: Addressee
3A&4A: Chairman
5A: GM
6A: Comm Palfrey
7A: Comm Ramey
8A: Comm Tape
9A: Comm Wilson
10A&11A: Secretariat

regarding the August 20th telegram that I received from Killian, et al., on behalf of the Citizens Committee for a Nuclear Test Ban, asking me to sign a national advertisement. I said that, because of my position as Chairman of the AEC, I do not think I should authorize the use of my name. Furthermore, if I did lend my name, I would want to have a little more participation in the actual drafting of the advertisement. In any event, I did not think that my non-participation would detract from what they are trying to do.

I hosted a luncheon at the Mayflower Hotel for Dr. Ishrat Usmani (Chairman, Pakistan AEC) which was attended by Ambassador Ahmed, Minister Masood, Economic and Finance Minister Kazi, Commissioners Ramey, Tape and Wilson, Joe Hennessey, Bob Hollingsworth, Al Wells, Les Staebler, Howard Brown, John Hall, Paul Foster, Carl Thomas and John Conway. We discussed the problem of a 50 MW nuclear power plant in East Pakistan and the need for more countries to accept IAEA Agency safeguards.

I received the first copy of my book, Man-Made Transuranium Elements, from Prentice Hall and also the first copies of our delegation report, "Atomic Energy in the Soviet Union."

Tuesday, August 27, 1963 - Germantown

At 10:30 a.m. the Commissioners met with Nathaniel Welch, Federal Representative to the Southern Interstate Nuclear Board, to discuss the recent meeting of the southern governors, the role of the SINB, etc.

At 11 a.m. the Commissioners met with Luedecke, Hollingsworth and English to discuss a possible solution to the ROVER administration problem--that is, the Bradbury-Finger rift, etc.

I had lunch in the cafeteria with Nat Welch, Commissioner Wilson, Howard Brown and Chris Henderson.

I sent my biweekly report to the President (copy attached).

Wednesday, August 28, 1963 - Germantown

At 10 a.m. I presided over Information Meeting 302 (notes attached).

I had lunch with Gordon Dunning and Howard Brown to discuss venting problems under the Test Ban Treaty.

At 2:05 p.m. I presided over Commission Meeting 1958 (action summary attached). After much difficulty, the Commission decided to recommend the launching of SNAP-9A devices (1 Kg, 10,000 curies Pu-238 in each). There is some risk, but in balance the defense need justifies it. The Commission also decided to go ahead with the DRIBBLE shots in Mississippi despite the risk of shock damage to neighboring houses from a 5 KT shot. We will have a substantial public information program.

I replied to a request from Texas Congressman George Mahon, giving him extensive information on the U.S. and Soviet nuclear testing programs starting with the beginning (correspondence attached).

A large civil rights march, involving 175,000 to 200,000 people, took place in Washington today. Pete and Lynne participated.

August 27, 1963

DECL. BY DOE NOV 86

PERSONAL AND CONFIDENTIAL

Dear Mr. President:

I have the pleasure of submitting to you the regular bi-weekly report on significant developments in the atomic energy program.

1. Nuclear Materials Production Program through FY 1972 - Secret-RD)

Upon my return to the office on Saturday, August 24, I studied Mr. McNamara's August 15 memorandum to you which arrived during my absence, as well as Acting Chairman Wilson's letter to you of August 21, which identified in a preliminary way some of the factors which will need to be taken into consideration in giving final approval to revised stockpile levels and corresponding production schedules. We now have under way a comprehensive study of the impact which approval of the stockpile level recommended by Mr. McNamara in his August 15 memorandum would have upon the national nuclear materials production facilities. We will take into account potential savings in program costs; effects on local economies in the areas surrounding the plants affected; and the effect on our ability to resume higher production operations if necessary. Our study also will consider in necessary detail various alternative production plans to reduce adverse impact and still meet the stockpile level recommended by Mr. McNamara. Consideration will be given to a contingency reserve of plutonium.

As stated in Mr. McNamara's memorandum of August 15, "the AEC will be prepared to submit their production plans for your review within approximately 60 days."

2. Visit of Pakistani AEC Chairman - Unclassified

Dr. I. H. Usmani, Chairman of the Pakistani Atomic Energy Commission, is visiting Washington this week for discussions with officials of the Atomic Energy Commission and the Department of State. One of the purposes of his visit is to discuss with the Commission a proposed 50 MW(e) nuclear power plant in East Pakistan.

Dr. Usmani, who is currently Chairman of the International Atomic Energy Agency Board of Governors, believes that the Agency can play an important role in the nuclear power field, particularly in assuring incorporation of adequate safety standards in power projects and in advising objectively on the evaluation of bids. He feels that a more vigorous course should be pursued in persuading all Member States to accept Agency safeguards on bilateral arrangements. Dr. Usmani states that Pakistan would be willing to place under Agency safeguards the nuclear power projects it is considering.

3. Trip to Notre Dame University - Unclassified

I have accepted an invitation to speak at the dedication of the Radiation Research Building at the University of Notre Dame, Notre Dame, Indiana, on Sunday, September 1, 1963.

Respectfully submitted,

Glenn T. Seaborg

The President
The White House

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 15
August 28, 1963

DECL. BY DOE
NOV 86

INFORMATION MEETING 302

10:00 a.m., Wednesday, August 28, 1963 - Chairman's Conference Room, A-457

1. Council Committee on Water Resources Research Meeting, September 13

Mr. Ramey will attend.

2. Stockpile Study

The Chairman noted an apparent discrepancy between the timing of the Commission's 60-day study as it was referred to in Mr. McNamara's August 15 memorandum to the President and the Commission's August 21 letter to the President. The Chairman indicated that the Commission should continue its studies now with a view toward submitting them to the President in approximately 60 days. In addition, it was suggested that the Chairman discuss the matter with Mr. Bundy.

Mr. Ramey asked that the Commissioners receive a preliminary briefing on the state of our studies, to be scheduled as early as Thursday of this week or the following week. (Quinn/Betts)

3. Public Health Service Monitoring of AEC Test Activities

The Chairman requested a briefing for Commissioner Tape and others by appropriate PHS staff, and consideration of the possible need for an additional supplementary in-house capability.

✓ 4. Senator Stennis' Request for History of Readiness Program

The Chairman requested review by Commissioner Palfrey.
attached on Sept. 14.

✓ 5. Letter to Representative George Mahon re Information on Weapons Testing

The Chairman requested review by Mr. Palfrey, circulation to the Commissioners and notice to the White House. (Brown)

6. General Betts' Report on Nuclear Detonations

The Chairman noted General Betts' report.

7. U.S.S.R. Delegation's Visit in November

The Commissioners discussed the visit of the Soviet delegation and noted:

a. The desirability of Soviet technical representatives attending technical meetings of the ANS-AIF in New York

b. Delegation attendance at the AIF November 20 dinner meeting.

c. Appropriate AEC representation at the AIF Panel Meeting, Wednesday, November 20, to discuss NUCLEAR ENERGY IN SPACE.

d. The Chairman said he would accompany the delegation during the first week of their visit involving the New York area visits, the AIF meetings, and the visits to Stanford and UCRL. Other Commissioners will accompany the delegation during the second week, with at least one Commissioner accompanying them at all times.

e. The General Manager will discuss with the Commissioners the detailed schedule as it firms up. (Wells)

8. Commissioners' Attendance at the IAEA Conference in Vienna

The Chairman and Commissioners Ramey and Palfrey discussed their respective schedules of attendance.

9. AEC Representation at the National Academy of Sciences Summer Study Group at Woods Hole, Mass. (Project Harbor) September 5 and 6

The Chairman suggested the General Manager consider appropriate AEC representation.

10. Secretary Gilpatric's August 26 Letter

Noted.

11. President's Authorizing Memorandum re Special Equipment

Noted.

12. General Betts' Summary Report re Transmittal of Restricted Data and Formerly Restricted Data to a Foreign Ally

The Chairman noted the usefulness of the report.

13. Senator Kuchel's Letter Query re San Francisco Office Couriers

The Chairman requested preparation of an appropriate reply. (Abbadessa)

14. Letter to Mr. Harrington, UNC, re Compatability Agreement with the States

The Chairman said he had signed the letter suggesting discussion of this matter at the September 16 meeting with the Labor Management Advisory Committee.

15. Letter to the BoB re Uranium Barter Agreement with South Africa

The Chairman said he had signed the letter.

16. Letter to the BoB re Reductions of Overseas Personnel

The Chairman suggested that Mr. Palfrey review the proposed letter with DIA with a view toward strengthening the justification for these offices and to make the letter a little less defensive.

17. ORSORT Changes Effective September 1

The Chairman noted Dr. Poor's report and the General Manager said he had approved the proposed changes.

18. Letter to Mr. Glenn Lee re Hanford Task Force

The Chairman said he had signed the letter and would greet the conference group next Wednesday if possible. Mr. Ramey said he planned to attend the meeting.

19. Letter to Governor Russell, South Carolina, re Processing of Navy Nuclear Fuels

The Chairman said he would sign the letter.

20. Letter to Mr. Bernard Fensterwald, Subcommittee on Administrative Practice and Procedure, U.S. Senate

The Chairman signed the reply and suggested a meeting in early October (GC/Secy)

21. Proposed Letter to Joint Committee re Amendment to Section 56 (Plutonium Buy-Back)

The Commissioners discussed the two draft letters and suggested further discussion with Joint Committee staff.

22. Mr. Ramey's Attendance at Convention of Oil, Chemical and Atomic Workers Union

Mr. Ramey said union representatives had discussed with him their concern re production cut-back rumors and the Geneva announcement re disarmament. Mr. Ramey suggested to the representatives that it would be helpful if they would support the Commission's recommendations on the nuclear power program. Additional matters of concern discussed by the union were methods of lay-offs at the AEC sites and out-plant contracts. A letter may be coming in from the union in extension of the matters they discussed with Mr. Ramey.

23. Appointment of U. S. Representative to UN Scientific Committee on the Effects of Atomic Radiation

The General Manager recommended, and the Commissioners endorsed the appointment of Richard H. Chamberlain.

24. Pratt & Whitney Announcement of Labor Force Reductions

The Chairman indicated that he would meet with top officials of the Pratt & Whitney Co. on Thursday at 2:30 p.m. in Germantown. General Luedecke mentioned another development at CANEL and it was suggested that Pratt & Whitney's announcement of this impending action be an item of discussion at the Thursday meeting.

25. Appointment of Deputy, Joint AEC-Maritime Group

The Commissioners had no objection to the General Manager's recommendation. In response to Mr. Ramey's query re installation of new control rods in the N.S. SAVANNAH, the General Manager reported that an analysis and recommendations on operations and up-grading will be forthcoming shortly. (Pittman)

26. Status of BONUS Reactor - Puerto Rico Water Resources Authority

The General Manager reported that as a result of the unavailability of the pressure vessel, operation is now forecast at January 1, 1964, with additional AEC costs of $1.1 million and perhaps additional AEC costs as a result of PRWA claims against the Commission resulting from delayed operation.

27. Meeting, 11:00 a.m., Thursday, August 29

The Commissioners decided that the meeting which had been scheduled for 2:30 p.m. on Thursday, August 29, would now be rescheduled for 11:00 a.m.

PRESENT

Dr. Seaborg
Dr. Wilson
Mr. Ramey
Mr. Palfrey
Dr. Tape
General Luedecke
Mr. Hollingsworth
Mr. Hennessey
Mr. Brown
Mr. McCool

DISTRIBUTION

Commissioners
General Manager
General Counsel
Secretary

W. B. McCool
Secretary

ONAL FORM NO. 10
5010-104

UNITED STATES GOVERNMENT

Memorandum

DECL. BY DOE
NOV 96

TO : A. R. Luedecke, General Manager

DATE: August 29, 1963

Approved A. R. Luedecke
A. R. Luedecke
Date 8/29/63

FROM : W. B. McCool, Secretary

SUBJECT: ACTION SUMMARY OF MEETING 1958, WEDNESDAY, AUGUST 28, 1963, 2:05 P.M. ROOM A-410, GERMANTOWN, MARYLAND

SECY:JFG/ICB

Commission Business

1. AEC 1000/75 - Approval to Use SNAP 9A on TRANSIT and AEC 1000/76 - Supplement to AEC 1000/75

Approved, as revised. (Pittman)

The Commission noted continuation of investigations designed to yield answers to the technical questions raised during consideration of the project. (Pittman/Beck)

2. AEC 1029/29 - Project DRIBBLE

Approved, as revised. (Betts)

The Commission requested a background meeting with communications representatives at an appropriate time. (Clark/Betts)

The Commission requested the proposed public announcement be expanded to show the relationship of the DRIBBLE program to a comprehensive Test Ban. (Clark)

The Commission noted that staff should have available an appropriate statement re remuneration by the Government for claims. (Clark/Hennessey)

3. AEC 25/276 - Proposed Air Force Safety Rules

Approved. (Betts)

4. AEC 1139 - Proposed Agreement for Cooperation with the Government of Sweden

Approved, as revised. (Wells)

The Commission requested that Article VI, D of the Draft Agreement be revised to read: "...enriched up to ninety-three percent (93%)..." (Wells)

5. AEC 751/335 - Contracts for SENA's Participation in U.S.-Euratom Joint Reactor Program

Approved. (Wells)

6. AEC 639/8 - Availability of Contractor for ORNL

Approved, as revised. (Vinciguerra)

The Commission noted Commissioner Tape's designation as Chairman of the Study Group.

7. AEC 843/25 - AEC Administrative Problems in Centrifuge Field

Deferred.

8. Controller's Financial Review

The Commission requested pertinent figures on personnel levels at the proposed LRL biomedical laboratory. (English)

Other Business

1. Sale of Enriched Uranium to Euratom

The Commission had no objection to your recommendation.

2. Letter to BOB Requesting Supplemental Funds for FY 1964

The Commission requested the letter to the BOB be circulated to the Commissioners together with a list of proposed construction projects. (Abbadessa)

cc:
Commissioners

GEORGE MAHON
19TH DIST., TEXAS

DO FILE

MEMBER OF
COMMITTEE ON APPROPRIATIONS

Congress of the United States
House of Representatives
Washington, D. C.

August 9, 1963

UNCL. BY DOE
NOV 86

Dr. Glenn T. Seaborg
Chairman
Atomic Energy Commission
Washington 25, D.C.

Dear Dr. Seaborg:

For use in my correspondence in connection with the proposed test-ban I need certain information and I hope you can provide it.

What is the history of nuclear testing of weapons by the United States and the U.S.S.R? How many tests have been made by each country and approximately when? What were the circumstances in connection with our discontinuation of testing? How long had we voluntarily suspended testing?

I would appreciate your having someone provide me with this information and any collateral information which you think might be pertinent.

Thanks and regards.

Sincerely,

Geo Mahon

George Mahon

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D. C.

DG FILE

AUG 31 1963

OFFICE OF THE CHAIRMAN

DECL. BY DOE
NOV 96

Dear Mr. Mahon:

This is in reply to your letter of August 9, requesting historical information on nuclear weapons testing by the United States and the Soviet Union for your use in answering correspondence.

For information on tests conducted in the period 1945 through 1958, we are enclosing Appendix B of the book "The Effects of Nuclear Weapons," which was prepared by the Department of Defense and published by the Atomic Energy Commission in 1962.

This lists announced tests totaling 153 for the United States from 1945 through 1958, not counting the two World War II bombs and 19 safety experiments which resulted in very small but measurable nuclear yields. (Safety experiments test the safety of nuclear weapons in relation to handling and transportation.)

The list shows Soviet tests, announced in most cases by the United States, totaling 55 from 1949 through 1958.

We suggest that the Department of State or the Arms Control and Disarmament Agency would be more cognizant of the circumstances of the voluntary suspension of tests by the U.S. and the U.S.S.R., which began in the Fall of 1958 and lasted until September 1, 1961, when the U.S.S.R. resumed testing.

Some of the chief happenings surrounding the 1958-61 test suspension period, however, appear to be as follows:

In 1954 the world became increasingly aware of the problem of radioactive fallout, and in April of that year Prime Minister Nehru of India proposed "some sort of...'standstill agreement' in respect, at least, of these actual explosions, even if arrangements about the discontinuance of production and stockpiling must await more substantial agreements among those principally concerned."

Neither the United States nor the Soviet Union was at first prepared to

suspend tests unless a way could be found to prohibit the production of nuclear weapons.

On November 1, 1955, the United States, the United Kingdom, and six other countries introduced in the First Committee of the General Assembly a resolution calling for the creation of a scientific committee to study the effects of atomic radiation. To this, the Soviets offered an amendment calling upon States, "and in the first place States possessing nuclear materials and the means of producing nuclear weapons, to continue their efforts towards the earliest possible solution of the question of the prohibition of nuclear weapons, and as a first step, towards the reaching of an agreement on the cessation of experiments with all types of nuclear weapons." This was the first official Soviet proposal for a ban on tests apart from comprehensive nuclear disarmament. The majority of the First Committee rejected the Soviet Amendment, and on December 3, 1955, the General Assembly unanimously adopted a resolution establishing a scientific committee of 15 countries to study the effects of radiation.

Meanwhile the United States was developing proposals for limiting tests, and on November 11, 1955, Secretary of State Dulles stated at the Geneva Meeting of Foreign Ministers, "...if agreement can be reached to eliminate or limit nuclear weapons under proper safeguards, the United States would be prepared to agree to corresponding restrictions on the testing of such weapons." The Soviet Union rejected this proposal and a similar one proposed in a draft working paper submitted to the Disarmament Subcommittee on April 3, 1956, which provided for the limiting and monitoring of tests by an "Armaments Regulation Council."

In September and October 1956 there was an exchange of letters between Soviet Premier Bulganin and President Eisenhower, in which the Soviet Union proposed cessation of tests and asserted that no supervision of a ban on tests was necessary, and in which President Eisenhower said systems of inspection and control were required.

A U. S. memorandum of January 12, 1957, read to the First Committee of the General Assembly by Ambassador Lodge on January 14, linked control of tests with the American proposal to "establish effective international control of future production of fissionable materials and to exchange firm commitments to use all future production exclusively for non-weapons purposes."

So far the Soviet Union had taken the position that a prohibition of nuclear tests would be self-enforcing, but on June 14, 1957, the Soviet Representative introduced in the Disarmament Subcommittee a proposal for suspending tests for a period of two to three years, establishing an international

supervisory commission, and the setting up "on a basis of reciprocity, of control posts in the territory of the Soviet Union, the United States of America and the United Kingdom and in the Pacific Ocean area."

The Western members of the Disarmament Subcommittee welcomed the Soviet proposal and stated on July 2 that Soviet acceptance of the principle of control brought "within the realm of possibility a temporary suspension of nuclear testing as part of an agreement for a first step in disarmament." They therefore proposed that a group of experts meet to design an inspection system to verify the suspension of testing.

On August 29, 1957, the Western members introduced a "package" proposal linking suspension of testing and inspection with other arms limitation provisions.

The Soviet Union harshly criticized the Western Powers for "artificially linking" the suspension of tests to other disarmament measures, and boycotted the Disarmament Subcommittee, which held its last meeting on September 6, 1957.

In March, 1958, the Soviet Union announced it was discontinuing all nuclear weapons tests, but would feel free to resume if other countries did not follow suit; and, in an April 4 letter to President Eisenhower, proposed that the United States immediately suspend tests.

President Eisenhower replied on April 8, rejecting the proposal and saying he found it "peculiar that the Soviet Union, having just concluded a series of tests of unprecedented intensity, should now, in bold headlines, say that it will not test again, but add, in small type, that it may test again if the United States carries out its already long announced and now imminent series of tests." He then suggested that "we... at once put our technicians to work to study together and advise as to what specific control measures are necessary if there is to be a dependable and agreed disarmament program."

After some further correspondence, it was finally agreed that a Conference of Experts from the United States, the United Kingdom, France, Canada, the Soviet Union, Poland, Czechoslovakia, and Rumania would meet at Geneva to study "methods for detecting possible violations of an agreement on the cessation of nuclear tests."

The experts met from July 1 to August 21, 1958. They came to the general conclusion that with certain limitations it was technically feasible to establish a workable and effective control system to detect violations of a test suspension agreement, and they proposed such a system in considerable detail.

On August 22, 1958, President Eisenhower issued a statement welcoming the experts' report and stating that the United States was willing to negotiate an agreement "for the suspension of nuclear weapons tests and the actual establishment of an international control system on the basis of the experts' report." He further stated that the United States would "withhold further testing on its part... for a period of one year from the beginning of the negotiations" unless the Soviet Union resumed testing, and that the United States would further suspend tests on a year-to-year basis, provided the inspection system was working effectively.

The Soviet Union agreed to begin negotiations at Geneva on October 31, 1958. But in an August 29 interview in Pravda, Soviet Premier Khrushchev strongly criticized the United States and the United Kingdom for continuing their tests after the Soviets had discontinued theirs. He declared that the Soviet Union was released from any obligation not to test. Soviet testing resumed on September 30 but halted after November 3, shortly after the conference began.

Meanwhile, on September 18, the Soviet delegation to the United Nations 13th General Assembly submitted a demand for immediate discontinuance of all nuclear tests. They followed this on October 5 with a draft resolution calling on all countries to stop tests immediately and recommending negotiations between the nuclear powers, but making no mention of international control. Then the Soviet delegation dropped its own proposal and supported instead an Indian draft resolution of October 14 calling for immediate suspension of testing until agreement was reached on technical arrangements and control.

The United States and other nations opposed this proposal as being essentially a permanent cessation of tests without controls, and the majority of the General Assembly rejected the proposal.

When it was clear the General Assembly was not going to endorse the Soviet position, the Soviet Government on October 30 issued a statement attacking the United States and the United Kingdom for not agreeing to an immediate and unconditional cessation of tests, and proclaimed the Soviet Union's right to continue testing.

On November 7, the U. S. Atomic Energy Commission announced that the Soviet Union had exploded nuclear devices on November 1 and November 3. President Eisenhower immediately stated that the Soviet action relieved the United States of any obligation to suspend tests, but that we would continue test suspension "for the time being." He warned that the United States would reconsider its position if the Soviet Union resumed testing.

The Soviet Union did not test again until September 1, 1961. For the Soviets, therefore, the voluntary nuclear test moratorium lasted from November 3, 1958 to September 1, 1961.

For the United States the voluntary suspension lasted from October 30, 1958, to September 15, 1961, when underground testing was resumed in Nevada.

Although the Atomic Energy Commission hasn't published a list of tests announced since 1961 that is comparable to the list for the 1945-1958 period, we are enclosing an informal list based upon our individual announcements and statements.

This informal list shows announced tests totaling more than 90 for the Soviet Union for the period September 1, 1961, through December 25, 1962.

It shows announced United States weapons related tests totaling 106 for the period September 15, 1961, through August 15, 1963. Thirty-six of these were in the Pacific test areas in the period April 25, 1962, through November 4, 1962. The remaining 70 were at the Atomic Energy Commission's Nevada Test Site. Not shown on the list are 23 underground weapons related tests at the Nevada Test Site, which were not announced by the Commission, but which were referred to by President Kennedy when he stated during his August 20, 1963, news conference that there were "97 underground" tests since 1961. (Actually 4 of the tests making up the 97 were technically surface bursts.) Adding our announced 70 weapons related tests in Nevada to the 23 inherent in the President's statement results in a total of 93 U.S. weapons related nuclear tests conducted at the Nevada Test Site from September 15, 1961, through August 15, 1963.

Also included in the 97 mentioned by the President and announced separately by the AEC are 2 U.S.-U.K. weapons related tests of British devices and 2 U.S. tests of devices being developed especially for our Plowshare Program, which, as you know, has the purpose of developing peaceful uses for nuclear explosives.

We have announced 2 additional Plowshare experiments which were not included in the 97 mentioned by the President. They were Project Sedan, a crater-forming experiment at the Nevada Test Site, and Project Gnome, a scientific experiment conducted deep underground near Carlsbad, New Mexico.

In summary, then, 129 U.S. weapons related tests have been announced from

September 15, 1961, through August 15, 1963, as have 2 U.S.-U.K. tests of British devices and 4 Plowshare experiments.

I hope this information will be helpful.

Sincerely yours,

Chairman

The Honorable George Mahon
House of Representatives

Enclosures:
1. Appendix B of "The Effects of Nuclear Weapons"
2. List of announced tests

U.S. ANNOUNCED TESTS	DATE OF TEST	PLACE	YIELD
(1)	Sept 15, 1961	Nevada Test Site	Low Yield - Underground
(2)	Sept 16, 1961	Nevada Test Site	Low - Underground
(3)	Oct 10, 1961	Nevada Test Site	Low - Underground
(4)	Oct 29, 1961	Nevada Test Site	Low - Underground
(5)	Dec 3, 1961	Nevada Test Site	Low - Underground
(6)	Dec 13, 1961	Nevada Test Site	Low - Underground
(7)	Dec 17, 1961	Nevada Test Site	Low - Underground
(8)	Dec 22, 1961	Nevada Test Site	Low - Underground
(9)	Jan 9, 1962	Nevada Test Site	Low - Underground
(10)	Jan 18, 1962	Nevada Test Site	Low - Underground
(11)	Jan 30, 1962	Nevada Test Site	Low - Underground
(12)	Feb 8, 1962	Nevada Test Site	Low - Underground
(13)	Feb 9, 1962	Nevada Test Site	Low - Underground
(14)	Feb 15, 1962	Nevada Test Site	Low - Underground
(15)	Feb 19, 1962	Nevada Test Site	Low - Underground
(16)	Feb 19, 1962	Nevada Test Site	Low - Underground
(17)	Feb 23, 1962	Nevada Test Site	Low - Underground
(18)	Feb 24, 1962	Nevada Test Site	Low - Underground

U.S. ANNOUNCED TESTS	DATE OF TEST	PLACE	YIELD
~~(18)~~	~~Feb 24, 1962~~	~~Nevada Test Site~~	~~Low - Underground~~
Joint U.S.-United Kingdom)	Mar 1, 1962	Nevada Test Site	Low - Underground
(19)	Mar 5, 1962	Nevada Test Site	Low - Underground
(20)	Mar 6, 1962	Nevada Test Site	Low - Underground
(21)	Mar 8, 1962	Nevada Test Site	Low - Underground
(22)	Mar 15, 1962	Nevada Test Site	Low - Underground
(23)	Mar 28, 1962	Nevada Test Site	Low -Underground
(24)	Mar 31, 1962	Nevada Test Site	Low -Underground
(25)	April 5, 1962	Nevada Test Site	Low - Underground
(26)	April 6, 1962	Nevada Test Site	Low - Underground
(27)	April 12, 1962	Nevada Test Site	Low - Underground
(28)	April 14, 1962	Nevada Test Site	Low - Underground
(29)	April 21, 1962	Nevada Test Site	Low - Underground
(1) (30)	April 25, 1962	Christmas Island Area	Intermediate- Atmosphere
(2) (31)	April 27, 1962	Christmas Island Area	Intermediate- Atmosphere
(32) (30)	April 27, 1962	Nevada Test Site	Low - Underground
(3) (33)	May 2, 1962	Christmas Island Area	Low-megaton - Atmosphere
(4) (34)	May 4, 1962	Christmas Island Area	Intermediate-Atmosphere

U.S. ANNOUNCED TESTS		DATE OF TEST	PLACE	YIELD
(5)	(35)	May 6, 1962	Christmas Island Area	Polaris-sub-warhead-atmosphere
	(36) (31)	May 7, 1962	Nevada Test Site	Low - underground
(6)	(37)	May 8, 1962	Christmas Island Area	Intermediate - atmosphere
(7)	(38)	May 9, 1962	Christmas Island Area	Intermediate - atmosphere
(8)	(39)	May 11, 1962	Christmas Island Area	Intermediate - atmosphere
(9)	(40)	May 11, 1962	Eastern Pacific Area	Low - underwater
(10)	(41)	May 12, 1962	Christmas Island Area	Intermediate - atmosphere
	(42) (32)	May 12, 1962	Nevada Test Site	Intermediate - Underground
(11)	(43)	May 14, 1962	Christmas Island Area	Intermediate - Atmosphere
(12)	(44)	May 19, 1962	Christmas Island Area	Intermediate - atmosphere
	(45) (33)	May 19, 1962	Nevada Test Site	Low - underground
	(46) (34)	May 25, 1962	Nevada Test Site	Low - underground
(13)	(47)	May 25, 1962	Christmas Island Area	Low - atmosphere
(14)	(48)	May 27, 1962	Christmas Island Area	Intermediate - atmosphere
	(49) (35)	June 1, 1962	Nevada Test Site	Low - underground
	(50) (36)	June 6, 1962	Nevada Test Site	Low - underground
(15)	(51)	June 8, 1962	Christmas Island Area	Intermediate - atmosphere
(16)	(52)	June 9, 1962	Christmas Island Area	Intermediate - atmosphere

U.S. ANNOUNCED TESTS		DATE OF TEST	PLACE	YIELD
(17)	(53)	June 10, 1962	Christmas Island Area	Low Megaton - Atmosphere
(18)	(54)	June 12, 1962	Christmas Island Area	Intermediate - Atmosphere
	(55) (37)	June 13, 1962	Nevada Test Site	Low - Underground
(19)	(56)	June 15, 1962	Christmas Island Area	Intermediate - Atmosphere
(20)	(57)	June 17, 1962	Christmas Island Area	Intermediate - Atmosphere
(21)	(58)	June 19, 1962	Christmas Island Area	Low -Atmosphere
	(59) (38)	June 21, 1962	Nevada Test Site	Low - Underground
(22)	(60)	June 22, 1962	Christmas Island Area	Intermediate - Atmosphere
(23)	(61)	June 27, 1962	Christmas Island Area	Megaton - Atmosphere
	(62) (39)	June 27, 1962	Nevada Test Site	Intermediate - Underground
	(63) (40)	June 28, 1962	Nevada Test Site	Low - Underground
(24)	(64)	June 30, 1962	Christmas Island Area	Low Megaton - Atmosphere
	(65) (41)	June 30, 1962	Nevada Test Site	Low - Underground
	(66) (42)	July 7, 1962	Nevada Test Site	Low - Slightly Above Ground
(25)	(67)	July 9, 1962	Johnston Island 1.4	Megatons -Atmosphere- (Altitude of hundreds of kilometers)

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U. S. ANNOUNCED TESTS	DATE OF TESTS	PLACE	YIELD	EMPLACEMENT
(26) (68)	July 10, 1962	Christmas Island Area	Intermediate	- Atmosphere
(69) (43)	July 11, 1962	Nevada Test Site	Low	- Shallow Depth
(27) (70)	July 11, 1962	Christmas Island Area	Low Megaton	- Atmosphere
(71) (44)	July 13, 1962	Nevada Test Site	Low	- Underground
(72) (45)	July 14, 1962	Nevada Test Site	Low	- Few Feet above Ground
(73) (46)	July 17, 1962	Nevada Test Site	Low	- Slightly above Ground
(74) (47)	July 27, 1962	Nevada Test Site	Low	- Underground
(75) (48)	Aug. 24, 1962	Nevada Test Site	Low	- Underground
(76) (49)	Aug. 24, 1962	Nevada Test Site	Low	- Underground
(77) (50)	Sept. 14, 1962	Nevada Test Site	Low	- Underground
(78) (51)	Sept. 20, 1962	Nevada Test Site	Low	- Underground
(79) (52)	Sept. 29, 1962	Nevada Test Site	Low	- Underground
(28) (80)	Oct. 2, 1962	Johnston Island Area	Intermediate	- Atmosphere
(81) (53)	Oct. 5, 1962	Nevada Test Site	Intermediate	- Underground
(29) (82)	Oct. 6, 1962	Johnston Island Area	Low	- Atmosphere

U. S. ANNOUNCED TESTS		DATE OF TESTS	PLACE	YIELD	EMPLACEMENT
(83)	(54)	October 12, 1962	Nevada Test Site	Low	Underground
(30) (84)		October 18, 1962	4 Johnston Island Area	Low Megaton Range	Atmosphere
(85)	(55)	October 19, 1962	Nevada Test Site	Low Yield	Underground
(31) (86)		October 20, 1962	5 Johnston Island Area	Low Yield Range	tens of kilometers
(32) (87)		October 26, 1962	6 Johnston Island Area	Submegaton	tens of kilometers
(88)	(56)	October 27, 1962	Nevada Test Site	Low	Underground
(33) (89)		October 27, 1962	7 Johnston Island Area	Intermediate	Atmosphere
(34) (90)		October 30, 1962	8 Johnston Island Area	Megaton Range	Atmosphere
(35) (91)		November 1, 1962	9 Johnston Island Area	Submegaton Range	tens of kilometers
(36) (92)		November 4, 1962	10 Johnston Island Area	Low Yield	tens of kilometers
U.S.-U.K. British Device		December 7, 1962	Nevada Test Site	Low Yield	Underground
(93)	(57)	December 12, 1962	Nevada Test Site	Low Yield	Underground
(94)	(58)	December 12, 1962	Nevada Test Site	Low Yield	Underground

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. S. ANNOUNCED TESTS				DATE OF TESTS	PLACE	YIELD	EMPLACEMENT
acific Total	Total	Nev. '63	Nev. Total				
36)	(95)	(1)	(59)	Feb. 8, 1963	Nevada Test Site	Intermediate or less	Underground
	(96)	(2)	(60)	Feb. 8, 1963	Nevada Test Site	Intermediate or less	Underground
	(97)	(3)	(61)	Feb. 21, 1963	Nevada Test Site	Low	Underground
	(98)	(4)	(62)	March 29, 1963	Nevada Test Site	Low	Underground
	(99)	(5)	(63)	April 5, 1963	Nevada Test Site	Low	Underground
	(100)	(6)	(64)	May 22, 1963 (announced on May 23)	Nevada Test Site	Intermediate	Underground
	(101)	(7)	(65)	June 5, 1963 (announced on June 6)	Nevada Test Site	Low	Underground
	(102)	(8)	(66)	June 6, 1963	Nevada Test Site	Low	Underground
	(103)	(9)	(67)	June 14, 1963	Nevada Test Site	Low	Underground
	(104)	(10)	(68)	June 25, 1963	Nevada Test Site	Low	Underground
	(105)	(11)	(69)	August 12, 1963	Nevada Test Site	Low	Underground
36)	(106)	(12)	(70)	August 15, 1963	Nevada Test Site	Low	Underground

nnounced by U.S.)	DATE OF TEST	PLACE	YIELD
(1)	Sept. 1, 1961	Semipalatinsk (Central Asia)	Intermediate Range Atmosphere
(2)	Sept. 4, 1961	Semipalatinsk	Low Kiloton Range Atmosphere
(3)	Sept. 5, 1961	Semipalatinsk	Low to Intermediate Atmosphere
(4)	Sept. 6, 1961	East of Stalingrad	Low to Intermediate Atmosphere
(5)	Sept. 10, 1961	Novaya Zemlya (Arctic Region)	On the Order of Several Megatons Atmosphere
(6)	Sept. 10, 1961	Novaya Zemlya	Low to Intermediate Kiloton Range Atmosphere
(7)	Sept. 12, 1961	Novaya Zemlya	On the Order of Several Megatons Atmosphere
(8)	Sept. 13, 1961	Semipalatinsk	Low to Intermediate Atmosphere
(9)	Sept. 13, 1961	Novaya Zemlya	Low to Intermediate Atmosphere

RUSSIAN SERIES (Announced by U.S.)	DATE OF TEST	PLACE	YIELD	
(10)	Sept. 14, 1961	Novaya Zemlya	Several Megatons Atmosphere	3
(11)	Sept. 16, 1961	Novaya Zemlya	On the order of a Megaton - Atmosphere	4
(12)	Sept. 17, 1961	Semipalatinsk	Intermediate Range Atmosphere	
(13)	Sept. 18, 1961	Novaya Zemlya	On the order of a Megaton - Atmosphere	5
(14)	Sept. 20, 1961	Novaya Zemlya	On the order of a Megaton-Atmosphere	6
(15)	Sept. 22, 1961	Novaya Zemlya	On the order of a Megaton - Atmosphere	7
(16)	Oct. 2, 1961	Novaya Zemlya	On the order of a Megaton - Atmosphere	8
(17)	Oct. 4, 1961	Novaya Zemlya	Order of several Megatons - Atmosphere	9
(18)	Oct. 6, 1961	Novaya Zemlya	Order of several Megatons - Atmosphere	10
(19)	Oct. 8, 1961	Novaya Zemlya	Low Yield Range Atmosphere	

RUSSIAN SERIES (Announced by U.S.)	DATE OF TEST	AREA	TYPE
(20)	Oct. 12, 1961	Semipalatinsk	Low to Intermediate Atmosphere
(21)	Oct. 20, 1961	Novaya Zemlya	Several Megatons Atmosphere
(22)	Oct. 23, 1961	Novaya Zemlya	About 25 Megatons Atmosphere
(23)	Oct. 23, 1961	South of Novaya Zemlya	Low yield Range Under water
(24)	Oct. 25, 1961	Novaya Zemlya	Intermediate to High Yield Probably less than a megaton Atmosphere
(25)	October 27, 1961	Novaya Zemlya	Low to Intermediate Atmosphere
(26)	October 30, 1961	Novaya Zemlya	Between 55 and 60 Megatons - Atmosphere (58 MT) Pres. about 12,000 feet March 2
(27)	Oct. 31, 1961	Novaya Zemlya	Several Megatons Atmosphere
(28)	Oct. 31, 1961	Novaya Zemlya	Intermediate to High Atmosphere
(29)	Nov. 2, 1961	Novaya Zemlya	Low to Intermediate Atmosphere

RUSSIAN SERIES (Announced by U.S.)	DATE OF TEST	PLACE	YIELD
(30)	Nov. 2, 1961	Novaya Zemlya	Low to Intermediate Atmosphere
(31)	Nov. 4, 1961	Novaya Zemlya	Several Megatons Atmosphere
(On December 9, 1961, the AEC stated in a preliminary analysis of the recent Soviet nuclear test series that the Soviets had conducted approximately 50 atmospheric tests.)			
(32)	Feb. 2, 1962 "apparently conducted"	Semipalatinsk	"Well above the Threshhold of Underground detectability, even by a single national system" - Underground
FRANCE			
(5th)	May 1, 1962	500 miles from Reggan (Sahara)	(announced by France May 7, 1962)
(1)	Aug. 5,1962	Novaya Zemlya	Megaton range Atmosphere
(E 274 said earlier tests in low kiloton range were indicated)			(magnitude of 30 Megatons)
(2)	Aug. 7, 1962	Semipalatinsk	Low Kiloton Atmosphere
(3)	Aug. 10, 1962	Novaya Zemlya	Less than 1 megaton Atmosphere
(4)	Aug. 20, 1962	Novaya Zemlya	Several megatons Atmosphere
(5)	Aug. 22, 1962	Novaya Zemlya	Low megaton range Atmosphere

RUSSIAN SERIES (Announced by U.S.)	Date of Test	Place	Yield	Emplacement
(6)	Aug. 25, 1962	Novaya Zemlya	Several megatons	Atmosphere
(7)	Aug. 25, 1962	Semipalatinsk	Low Yield	Atmosphere
(8)	Aug. 27, 1962	Novaya Zemlya	Several megatons	Atmosphere
(9)	Sept. 2, 1962	Novaya Zemlya	Intermediate	Atmosphere
(10)	Sept. 8, 1962	Novaya Zemlya	Megaton Range ("...It is clear that a number of additional nuclear tests have been conducted during their current series."	Atmosphere
(11)	Sept. 15, 1962	Novaya Zemlya	Several Megatons	Atmosphere
(12)	Sept. 16, 1962	Novaya Zemlya	Several Megatons	Atmosphere
(13)	Sept. 18, 1962	Novaya Zemlya	A few megatons	Atmosphere
(14)	Sept. 19, 1962	Novaya Zemlya	Multi-megaton "second largest in current series"	Atmosphere
(15)	Sept. 21, 1962	Novaya Zemlya	a few megatons	Atmosphere
(16)	Sept. 25, 1962	Novaya Zemlya	Multi-megaton "second largest current series"	Atmosphere
(17)	Sept. 27, 1962	Novaya Zemlya	Less than 30 M.T.	Atmosphere
(18)	Oct. 7, 1962	Novaya Zemlya	Intermediate	Atmosphere

RUSSIAN SERIES (Announced by U. S.)	Date of Test	Place	Yield	Emplacement
(19)	October 14, 1962	Semipalatinsk	Low	atmosphere.
(20)	October 22, 1962	Central Asia	a few hundred kilotons	high altitude
(21)	October 22, 1962	Novaya Zemlya	several megatons	atmosphere
(22)	October 27, 1962	Novaya Zemlya	intermediate	atmosphere
(23)	October 28, 1962	Central Asia	intermediate	high altitude
(24)	October 28, 1962	Semipalatinsk	low yield	atmosphere
(25)	October 29, 1962	Novaya Zemlya	intermediate	atmosphere
(26)	October 30, 1962	Novaya Zemlya	intermediate	atmosphere
(27)	November 1, 1962	Central Asia	intermediate	high altitude
(28)	November 1, 1962	Novaya Zemlya	intermediate	atmosphere
(29)	November 3, 1962	Novaya Zemlya	intermediate	atmosphere
(30)	November 3, 1962	Novaya Zemlya	intermediate	atmosphere
(31)	November 4, 1962	Semipalatinsk	intermediate	atmosphere
(32)	November 17, 1962	Semipalatinsk	low	atmosphere
(33)	December 18, 1962	Novaya Zemlya	intermediate	atmosphere
(34)	December 18, 1962	Novaya Zemlya	intermediate	atmosphere
(35)	December 20, 1962	Novaya Zemlya	low	atmosphere

RUSSIAN SERIES (Announced by U. S.)	Date of Test	Place	Yield	Emplacement
(36)	December 22, 1962	Novaya Zemlya	intermediate	atmosphere
(37)	December 23, 1962	Novaya Zemlya	)	(Dec. 26 announcement
			)	(said "a number of
(38)	December 24, 1962	Novaya Zemlya	about 20 MT)	(atmospheric tests"
			)	(held Dec. 23-Dec.25.
(39)	December 25, 1962	Novaya Zemlya	)	(Largest about 20 MT,
				(others low to a few
				(megatons

Thursday, August 29, 1963 - Germantown

I met with John Hall to discuss his plans. He will return to his job with the AEC in Washington next summer, and this means we will have a problem finding a place for Wells who is doing a good job as Hall's fill-in.

The Commission met again on the ROVER management problem. A committee consisting of Ramey, Tape, English, Bradbury and Finger will probably work on this after a Commission meeting with Bradbury and Finger.

I had lunch with Wells, Abrahams and Fritsch to discuss my forthcoming European trip and the return visit of the USSR Delegation in November.

Commissioner Wilson, Luedecke, Brown and I met with H. M. Horner (Chairman, United Aircraft), L. C. Mallet (President, Pratt & Whitney), and Walter Doll (General Manager, Canal Project) to discuss the effect of the Commission's elimination of the LCRE project, which was made necessary by a shortage of funds.

At 4:40 p.m. I presided over Commission Meeting 1959. The Commission approved the proposed letter to BOB re FY 1964 supplemental request. It decided to ask BOB (and Congress) for a supplementary budget for FY 1964 of some $100 million for underground testing, readiness for atmospheric testing, etc., and $20 million for more buildings for Livermore, Los Alamos and Sandia.

The Commission approved the letter on the Omnibus Bill regarding definition of restricted data. I said I will refer the matter to the White House on the AP and NBC requests for press coverage re NTS and VELA.

Items of information were a letter from Senator Bartless about the Arctic Health Center and the CBS Interviews with PHS personnel at NTS.

I called Bundy at 5:45 p.m. on several matters. I told him we have a letter ready to go to BOB stating what we need for the FY 1964 supplemental. I said it is something over $100 million, but we have enough unobligated funds in 1963 so we will be asking for only $23 million in operating funds, and about $20 million in facilities funds. Bundy said it is O.K. to send the letter to BOB.

Regarding the 1972 stockpile, Bundy agreed that we should start immediately to work on our input to the President and there would be no decision by the President until he has received this. In fact, Bundy rather liked this because in the interim the President will be on the West Coast. He says it will be better if, during the period of this trip, that this were pending rather than finalized.

I said I heard a rumor that the President will be going to Hanford on September 26th. Bundy said he plans to visit Hanford, but not that early. I told him I would like to be with the President when he does go there and I hope the trip will not come up before my return from Vienna. I asked whether the President will be going to Livermore, and Bundy said he couldn't answer that. Palfrey (who was on an extension line) said that John Foster thinks it might be worthwhile for Bundy to visit Livermore. Bundy asked whether there would be any value to that.

I mentioned that we have received requests from AP and NBC-TV to do some news stories in connection with testing. AP would like to do a story on the Nevada Test Site, while NBC-TV would like to go to Los Alamos and Sandia in connection with the VELA program. Bundy said this would be a mistake. He said he would take it up with the President if I wished, but he could not predict what the President will say. He wants us to take some of the brunt and not say that the President forbids it.

I asked him about where we stand on the big weapon. I said we hadn't met his deadline of getting something back on it because it was endlessly complicated due to the Test Ban Treaty, etc., and we will keep on it but that we may have to talk to him and DOD. He said this is fine.

Palfrey mentioned the letter we have received from Stennis asking for a history of restrictions, suspensions, etc., on testing. He said he would like to send Stennis a summary of the program since 1961 and an outline of the program since the moratorium, and await further questioning from Stennis. Bundy agreed this would be fine.

Friday, August 30, 1963 - D. C.

At 9:45 a.m. I presided over Information Meeting 303 (notes attached). I received a letter from Senator Pastore (copy attached) complaining that the AEC is not implementing its recently announced policy of seeking new contractors to operate facilities, etc., when terms of contracts expire. We discussed Senator Pastore's letter to Secretary Rusk about the definition of "debris" and letters from Harold Brown about the test planning in view of the Limited Test Ban Treaty (copies of correspondence attached).

The Commission met with Steuart L. Pittman (Office of Civil Defense, DOD), Lineberger and Walmer Stroke (OCD), Eugene Wigner, Alvin Weinberg, John Swartout, Clarence Larson, and staff to discuss the possibility of ORNL serving as a national laboratory (institute) for civil defense research. An argument took place as to whether ORNL will be a sole civil defense research agency or whether there would be additional means for civil defense research.

I met with Admiral Thomas F. Connally (MLC), who said that he feels Secretary McNamara is resisting the idea of a nuclear navy, unreasonably and chiefly to save money. He gave me a draft report on the Navy Department's study to answer McNamara's questions. Apparently, there was a meeting involving Secretary Korth (who supports a nuclear navy) and Secretary McNamara on August 12th, but it was impossible to convince McNamara. Connally feels that McNamara doesn't understand this situation and is preoccupied only with the cost. I said I will read the report and look for a way to help.

Saturday, August 31, 1963 - D.C.

I worked in the office until lunch time.

I played six holes of golf at the Chevy Chase Club with Eric and his friend Jimmy Cobb.

I read AEC papers and journals.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

DECL. BY DOE
NOV 86

COPY NO. [illegible]
August 30, 1963

INFORMATION MEETING 303
9:45 a.m., Friday, August 30, 1963 - Chairman's Conference Room, D. C. Offic

Chairman's Conversation with Mr. Bundy, White House Staff

The Chairman said the following matters were covered in his conversation.

a. Transmittal of the AEC FY-1964 Supplemental to the BOB.

b. 60-day study.

c. Possible Presidential visit to the West Coast - early October.

d. Associated Press and NBC request - denied.

e. Special Weapon - Mr. Bundy suggested we continue to study the matter and discuss with him further.

f. Report to Stennis Committee - Mr. Palfrey will review prior to transmittal.

2. Letter to Representative Mahon re Nuclear Tests

A copy is to be sent to the JCAE. (Betts) attached w 8/28

3. Nucleonics Week August 29 Report on I. H. Usmani's, Pakistani AEC Chairman, Statement re 50 MWe Water Reactor

The Chairman noted the report that he had given the project special endorsement and requested a correcting report to the Department of State and the JCAE. (Wells)

4. Dedication of Elk River Reactor, October 1963

The Chairman noted the invitation and suggested Commissioner Ramey attend the dedication tentatively scheduled for October 11 and 12.

5. Senator Barlett's August 29 Letter re Research Program on Arctic Contamination (Flora and Fauna)

Mr. Hollingsworth said Dr. Dunham is meeting with appropriate people on this matter next week. The Chairman requested early action (English)

(Commissioner Ramey entered the meeting)

6. Senator Pastore's August 27, 1963 Letter re Contract Policy

The Chairman requested preparation of an early response. (Vinciguerra)

√ 7. August 23 and August 28, 1963 Letters From Dr. Harold Brown, DOD re Test Planning

The Chairman noted receipt and the DOD request for comments. (Betts)

√ 8. Senator Pastore's August 27 Letter to Secretary of State Rusk re Definition of Debris

Commissioners Palfrey and Tape are discussing a draft with the Department of State.

9. Dr. Gerald Johnson's Memo and Letter to the President re Stockpile

Noted.

10. General Manager's August 27 Memo re Consulting Contract with Mr. Robert Underhill

Mr. Hollingsworth will discuss the proposal with Commissioner Ramey.

11. JCAE Hearings on the India and Euratom Agreement Amendments, 10:00 a.m., September 5

Commissioner Ramey will testify.

12. JCAE Hearings on the Army Reactor Program and SEFOR, 2:00 p.m., September 5

Commissioners Wilson and Ramey will attend.

13. JCAE Executive Meeting on the OMNIBUS Bill, September 10

Mr. Hollingsworth reported this is a meeting of the Committee only.

14. JCAE Hearings on Proposed NTS Community, September 11

The Chairman suggested the Commissioners attend.

15. Confirmation Hearing on Frank Hefner, September 10

The Chairman said he would attend, if possible.

16. Agenda

Approved, as revised.

PRESENT		DISTRIBUTION
Dr. Seaborg	Mr. Hollingsworth	Commissioners
Dr. Wilson	Mr. Brown	General Manager
Mr. Palfrey	Mr. Hennessey	General Counsel
Mr. Ramey*	Mr. McCool	Secretary
Dr. Tape		

W. B. McCool
Secretary

*Partial Attendance

JOHN O. PASTORE, R.I.
CHAIRMAN
RICHARD B. RUSSELL, GA.
CLINTON P. ANDERSON, N. MEX.
ALBERT GORE, TENN.
HENRY M. JACKSON, WASH.
BOURKE B. HICKENLOOPER, IOWA
GEORGE D. AIKEN, VT.
WALLACE F. BENNETT, UTAH
CARL T. CURTIS, NEBR.
JOHN T. CONWAY, EXECUTIVE DIRECTOR

Congress of the United States

JOINT COMMITTEE ON ATOMIC ENERGY

VICE CHAIRMAN
MELVIN PRICE, ILL.
WAYNE N. ASPINALL, COLO.
ALBERT THOMAS, TEX.
THOMAS G. MORRIS, N. MEX.
CRAIG HOSMER, CALIF.
WILLIAM H. BATES, MASS.
JACK WESTLAND, WASH.
JOHN B. ANDERSON, ILL.

August 27, 1963

UNCL. BY DOE
NOV 86

Honorable Glenn T. Seaborg
Chairman
U. S. Atomic Energy Commission
Washington, D. C.

I am writing with reference to the Commission's letter of August 23, 1963, furnishing the staff of the Joint Committee with information on progress in implementing the Commission's recently announced policy on the replacement of AEC operating contractors.

On the basis of our earlier discussions, and the Commission's announcement in May of this year, I was hopeful that positive action would be taken in the near future on the question of opening AEC operating contracts to competitive proposals. However, after reviewing the substance of the Commission's letter of August 23, I am concerned that the policy which was announced in May may be only an empty gesture.

Specifically, I note that since the May announcement, all five operating contracts which expired have been renewed without any apparent attempt to elicit proposals from other qualified contractors. I also note that there is an apparent lack of plans for more positive action on the "formal implementation" of the Commission's stated policy.

I would like to see much more positive action taken in implementing the Commission's policy of putting these contracts on a competitive basis. The Commission's letter states that nine contracts are scheduled to expire within the next year. I would like to see specific steps taken immediately to determine whether action can and should be taken in connection with these operations.

I hope that you will be able to give this matter your immediate attention.

Sincerely yours,

John O. Pastore

John O. Pastore
Chairman

JOHN O. PASTORE, R.I.
CHAIRMAN
ANO B. RUSSELL, GA.
L[illegible]TON P. ANDERSON, N. MEX.
AL[illegible]T GORE, TENN.
HENRY M. JACKSON, WASH.
BOURKE B. HICKENLOOPER, IOWA
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CRAIG HOSMER, CALIF.
WILLIAM H. BATES, MASS.
JACK WESTLAND, WASH.
JOHN B. ANDERSON, ILL.

August 27, 196[illegible]

DS FILE

Dear Mr. Secretary:

UNCL. BY DOE
NOV 86

You may be interested to know that we have called upon the Library of Congress to translate for us the Russian text of the first sentence of paragraph 1.(b) of Article I of the limited test ban treaty before the Senate. We have a variance in the use of words, one interpretation of which could have a very serious effect on some of our activities. The English text reads as follows:

> "in any other environment if such explosion causes radioactive debris to be present outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted."

A translation of the Russian text is as follows:

> "in any other environment, if such an explosion causes radioactive fallout deposits / or alternatively 'fall of radioactive precipitants'/ beyond the limits of the territorial boundaries of the State under the jurisdiction or control of which is carried out such an explosion."
>
> (The pertinent words are underlined)

Technically, the problems are as follows:

The escape to the surface of minor amounts of radioactive gases from underground nuclear detonations is not unusual and the possibility of accidental venting of particulate radioactive debris cannot be entirely excluded. As a result detectable amounts of such radioactive debris could be measured in air samples in foreign countries or at sea by a ship off of one of our coasts. Such an occurrence could give rise to accusations based on a strict construction of the treaty that the United States had violated Article I, paragraph 1.(b) by causing "radioactive debris to be present outside the territorial limits" of the United States.

COPY

It would appear that the United States text is more restrictive than the Soviet text in that air samples, as contrasted to deposits on the ground, are more likely to be detected and probably have higher radioactive concentrations.

We realize that the differences in the two texts and their possible effects may have occurred to some of your advisers. However, this matter has come to the attention of the Joint Committee and we, therefore, feel it is our responsibility at this time to get your views on this problem of interpretation. I would especially appreciate your comments on the desirability of clarifying the phrase in question and the means by which such clarification could be accomplished.

It is of interest to note in this connection that the relative effects of limitations on release of radioactivity in the implementation of the United States underground nuclear test program may be further aggravated by certain geographical factors. The distance from our Nevada Test Site to Mexico or the Pacific Ocean is approximately 250 miles. In sharp contrast, the distance from Semipalatinsk, the Soviet test site, to South Korea--the closest probable point where we could detect some radioactive debris--is over 2500 miles. Furthermore there may be other locations in the Soviet Union where underground tests could be conducted with greater assurance to the Soviets that radioactive debris would not drift downwind to a free nation. These geographical factors indicate the asymmetric situation of the limitations on the United States vis-a-vis those on the Soviet Union.

Another matter that the Committee would like to call to your attention concerns the problem on proving the occurrence of an atmospheric nuclear explosion. In particular, if acoustic and/or electromagnetic signals were received from an event occurring in the Soviet Union and no radioactive debris were discovered afterwards to associate with that event, what steps could or would the United States take on the basis of the available geophysical data? As you know, this problem is not entirely hypothetical in view of the fact that in June of this year, events were detected by the United States by means of acoustic signals emanating from the Soviet Union, but were unaccompanied by detectable radioactive debris. It has been suggested that the successful containment of debris by the Soviets within their territory on these particular events may have influenced the Soviets to acquiesce to the limited nuclear test ban treaty.

COPY

I would like to suggest that, as Chairman of the Committee of Principals, you may wish to elicit from the other Principals their comments on the matters raised in this letter. In particular, it is suggested that they assess the following:

(a) the possible effects of a strict construction based on the English text of Article I, paragraph 1.(b) of the treaty on the underground nuclear test program, including the Plowshare program; and

(b) the possible effects on the above programs of any suggested definition based on the Russian text which would clarify Article I, paragraph 1.(b).

It is my hope that bringing these points to your attention at this time will serve to assist you and the others directly concerned with interpretation of the treaty in reaching decisions in the best interests of the United States. Because it relates to the implementation of the underground test program, I am sending a copy of this letter to the Chairman of the Atomic Energy Commission.

Sincerely yours,

John O. Pastore
Chairman

Honorable Dean Rusk
The Secretary of State
Washington, D. C.

cc: Dr. Glenn T. Seaborg
Chairman
Atomic Energy Commission

DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING
WASHINGTON 25, D.C.

GT FILE

Log No. 63-4123
Copy No. 37

AUG 23 1963

MEMORANDUM FOR THE CHIEF, DEFENSE ATOMIC SUPPORT AGENCY

CNCL: BY DOE NOV 86

THRU: The Chairman, Joint Chiefs of Staff

SUBJECT: Atmospheric Test Planning Guidance

References: (a) DDR&E Memo dated 8 August 1963, Subject as above

(b) SecDef Memo dated 3 July 1963, Subject: "Department of Defense Guidance on Atmospheric Testing, 1964," with incl.

The following additional guidance is provided to clarify the intent of reference (a).

The thought behind the second paragraph of reference (a) is that the present state of readiness for atmospheric testing is considered to be one year. Prior to the test ban discussions, preparations were going forward for atmospheric testing next summer, and it has been normal practice to initiate readiness activities for testing approximately one year in advance. The thought I wish to convey is that the readiness time period for testing should be reduced gradually from one year to six months, and that by 1 January 1965 the DOD should have attained the capability to test on shorter notice (six months) than is practicable at the present time.

The Secretary of Defense had suggested September 1964 as a reasonable date by which this advanced capability to test might be attained and further, that a few months one way or the other should not make any significant difference. In reference (a), I had simply rounded off the date at 1 January 1965 as an acceptable planning date for the attainment of readiness to test within six months of a decision. An earlier attainment of the stated six months capability would be entirely acceptable, with the provision that it should not result in substantial increases in expenditures beyond what would otherwise be required.

For the time being, the test program to be planned and prepared for will be that program outlined in the inclosure to reference (b). On a

Chm. AEC

periodic basis (perhaps every three months), you are requested to provide a review of the program status. Proposed changes should be submitted for approval as a part of the periodic reviews.

/s/ Harold Brown

Harold Brown

cc:
Chm, AEC
Sec. Army
Sec. Navy
Sec. Air Force
ATSD/AE

DoD

DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING
WASHINGTON 25, D. C.

AUG 28 1963

GT FILE

UNCL. BY DOE
NOV 86

Honorable Glenn T. Seaborg
Chairman
U. S. Atomic Energy Commission
Washington 25, D. C.

Dear Glenn:

As you are aware, the partial test ban treaty prohibits the conduct of nuclear explosions in the atmosphere and further provides that underground experiments shall be conducted in such a manner as to avoid causing radioactive debris to be present outside the territorial limits of the U. S.

The latter stipulation requires interpretation to provide guidelines to the test program personnel for the design and execution of the underground test program.

The DoD test program is directed toward highly instrumented tunnel shots to study such problems as ground shock isolation, x-ray effects and warhead vulnerability, as well as shallow-burial cratering studies.

Experience in Nevada has indicated that there is always a chance of venting -- particularly with tunnel shots. Of course, cratering shots will always release some radioactivity to the atmosphere.

Conservatism in tunnel design, using minimum yields and the maximum practical depth and awaiting appropriate favorable meteorology, can greatly reduce the chance of a technical violation of the stipulation of the treaty concerning detectability. The conduct of cratering shots must be limited to low yields, reduced fission devices as available, possibly with neutron absorbers to reduce induced activities, and favorable meteorology in more marginal instances.

In spite of every precaution in carrying out the needed experiments, there will always remain the small but finite possibility of release of

sufficient radioactivity to be detectable beyond the territorial limits. This arises from unknowns in geology and meteorology, and the extreme sensitivity of instruments for the measurement of radioactivity. Therefore, we believe it essential to advise the test operators that while they are to take every precaution to assure that the treaty stipulation is not violated in the execution of approved programs, it must be recognized that there will be the possibility of an occasional technical violation. Unless guidance based on this principle is given to the field organizations, we believe they will be too restricted in their operations to execute a vigorous program.

We recognize that detailed instructions to the test organizations in the DoD and AEC will need to be developed but we believe the principles on which to base them should be as given here. We would appreciate receiving your comments on this approach and your assessment of the problem of definition of underground tests permissible under the treaty. After receiving your views we should jointly develop appropriate instructions to the field organizations for their guidance in the design and conduct of the underground nuclear test program.

Sincerely yours,

Harold Brown

Harold Brown

Sunday, September 1, 1963 - Washington - South Bend, Indiana - D.C.

I flew to South Bend, Indiana, in an Air Force Convair with Alexander Van Dycken, Everett Johnson, Howard Brown, Tom O. Jones (NSF) and Peter. We left Andrews Air Force Base at 10 a.m. and arrived at 11:50 a.m.

We attended a luncheon at the Morris Inn which was presided over by Father Theodore M. Hesburgh (President, Notre Dame University) and attended by Fred Seitz (the speaker), trustees, former Met Lab scientists, and others, including Frederick D. Rossini (College of Science Dean), Milton Burton (Radiation Laboratory Director) and John Magee (Associate Director).

I spoke at the 3 p.m. dedicatory ceremonies for the Radiation Research Building (built by the AEC) in a ceremony in the auditorium of the new Memorial Library on the Notre Dame campus on "Radiation Chemistry at Notre Dame." James Franck and Sam Lind received honorary degrees. Following this, Father Hesburgh blessed the building.

I flew back to Andrews Air Force Base with Father Hesburgh, Father Soleta (Vice President, Academic Affairs), Howard Brown, Tom Jones and Peter. We left at 5 p.m. and arrived at 8:30 p.m.

Dedication of Radiation Laboratory, University of Notre Dame, September 1, 1963
L to R: Father T. M. Hesburgh, James Franck, Sam Lind, and Seaborg

Monday, September 2, 1963 - LABOR DAY

I worked on the speech I will give at the ACS Symposium in New York on September 11th, entitled, "Responsibility of the Scientist to His Nation and the World." I also worked on my forthcoming IAEA speech.

Our family had a picnic in Rock Creek Park with the Prices (Robert and Louise and daughters Roberta and Marianne), cousins Hilma and Esther, Jack and Adelaide Gittins, Jimmy Cobb (Eric's friend), Sally Doyle (Lynne's friend), Bill Puppa (Pete's friend), and Linda (Roberta's friend).

Rock Creek Park, Washington, D.C., September 2, 1963
L to R (front): Lynne Seaborg, Sally Doyle, David Seaborg
L to R (back): Louise Price, Stephen Seaborg, Hilma Howser, Adelaide Gittins, Berta and Robert Price, Esther Arnott, Marianne Price, Jack Gittins, Linda, Helen Seaborg (holding Dianne)

Tuesday, September 3, 1963

The Commission met with Luedecke, Baranowski and others to discuss the methods of plutonium and U-235 production (reactor shutdowns, power cuts, etc.) to meet the 1968 and 1972 weapons stockpile goals as suggested by Secretary McNamara's August 15th letter to President Kennedy. We decided to retain the NPR in a dual capacity (production and power) at least until 1968.

At 2:45 p.m. I had a call from Clark Kerr inviting me to speak to the University of California Regents at their October 18th meeting in Davis, California, and to a pre-game football luncheon with him on October 19th.

Wednesday, September 4, 1963 - D.C.

Jerry Johnson called at 9 a.m. to say that yesterday afternoon he met with Dave Bell of AID and several others on Plowshare. The general discussion centered around the problem of using AID in developing cooperative work with AEC at some appropriate time. Jerry had talked to Walt Rostow about this earlier and Rostow is quite enthusiastic and ready to go ahead. Bell is more reserved because he feels this is a national policy question. Since the President shortly will be making a speech at the United Nations, Bell thinks it might be a good idea to suggest to Arthur Schlesinger that an appropriate paragraph be put in the speech that would provide an umbrella under which AID could work. Jerry has drafted a paragraph which might be used, and I asked him to send it over so we could give it some thought.

Beginning shortly after 9 a.m. I met with the Hanford Industrial Task Force (Chilton, Evans, Underhill, Beall) and the AEC-GE Study group (Albaugh, Holstad) and staff to discuss the Hanford problem attendant on reactor shutdown and how it can be met by bringing industrial, DOD and NASA work to the site.

I had lunch with Chilton, Evans, Underhill, Beall, Albaugh, Holstad and Commissioners Wilson and Ramey at the Metropolitan Club.

This was the first day of school for the kids. Steve started at Deal Junior High School, where he is in Honors. Eric also advanced to Honors at Murch School. Dave is at Deal and Pete and Lynne are at Woodrow Wilson High School.

Thursday, September 5, 1963 - D.C.

The Joint Committee on Atomic Energy held hearings today on the Indian Tarapur reactor and the Amendment to the Euratom Agreement (to increase the amount of U-235 from the U.S. to Euratom). Commissioner Ramey and representatives of the State Department testified and it seemed to go very well.

I had lunch with Howard Simons (of the Washington Post) and Chris Henderson at the University Club.

Professor Raymond L. Murray (Head, Department of Nuclear Engineering, North Carolina State College) came in to see me; Russell Poor also joined us. Murray told me about his visits to nuclear energy establishments in about 20 countries. He suggested a conference of university people to discuss how we might aid these programs and help train people.

Friday, September 6, 1963 - D.C.

At 10 a.m. and 4:40 p.m. I presided over Commission Meetings 1960 and 1961, respectively (action summaries attached) to discuss the FY 1965 budget. The BOB has given us an upper limit of $2.861 billion, which will require the curtailment of many activities. We discussed Bundy's memo of August 30th requesting review of the FY 1964 underground testing program in light of the partial test ban treaty.

I had lunch at the Metropolitan Club with John Conway and Chris Henderson.

At 2:30 p.m. I presided over Information Meeting 304 (notes attached).

I met with Jean-Paul Palewski and others of the finance group of the French legislative assembly who are in the United States to study accounting methods.

OPTIONAL FORM NO. 10
5010-104
UNITED STATES GOVERNMENT

Memorandum

TO : A. R. Luedecke, General Manager

DATE: September 6, 1963
Approved A. R. Luedecke
A. R. Luedecke
Date 9/10/63

FROM : W. B. McCool, Secretary

SUBJECT: ACTION SUMMARY OF MEETING 1960, FRIDAY, SEPTEMBER 6, 1963, 10:00 A.M., ROOM 1113-E, D. C. OFFICE

SECY:JFG

Commission Business

AEC 1132/3 - FY 1965 Budget Preview, and
AEC 1132/4 - FY 1965 Budget Estimates - Laboratories

The Commission tentatively approved the following items and amounts for the FY 1965 Budget Estimates:

	Commission Program	Program Under BOB Target
	(In Thousands)	
Raw Materials		
Operating Expenses	$267,455	$267,455
Capital Equipment	25	25
Construction Projects	50	50
Special Nuclear Materials		
Operating Expenses	$440,000	$440,000
Capital Equipment	25,000	25,000
Construction Projects	16,550*	12,550
Weapons		
Operating Expenses	$803,347	$803,347
Capital Equipment	69,130	68,000
Construction Projects	50,000	50,000

Mr. Abbadessa said he would provide Commissioner Tape information on computer usage figures at the weapons laboratories. (Abbadessa)

* The Commission suggested consideration of placing the Hanford Isotopes Production Plant Project within the Special Nuclear Materials Program rather than the Isotopes Development Program. The amount required for the Project will be determined later.

cc: Commissioners

OPTIONAL FORM NO. 10
5010-104
UNITED STATES GOVERNMENT

Memorandum

UNCL. BY DOE
NOV 86

TO : A. R. Luedecke, General Manager

DATE: September 7, 1963

Approved _____
A. R. Luedecke

FROM : W. B. McCool, Secretary *Original signed W. B. McCool*

Date _____

SUBJECT: ACTION SUMMARY OF MEETING 1961, FRIDAY, SEPTEMBER 6, 1963, 4:40 P.M., ROOM 1113-B, D. C. OFFICE

SECY:ICB

Commission Business

AEC 1132/3 - FY 1965 Budget Preview, and
AEC 1132/4 - FY 1965 Budget Estimates - Laboratories

The Commission tentatively approved the following items and amounts for the FY 1965 Budget Estimates:

	Commission Program	Program Under BOB Target
	(In Thousands)	
Operating Expenses		
Reactor Development		
Civilian Power Reactors.....	$87,200	$ 75,900
Cooperative Power Reactor Demonstration Program Costs..	$18,000	$ 18,000
Total Obligations.....	$29,768	$ 29,768
Euratom.....	$ 5,500*	$ 5,500*

The Commission noted the letter to the Bureau of the Budget should point out the restrictive nature of the $2.9 billion budget estimate. (Abbadessa)

---

* The Commission agreed to discuss funding for the Euratom Cooperative Program at a later meeting.

cc:
Commissioners

902144

THE WHITE HOUSE
WASHINGTON

August 30, 1963

OFFICE DIARY
GLENN T. SEABORG
Chr USAEC, 1961-72
FOLDER-PAGE 33013

MEMORANDUM FOR HOLDERS OF NSAM NO. 210

SUBJECT: Review of the FY 1964 Underground Testing Program

1. The President has requested that the existing FY 1964 underground testing program be reviewed in light of the partial test ban treaty, ratification of which appears to be imminent, and the statements pertaining to underground testing contained in the letter dated August 23, 1963, to the Chairman of the Senate Armed Services Committee and the Top Secret annex thereto, both signed by the Deputy Secretary of Defense.

2. The Atomic Energy Commission and the Department of Defense are requested to initiate review of those parts of the testing program for which they are responsible, and to submit their recommendations for any revisions in the program to the working group established by NSAM No. 210, for its review of the policy and technical justifications supporting the recommendations. The working group will generally review the entire program to determine if it is consistent with the requirements of national security and with foreign policy.

3. In view of possible implications for certain appropriations requests now pending before the Congress, the President has requested that the results of this review be transmitted to him as soon as possible and no later than September 23, 1963. The agency recommendations should be forwarded to the working group by September 16.

McGeorge Bundy

**CONFIRMED TO BE UNCLASSIFIED *
BY AUTHORITY OF DOE/OC
J. Diaz 2/27/89
REVIEWED BY DATE
*Ltr. NSC Graboske To DOE, OCTP Siebert dated 2/10/89
**Declassified by NSC on 2/9/89 Per NSC Ltr. of 2/10/89

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 15
September 6, 1963

UNCL. BY DC
NOV 86

INFORMATION MEETING 304

2:30 p.m., Friday, September 6, Chairman's Conference Room, D. C. Office

1. Chairman's Discussion with Mr. Ted Merkle re Nuclear Rockets Program

√ 2. Mr. Bundy's August 30 Letter Request for Review of the 1964 Underground Test Program

The Chairman suggested Commissioner Tape review with General Betts. (Betts)

3. Draft Definition of Underground Tests

The Chairman noted Dr. Tape's transmitting memo and Mr. Palfrey said the draft has been made available to Senator Fulbright.

√ 4. Dr. Harold Brown's August 28 Letter re Underground Test Program

The General Manager confirmed staff is reviewing this matter with DOD. (Betts) attached on 8/30

5. The Chairman's Meeting with Mr. Eklund, Director General, IAEA, Next Week in Washington

The Chairman noted the cable from Ambassador Riddleberger regarding the proposed meeting and reporting Mr. Eklund's preliminary thinking with respect to the IAEA role in the test ban. The General Manager reported AEC staff will discuss with State Department staff today. (Later in the meeting Mr. Wells reported on the agreed AEC-State position for use in discussions with Mr. Eklund.)

√ 6. Chairman's Letter to Secretary of Defense re Proposed Study on High Yield Weapon in S/RD file - dated Sept 9, 1963

The Chairman said he would sign after Commissioner Ramey's review.

7. Chairman's Meeting with Undersecretary Roosevelt, Commerce, and Mr. Alexander, Maritime Administrator, 3:30 p.m., Monday, Sept. 9

The Chairman said Mr. Roosevelt wishes to discuss the N.S. SAVANNAH and the Commissioners and General Manager are welcome to attend meeting. It was suggested that the role of nuclear power in the Merchant Marine be discussed and Mr. Alexander is to be informed of this suggestion. (GM)

8. Draft Report

Available in the Chairman's office if the Commissioners wish to read it.

✓ 9. Possible Presidential Statement re PLOWSHARE Projects

The Chairman noted Dr. Gerald Johnson's discussions with David Bell, AID, and Mr. Rostow, State, re the possibility of international cooperation on PLOWSHARE projects. Dr. Johnson is transmitting to the AEC a draft paragraph for possible use in a Presidential speech.

10. President's UN Speech

In response to Dr. Tape's query, the Chairman suggested he follow this matter.

11. Hanford Visit, September 26

The Chairman noted DOD representatives will visit the Hanford plant on that date.

12. Dispersal - DOD Letter Request of September 4

Noted

13. NATO Security Survey

The Chairman suggested Commissioner Ramey review this matter.

14. AIF Luncheon Meeting, September 9

The General Manager reported the agenda and background material has been circulated to the Commissioners today. The Chairman suggested this material be discussed at the Information Meeting on September 9.

15. Mr. Roddis', AIF, August 30 Letter re Use of Geneva Exhibit at AIF Meeting, November 1964

The Commissioners requested consideration of Mr. Roddis' request. (Gardner)

16. Discussions with Warren Johnson re Oak Ridge Laboratory

In response to Commissioner Tape's query, the Commissioners said it would be helpful to discuss this matter with Mr. Johnson if he is in Washington next week.

17. Advisory Committee for Biology and Medicine August 30 Letter Report on 98th Meeting

The Commissioners noted the ACBM comments on the LRL Laboratory.

18. Dr. John Foster's August 24 Letter to General Betts re Weapons

T/s- do not use per GTS

The Commissioners requested evaluation. (Betts)

19. Nucleonics Week Report on Interview with Representative Cannon re AEC Budget

20. Appropriations Committee Mark-up of FY 1964 Budget

The Chairman suggested a query regarding the timing. (GM)

21. NTS Community Hearings

The Chairman said he had discussed this matter briefly with Mr. Conway, JCAE Staff Director, and informed him Commissioner Ramey will testify if held Wednesday.

22. JCAE and AEC Exchange of Letters on Private Ownership

The Commissioners suggested acceptance of the proposed exchange.

23. Possibility of Offering Toll Enrichment to Sweden

The Commissioners agreed it would not be timely to proceed.

24. Allied Chemical - General Electric Plans for a West Coast Chemical Processing Plant

The Commissioners suggested this matter be actively pursued pending the start-up of NFS operations and that when discussed, consideration of the use of Hanford be explored. (Tremmel)

25. Agenda for Week of September 9

Approved.

26. JCAE Hearing on Army Reactors

Commissioner Ramey said, in light of the comments at the Hearing yesterday, the study of the Army Reactor Program should be discussed with the Commission soon. A report on the shut down of the Antarctic reactor which was also discussed at the Hearing would have been helpful in preparation for the Hearing. (Pittman)

27. Press Release re Hanford

The Commissioners agreed with the General Manager's recommendation that no press release be issued.

28. IAEA Seminar on Medical Radioisotope Scanning, Greece, April, 1964

The Commissioners had no objection to the General Manager's recommendation of support to the extent of 12-15 people.

29. Excess Mercury

The General Manager reported on the disposal of 50,000 flasks to other agencies including GSA.

30. Proposal re Development of White Rock Lands

The General Manager said staff is ready to move and Los Alamos will issue the solicitation soon.

31. Curium Production Program

The General Manager noted staff is proceeding on the basis of 3 kg. production planning.

PRESENT

Dr. Seaborg
Dr. Wilson
Mr. Ramey
Mr. Palfrey
Dr. Tape
Gen. Luedecke
Mr. Hennessey
Mr. Henderson
Mr. McCool

DISTRIBUTION

Commissioners
General Manager
General Counsel
Secretary

287

W. B. McCool
Secretary

Saturday, September 7, 1963 - D.C.

The Commission continued its discussion of the FY 1965 budget (Commission Meeting 1962, action summary attached). I also worked on AEC papers.

I played nine holes of golf at the Chevy Chase Club with Steve.

The family, except Dave who was attending a baseball game, had a belated birthday dinner for Steve at The Charcoal Hearth.

Sunday, September 8, 1963

The family (except Pete) had a picnic in Rock Creek Park. Dave, Steve and Eric's friends, Ziad and Hosam El Shakaa, Bill Howe and Art Cobb joined us.

I worked on a chapter for the book, Listen to Leaders in Science, on my Franklin Medal speech (October 16th), on my IAEA and isotopes speeches.

Monday, September 9, 1963 - D.C.

At 10 a.m. I presided at Information Meeting 305 (notes attached). The Commission approved and I signed a letter to McNamara (copy attached) suggesting that he and I bring up the question of launching SNAP-9A at the Space Council. There is a small danger of failure and contamination by the Pu-238 alpha particles.

I called New York Congressman John Pillion (N.Y.) at 11:30 a.m. and invited him to accompany me on a visit to Brookhaven National Laboratory on Tuesday, October 8th. He replied that he would like to go and suggested that we check with each other the week before.

The Commissioners met at lunch (the meeting continued until 3 p.m.), with members of the Atomic Industrial Forum at the Army-Navy Club. We discussed many items including emphasis on siting criteria and nuclear reactor safety. They want more emphasis on engineered safety devices and less on distance.

At 3:30 p.m. the Commission met with F. D. Roosevelt, Jr. (Under Secretary of Commerce), Maritime Administrator Don Alexander and Robert Giles (General Counsel, Commerce Department) to discuss operation of the Savannah next year after the new crew is trained. They recommend a Maritime Administration backup crew and also a Navy second backup crew. We will probably agree. They also said that the Department of Commerce places great hope in nuclear propulsion for merchant ships and hopes that the AEC will back the development of G.E.'s gas-cooled reactor (630A). This will probably be in our FY 1965 budget.

I met with Sigvard Eklund, Harry Smyth and Algie Wells. Eklund wants a role for the IAEA in disarmament, but we said it would be premature to suggest this publicly.

Tuesday, September 10, 1963 - Germantown

At 9:55 a.m. I presided over Commission Meeting 1963 (action summary attached). The Commission approved Project SCHOONER, a Plowshare shot in hard rock, to be conducted in Idaho next spring. We decided to withdraw, under certain conditions, from the sale of I^{131}, I^{125}, Co^{60} and C^{14} to allow industry to fill this role.

At 2:35 p.m. I presided over Commission Meeting 1964 where we continued working on the FY 1965 budget. We decided not to recommend the MURA proposal (12.5 BeV accelerator at Madison, Wisconsin) unless it is changed to 10 BeV and put at Argonne under joint management with the ZGS.

OPTIONAL FORM NO. 10
5010-104

UNITED STATES GOVERNMENT

Memorandum

DECL. BY DOE
NOV 86

TO : A. R. Luedecke, General Manager

DATE: September 9, 1963

Approved _____
A. R. Luedecke

FROM : W. B. McCool, Secretary *Original signed W. B. McCool*

Date _____

SUBJECT: ACTION SUMMARY OF MEETING 1962, SATURDAY, SEPTEMBER 7, 1963, 10:45 A.M ROOM 1113-B, D. C. OFFICE

SECY:JCH

Commission Business

AEC 1132/3 - FY 1965 Budget Review, and
AEC 1132/4 - FY 1965 Budget Estimates - Laboratories

The Commission tentatively approved the following items and amounts for the FY 1965 Budget Estimates:

	Commission Program	Program Under BOB Target
	(In Thousands)	
Reactor Development		
Operating Expenses		
Navy Propulsion Reactors	$ 98,900	$ 94,700
Merchant Ship Reactors	$ 5,000	$ 5,000
Army Power Reactors	$ 10,400	$ 10,400
Rocket Propulsion Reactors	$121,000*	$100,000
Capital Equipment		
Computers for Bettis and KAPL	$ 13,000	$ -0-**

*As a related item, GSO will be increased by $4.0 million.
**The Commissioners agreed further consideration would be given to including $13.0 million for the computers in the BOB Target Estimate.

	Commission Program	Program Under BOB Target
	(In Thousands)	
Reactor Development		
Construction		
65(4)-Merchant Ship Reactor Prototype	$ 12,000*	$ 12,000*
65(5)-R&D Test Plants, LASL and NRDS	$ 5,000	$ 3,000
65(6)-Engineering & Design, Test Cell E, NRDS	$ 3,400	$ -0-

The Commission noted a detailed briefing on the seed and blanket concept would be available in December. (Pittman)

The Commission requested that the opportunity to participate in the proposed large nuclear power station be extended to all recipients of the preliminary report and that the Commission be kept informed of any industrial interest in the proposed project. (Pittman)

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*The Commissioners agreed that $12.0 million should be included for the Merchant Ship Reactor prototype subject to:

(a) review of the forthcoming staff paper on the matter;

(b) discussions with top GE management if the project is approved;

(c) giving serious consideration to locating it at Hanford; and

(d) strong endorsement by the Department of Commerce.

The Controller said he would provide Commissioner Palfrey information on the total AEC investment in computers. (Abbadessa)

The Commissioners noted they would consider the sequence of reviewing the matter of N. S. SAVANNAH control rod replacement with the ACRS and others at the time they consider the forthcoming staff paper on continuing N. S. SAVANNAH operations. The ACRS April 27 letter report is to be considered together with the staff paper. (Pittman/Secy)

The Commission requested that the letter to the BOB include a reference to the fact that the current DOD/AEC study of MCR requirements is expected to be completed by December 1, 1963, and if the report is favorable, the budget estimates may be revised to include funds for MCR. The letter should also note the magnitude of the current projections for MCR. (Abbadessa)

The letter to the BOB should also point out that the recommended budget estimates in certain programs represent essentially a holding action which does not allow sufficiently for necessary development. (Abbadessa)

The Chairman noted that he wished to visit Bettis and KAPL laboratories later in the year. (Secy/Pittman)

cc:
Commissioners

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

DECL. BY DOE
NOV 86

COPY NO. 15
September 9, 1963

INFORMATION MEETING 305
10:00 a.m., Monday, September 9, Chairman's Conference Room, D.C. Office

1. Appointment of ACRS Members

The Chairman discussed briefly his conversation with David Hall, ACRS Chairman, last Friday in which Mr. Hall said the Committee would like to move ahead with the two proposed appointments. Also discussed was the procedure for recommendation of candidates for appointments to the ACRS. (Secy-Price)

✓ 2. Letter Response to Senator Stennis attached on 9/14

The Chairman noted receipt of the revised letter report and Mr. Palfrey suggested concurrent White House staff and AEC review.

✓ 3. Proposed Response to Secretary Gilpatric re Cooperation with Belgium

The Chairman requested review by the Commissioners prior to his transmittal of the letter. (Brown) attached on 9/14

4. Letter to Secretary of Defense re SNAP 9A

Approved, as revised for transmittal today. (Brown)

5. Commissioners' Meeting with Undersecretary Roosevelt, Commerce, and Mr. Alexander, Maritime Administrator, 3:30 p.m., Room 1113-B

6. Invitation to Congressman John R. Pillion, New York 39th District, to Accompany the Chairman to Brookhaven, October 8-9

The Chairman said he would telephone Mr. Pillion to invite him to accompany him on the visit.

7. Interdepartmental Energy Study

In response to the Chairman's request, Mr. Ramey said he and Dr. Tape had lunch with Dr. Cambel on Friday and would keep in close touch with him on the Study.

8. ROVER Program

The Commissioners suggested it would be helpful to discuss the matter further prior to next week providing the General Manager has an opportunity to review the program with Dr. Seamans, NASA.

9. Commissioners' Luncheon Meeting with AIF Today

The Commissioners reviewed with the General Manager the background material for the luncheon.

10. AEC 996/18 - Transmittal of Certain Atomic Information to The Federal Republic of Germany

Approved. (Betts)

11. Pending Contractual Matters (September 5, 1963 Report)

Mr. Ramey discussed briefly the prospective R&D contract with Nuclear Utility Services, Inc.

12. Commissioner Ramey's Testimony for Hearings on the NTS Community, Wednesday, September 11

The Commissioners reviewed with the General Manager the proposed testimony.

PRESENT

Dr. Seaborg
Dr. Wilson
Mr. Palfrey
Mr. Ramey
Dr. Tape
Gen. Luedecke
Mr. Hennessey
Mr. Henderson
Mr. Brown
Mr. McCool

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Commissioners
General Manager
General Counsel
Secretary

W. B. McCool
Secretary

GT FILE

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D. C.

SEP - 9 1963

UNCL. BY DOE
NOV 86

Dear Mr. McNamara:

The Atomic Energy Commission has approved the use of three plutonium-238 fueled SNAP-9A generators on the upcoming launches of the Navy's 5BN navigation satellites scheduled during September, October and November 1963 from the Pacific Missile Range. Therefore, the AEC is proceeding with its program to provide the SNAP-9A generators for these missions as requested by the DOD.

Extensive nuclear safety analyses have been performed in support of these proposed flight tests of SNAP-9A powered navigation satellites. The Commission has found that the SNAP-9A device has been manufactured and will be used in the 5BN navigation satellite missions in such a manner as to provide reasonable assurance that no undue hazard will be imposed upon the operating personnel or the public. In making this finding, the Commission recognized that there is some small degree of risk involved in these missions, as there was in the case of the previous Transit flights, in the event of an early reentry of a partially burned-up unit impacting in an inhabited area and releasing the fuel in a form and manner which could subject anyone to a radiological hazard. The Commission's approval of the use of SNAP-9A took into account its assessment of the extent of the hazard measured against its understanding of the importance of these missions.

The AEC is prepared to cooperate with the DOD in presenting this matter to the National Aeronautics and Space Council (NASC) as a means to acquaint all interested agency heads with this program and to reach a single policy position which can be recommended to the President for approval. As specified in our interagency agreement for the division of responsibilities of this program, it is proposed that we jointly present this matter to the NASC for discussion from the standpoint of its national and international implications. Presidential action to the extent required can then be determined.

Our respective staffs have been in continual contact on this program and we are prepared to cooperate with the DOD in any technical briefings required to present this matter to the Department of State and the NASA prior to the meeting of the NASC.

I am enclosing a copy of the letter which I plan to send to the Chairman of the National Aeronautics and Space Council as a means of acquainting Council members with the proposed program and in order that we might arrive at a single position on the policy issues involved.

Sincerely yours,

(Signed) Glenn T. Seaborg

Chairman

Honorable Robert S. McNamara
Secretary of Defense

Enclosure

Through Honorable Gerald W. Johnson
Chairman, Military Liaison Committee

OPTIONAL FORM NO. 10
5010-104

UNITED STATES GOVERNMENT

Memorandum

DECL. BY DOE
NOV 86

TO : A. R. Luedecke, General Manager

DATE: September 10, 1963

Approved _____
A. R. Luedecke

FROM : W. B. McCool, Secretary *Original signed W. B. McCool*

Date _____

SUBJECT: ACTION SUMMARY OF MEETING 1963, TUESDAY, SEPTEMBER 10, 1963, 9:55 A.M. ROOM A-410, GERMANTOWN, MARYLAND

SECY: JFG

Commission Business

1. Minutes of Meetings 1942, 1943, 1944, 1947, 1948 and 1949

   Approved, as revised.

2. Minutes of 140th AEC-MLC Conference

   Approved.

3. AEC 89/15 - Exchange Visit of British National

   Approved. (Smith)

4. AEC 267/87 - Nuclear Education and Training Programs

   Approved. (Poor)

   The Chairman requested the Commission be provided a list of examples of training reactors with histories of usage prior to budget hearings. (Poor)

5. AEC 1141 - Development of a Plant Research Program and Laboratory at Michigan State University

   Approved, as revised. (Dunham)

   The Commission noted its approval is subject to the inclusion of a provision for review of the cost ceiling on the laboratory building under any proposed contract. (Dunham/Vinciguerra)

   The Commission's approval is also subject to informal review of the matter with the JCAE prior to further steps being undertaken. (Dunham)

   The Commission accepted Commissioner Tape's suggestion that paragraph 3 of the draft press release be revised to more accurately reflect the maximum estimated operational budget level. (Clark/Dunham)

6. AEC 371/34 - Proposed Extension of Contract with General Electric Company - KAPL

Approved. (Vinciguerra)

7. AEC 1005/6 - Revised Program Justification Data Piqua Nuclear Power Facility

Approved. (Pittman)

8. AEC 842/25 - Revised Program Justification Data Elk River Reactor

Approved. (Pittman)

9. AEC 811/113 - Plowshare Program (Project Schooner)

Approved, as revised. (Kelly)

The Commission noted the need to revise the fifth paragraph of the draft public announcement to avoid the need for declassifying action. (Kelly/Clark)

The draft public announcement is to be further revised to reflect an appropriate comparison to the fission yield of Project SEDAN. (Kelly/Clark)

The draft letters to Mr. Wiesner and Mr. Bundy are to be revised in accordance with the discussion at the meeting. (Kelly)

The Commission requested the letter to Mr. Wiesner note the inclusion of a summary within the Schooner Site Selection Report. (Kelly)

The Commission requested the draft letter to the JCAE not be dispatched until the White House has reviewed the matter. (Kelly)

10. AEC 994/13 - Addendum to AEC 994/11 - AEC-Industry Participation in the Production and Distribution of Radioisotopes

Approved, as revised. (Aebersold)

The Commission requested the Atomic Industrial Forum (AIF) be advised of the proposed withdrawal action; policy matters will be discussed with AIF prior to action on them. (Aebersold)

Helen and I attended a reception for Senator Clair Engle, who is still in the hospital, at the International Inn. I talked to Senator Jackson there, and he said that President Kennedy has asked him to discuss with me the cutback in fissionable materials production, i.e., not to go too far too fast, and the President's forthcoming trip to Hanford.

I also talked to Holifield who said that Hickenlooper is trying to prevent payment of the $50,000 Fermi Award to Oppenheimer and that, as a compromise, the JCAE may recommend that they review candidates for this award in the future.

I sent my biweekly report to the President (copy attached).

Wednesday, September 11, 1963 - Washington - New York

Accompanied by Arnie Fritsch, I flew to New York on Eastern's 9 a.m. shuttle, where, in the Versailles Ballroom at the Americana Hotel, I was the luncheon speaker at the 145th National ACS Symposium on Professional Responsibilities of Scientists. My talk was entitled, "Responsibilities of Scientists to their Nation." This was later published in the December 23, 1963, issue of Chemical and Engineering News and in the State Department "Bulletin."

Later, I was interviewed, in Ray Avery's suite, by Murray Burnett, of radio station WINS, on tape for later broadcast. I toured the AEC Activation Analysis exhibit and the book exhibit.

Presentation to Seaborg of leather-bound, gold-embossed copy of Man-Made Transuranium Elements by Carroll V. Newsom (Vice Chairman of the Board and Senior Vice President of Prentice-Hall, Inc.), New York City, September 11, 1963

DC FILE

September 10, 1963

UNCL. BY DOE
NOV 86

PERSONAL AND CONFIDENTIAL

Dear Mr. President:

I am pleased to submit my bi-weekly report to you on significant developments in the atomic energy program.

1. Congressional Notes

a. Last week, the Joint Committee on Atomic Energy (JCAE) held hearings on the pending agreement with India for construction of a power reactor at Tarapur, an amendment to the Euratom Agreement and the status of the Army Reactors Program. The following summarizes a few of the highlights of these hearings:

(1) Tarapur

The JCAE expressed general satisfaction on the safeguards contained in the pending agreement with India for the construction of a power reactor in Tarapur. However, another issue was raised by Representative Mosmer who drew support from Chairman Pastore and other members. Mr. Mosmer referred to India's policy on import restrictions, which unless waived could seriously jeopardize the efforts of General Electric to construct and operate the reactor successfully. State Department and AID representatives stated that a waiver was being sought and that "we are hopeful" it will be granted. Mr. Mosmer stated that in the absence of a waiver he would oppose the agreement. Senator Pastore directed the preparation of a letter from the JCAE expressing its concern over this matter and added that it would be "unwise" for the Administration to proceed without the waiver in the face of the JCAE attitude.

(2) Euratom

The JCAE voiced no opposition to an amendment to the agreement with Euratom which provides for the transfer of additional nuclear materials. A question was

raised as to whether the agreement and related legislation implied additional authority to the AEC for toll enrichment of foreign nuclear materials (a matter now bound up in separate pending legislation). The JCAE was assured that the amendment did not provide for additional authority.

(3) Army Reactors Program

The AEC reviewed with the JCAE the status of the Army Reactors Program. The members of the Committee expressed concern regarding progress being made in this program. The objective of the Army Reactors Program is to develop a family of reactor systems that will meet the requirements of all military services for nuclear power plants suitable for use in remote areas or for unique military purposes.

b. Nevada Test Site Community

Hearings are now scheduled for September 12 on the proposed community for the Nevada Test Site which would be in support of the nuclear space effort. Indications now are that the JCAE attitude may be more skeptical than during preliminary discussions. In addition to the Commission, NASA is scheduled to testify at these hearings.

c. Private Ownership

I have been informally advised that the JCAE does not plan to take action during this session on the AEC proposed legislation to permit private ownership of special nuclear materials. The Committee plans to issue an announcement indicating, in general, support for the principle of the transfer of nuclear fuel cycle activities into the area of private industry.

2. Transfer of Los Alamos Utility Systems

There has been considerable community and Congressional interest in the announced plans of the AEC to terminate Government ownership and management of the Los Alamos community. This termination of Government ownership was authorized under 1962 amendments to the Atomic Energy Community Act of 1955.

On August 26, the AEC invited proposals for acquisition and future operation of the electric and natural gas distribution systems for this community. The gas and electric systems, under the Community Act, may either be sold to a private utility company or be donated to a local government entity.

3. Australian Officials Reviewing Plowshare Program

As the result of an exchange of correspondence between the Australian Ambassador and myself, three Australian officials are visiting the United States from September 1 to November 15 to review and discuss the scientific, engineering, and safety aspects of the Plowshare Program. The group has met with AEC staff, Corps of Engineers, USGS, and Bureau of Mines personnel in Washington and will visit the Lawrence Radiation Laboratory and the Nevada Test Site. They will spend the last week of their visit in Washington, D. C. for summary discussions.

4. Economic Diversification of the Richland Community

Senator Jackson, Governor Rosellini and community leaders of Richland, Washington, have evidenced a growing concern regarding the Richland community's primary economic dependence on the operations of the AEC Hanford Plant and Laboratories. Community leaders have formed a local non-profit corporation, the Tri-City Nuclear Industrial Council, Inc., with the purpose of providing leadership in Richland's efforts to promote industrial diversification and to broaden the economic base of the area. To meet this concern, the Commission has adopted a policy of extending cooperation to the economic diversification efforts of communities such as Richland, Oak Ridge and Savannah River. In implementation of this policy, we have arranged visits by representatives of other Federal agencies, notably DOD and NASA, to Hanford to determine whether the facilities could be utilized in their work. These visits are continuing.

We have also employed four consultants with broad managerial, technical and administrative backgrounds to study the capabilities of the Hanford Plant and Laboratories to ascertain opportunities for attracting private industry to Richland and to seek to identify alternate uses of these facilities by private industry in the event some of them should be no longer required for government work. These consultants constitute the Task Force for Economic Development of Richland, the Chairman of which is an AEC employee. This Task Force has met with representatives of the Council, and more recently with the Commissioners and principal AEC staff, to be briefed on alternate uses of Hanford facilities. The Task Force will meet again in October to draft a report to the Commission.

5. IAEA General Conference

As you know, I will be serving as the U. S. Representative to the Seventh Annual General Conference of the International Atomic Energy Agency which will open in Vienna on September 24. An important item for discussion and approval by the Conference is the extension of the Agency's safeguards system to include large reactor facilities.

While in Europe, I plan to visit atomic energy facilities in the United Kingdom, West Germany, Denmark and Norway. Also, I will participate in the opening of the U. S. Atomic Energy Commission's exhibit in Belgrade on September 21. My plans are to be back in Washington on Monday, September 30.

Respectfully submitted,

(Signed) Glenn T. Seaborg

Glenn T. Seaborg

The President
The White House

I was the guest of honor at a reception hosted by Prentice Hall Publishing Company in the Empire Suite at the New York Hilton Hotel. Carroll Newsom (Vice Chairman of the Board) presented me with a leather-bound copy of my book, Man-Made Transuranium Elements.

I spent the night at the New York Hilton Hotel.

Thursday, September 12, 1963 - New York - Washington, D.C.

I attended a meeting of the Commission of the Humanities at the Carnegie Foundation Building (645 E. 46th Street). It was decided to propose a Foundation of Humanities patterned on the National Science Foundation.

I returned to Washington on American flight 241 which left at 12:30 p.m. and arrived at 1:50 p.m.

From 2 p.m. to 5 p.m. I attended the JCAE hearing on the Nevada Community. Ramey, Luedecke, and Finger did most of the testifying although I did some of it.

Carl Kaysen called at 5:55 p.m. to tell me that he is returning to Harvard but he plans to be in and out of Washington frequently to keep his hand in things. He is working on a seminar at Harvard Graduate School of Administration and, in this connection, plans to hold a series of luncheon discussion meetings spaced throughout the year. He invited me to attend one and make some informal remarks. He said he will write me a letter and suggest dates. If none of them are convenient, he said I should feel free to suggest others.

Friday, September 13, 1963 - D.C.

The BILBY shot (250 KT) was successfully contained in Nevada today. This is a milestone in underground testing. It has been a source of some worry because of the possible effect on the Test Ban Treaty if venting occurs.

At 10 a.m. I presided over Information Meeting 306 (notes attached). We discussed a letter that was received from Combustion Engineering proposing a study on an organic-cooled, heavy-water moderated reactor capable of 5-6 mil power. The Commission decided to oppose Roosevelt's suggestion that the Navy train a second backup crew for the Savannah. The President has decided to visit Hanford to dedicate the NPR conversion facilities on September 26th. Since I will be in Vienna at that time, Tape will accompany the President.

I had lunch at the Mayflower Hotel with Ed Pauley. We discussed California politics, such as Senator Engle's replacement, e.g., Jesse Unruh, Pauley, Pat Brown, Glenn Anderson.

At 3:05 p.m. I presided over Commission Meeting 1966 (action summary attached) where we continued our discussion of the FY 1965 budget.

I called Harlan Cleveland at 6:30 p.m. and said that, in connection with my trip to Vienna, the subject of John Hall's replacement will undoubtedly come up. It is the strong feeling of the Commission that Algie Wells would be good for that position, and he would be willing to take on the assignment for two years. I explained that, when Hall went to Vienna, Wells took his job; now Hall will come back to his same spot. I said that, if it is all right with him, I would explore this with Eklund in Vienna next week and upon my return will give him a report. Cleveland said this sounds like a very good arrangement, and he sees no problem.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

DECL. BY DO-
NOV 86

COPY NO. 15
September 13, 1963

INFORMATION MEETING 306
10:05 a.m., Friday, September 13, Chairman's Conference Room, D.C. Office

1. Personnel Matter

The Chairman will explore the proposal with Secretary Cleveland, State Department.

2. Designation of Acting Chairman During the Commissioners' European Trip

3. Commission Meetings in Europe

The Commissioners agreed it might be necessary for Commission Meetings to be convened by a quorum in Europe during the Commissioners' forthcoming trip. (GM-GC-Secy)

4. Commissioner Tape's Visit to Hanford, September 26

5. Interparliamentary Meeting in Belgrade

Noting that the meeting will still be in session during his visit to Belgrade, the Chairman said he would mention this to Congressman Holifield.

(The General Manager entered the Meeting)

6. Test Guidelines

The Commissioners agreed the information should be sent to Mr. Bundy as staff views. (GM)

7. Letter to Senator Pastore re Contract Replacement

To be transmitted today. (Henderson)

8. September 5, 1963, Letter from Messrs. Starr and Zinn re Proposal for a Heavy Water Moderated Organic Cooled Power Reactor

In response to the Chairman's query, the General Manager said the proposal is in staff review. (Pittman)

✓ 9. Letters to Minister Lenz and Mr. De Hoffman re Fuel for NWK Reactor

The Chairman will sign the letters today. (Henderson)

10. Production Study

The Chairman said Mr. Bundy had assured him the Commission should take adequate time for appropriate review. A discussion paper will be scheduled for the week of October 7 and the General Manager will consider the possibility of developing a weapons modernization study. (Betts-Baranowski)

11. Commissioner Wilson's Letter to Secretary Roosevelt re N.S. SAVANNAH

Noted.

12. Ambassador Stevenson's Telegram re Third Geneva Conference

The Chairman said he would call Secretary Ball, State Department. (Henderson)

✓ 13. Letter to Vice President re SNAP 9

The Chairman said he would hold the letter pending the General Manager's discussion with Mr. Welsh, National Aeronautics and Space Council. (Henderson)

✓ 14. Exchange of Letters with JCAE re Private Ownership

Dr. Wilson discussed briefly the JCAE staff's discussion with him and Mr. Palfrey. The exchange of letters will hopefully be made at an early date.

15. Saline Water Studies

Commissioners Ramey and Wilson discussed the new study and the Chairman suggested they review the problem with Under Secretary Carr and Congressman Udall.

16. Agenda for the Labor Management Advisory Committee Meeting, September 16

The Commissioners said they wished to meet with the Committee and Mr. Ramey suggested an additional topic for discussion should be the atomic power program. (GM)

17. Agenda for the Week of September 16

Approved.

18. Litigation Report to the Department of Justice re Combustion Engineering Claim

The Chairman requested Mr. Schur, discuss the matter with Commissioners Palfrey and Ramey. The contract transmittal letter is to be circulated to the Commissioners for information. (GC)

19. Visit of Public to NPR Ceremonies

The Commissioners agreed the General Manager's plans are appropriate and requested circulation of the September 12 memo. (Secy)

20. Security Report

The General Manager reported briefly on the Tendle Air Force Base Cuban employee (Alberto Ramos) and said he would send the Commissioners copies of the report.

PRESENT		DISTRIBUTION
Dr. Seaborg	Gen. Luedecke*	Commissioners
Dr. Wilson	Mr. Hollingsworth	General Manager
Mr. Ramey	Mr. Schur	General Counsel
Mr. Palfrey	Mr. Henderson	Secretary
Dr. Tape	Mr. McCool	

*Partial Attendance

W. B. McCool
Secretary

OPTIONAL FORM NO. 10
5010-104
UNITED STATES GOVERNMENT

Memorandum

UNCL. BY DOE
NOV 88

TO : A. R. Luedecke, General Manager

DATE: September 14, 1963

Approved _____
A. R. Luedecke

FROM : W. B. McCool, Secretary

Original signed W. B. McCool

Date _____

SUBJECT: ACTION SUMMARY OF MEETING 1966, FRIDAY, SEPTEMBER 13, 1963, 3:05 P.M., ROOM 1113-B, D. C. OFFICE

SECY:JFG

Commission Business

1. AEC 881/59 - Contract for Chemical Processing Services with Nuclear Fuel Services, Inc.

Approved, as revised. (Vinciguerra)

The Commission requested paragraph 6 of the draft press release be revised to indicate the NFS proposal was the only one received which met the AEC's basic objectives. (Clark/Vinciguerra)

The Commission also requested that paragraph 10 of the press release be revised to insert "when another chemical processor makes an acceptable proposal" following the word fuel. (Clark/Vinciguerra)

The Commission noted the JCAE was to be advised by telephone. (Vinciguerra)

2. AEC 881/60 - NFS-AEC Cooperative R&D Program

Approved, as revised. (Vinciguerra)

The Commission requested the draft letter to Mr. Runion be revised in accordance with the discussion at the Meeting. (Vinciguerra

An error on page 5 of AEC 881/60 was noted. (Secretary)

3. AEC 1132/3 - FY 1965 Budget Review, and
AEC 1132/4 - FY 1965 Budget Estimates - Laboratories

The Commission tentatively approved the following items and amounts for the FY 1965 Budget Estimates:

	Commission Program	Program Under BOB Target
	(In Millions)	
Reactor Development		
Operating Expenses		
Missile Propulsion Reactors*.....	$ 5.0	$ 5.0
Total Satellite & Small Power Sources.....	$ 96.3**	$ 86.3
Total General Reactor Technology...	$ 65.0	$ 60.0
Total Advanced Systems R&D.....	$ 34.2	$ 34.2
Total Nuclear Safety.....	$ 39.5	$ 34.5
Total Operational Service***.....	$ 6.0	$ 6.0
Capital Equipment		
Total Reactor Development Program..	$ 54.0	$ 33.0
Construction		
Program Total.....	$ 62.35	$ 47.5
Subtotal Projects requiring authorization.....	$ 60.85	$ 46.0

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* An alternate plan for Pluto was noted which would involve Tory III and a possible later FY 1965 AEC funding level of $10.0 million.

** As a related item GSO will be increased $3.0 million.

*** The Commission will review the $5.6 million recommended for the ATR.

	Commission Program	Program Under BOB Target
Weapons		(In Millions)
Capital Equipment		
Total Capital Equipment.....	$ 76.13	$68.0
Biology & Medicine		
Operating Expenses		
Total Biology & Medicine Program....	$ 88.0	$85.0
Capital Equipment		
Total Capital Equipment.....	$ 5.0	$ 4.0
Construction		
Total Construction*.....	$ 8.19	$ 7.82

The Commission requested project 65(5) under Biology & Medicine Construction be re-named. (Abbadessa)

The Commission requested the letter to the BOB contain Commissioner Ramey's position on the exclusion of the prototype. (Abbadessa)

The Commission noted the increase of $14.0 million to the Capital Equipment portion of the Reactor Development program includes the $13.0 million for computers at Bettis and KAPL Laboratories and a $1.0 million addition to Satellite and Small Power Sources. The Commission also noted the possible need for additional Capital Equipment for Rover. Any additional Equipment for Rover will be taken from the amount approved for Operating Expenses for Rover. (Abbadessa)

The Commission noted a revised activities designation will be established for the FY 1965 work related to LCRE and SNAP-50. (Abbadessa)

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* The Commission noted that should the $4.750 million proposed for the Biomedical and Animal Laboratory at LRL in the FY 1964 Budget Amendment become available, the Division requests for Projects 65(5) and 65(6) will be restored to the General Manager's recommended budget, and these projects plus 65(3) will be added to the program under BOB Target.

The Commission noted the desirability of the possible transfer to Hanford of the Advanced High Temperature Gas Reactor project, and the need for close coordination of the ANL and GE work in this field.

(English/Pittman)

cc:
Commissioners

Saturday, September 14, 1963 - D.C.

At 10:45 a.m. I presided over Commission Meeting 1967 (action summary attached). We concluded our discussion of the FY 1965 budget. We are requesting $3.0126 billion compared with the suggested $2.861 billion. We will suggest not including MURA but considering a 10 BeV FFAG accelerator at Argonne under the same management as the ZGS.

At 1 p.m. I presided over Information Meeting 307 (notes attached). I signed a letter to Bundy requesting about 50 developmental tests (raised from 30) in FY 1964 with some having yields up to 500 KT or more. We also discussed a letter to Bundy concerning the test schedule, a letter from U. Alexis Johnson about the national disclosure policy (copy attached), my letter to Stennis replying to his questions on testing (copies of correspondence attached), and a reply to Gilpatric about weapons for Belgium (copy attached). We also discussed Gilpatric's letter to Bundy about the investigation of a high yield surface test site.

I autographed about 100 copies of Man-Made Transuranium Elements to mail out. I have more than 200 more to go.

I had lunch at the National Lawyers' Club with Ramey.

I played nine holes of golf with Eric at the Chevy Chase Club.

Sunday, September 15, 1963

I read journals, AEC papers and worked on articles and speeches.

Monday, September 16, 1963 - D.C.

I met with the Labor-Management Advisory Committee to hear their complaints about lack of contact with the Commission. It was agreed that one or more Commissioners will meet with them for part of each meeting.

At 12:45 p.m. I presided over Information Meeting 308 (notes attached).

I talked to Senators Pastore and Hickenlooper in Pastore's office about the JCAE plan to make the Fermi Award subject to an O.K. by Congress. I objected strongly to this idea but do not yet know whether I was successful in convincing them that this should not be done. Hickenlooper is particularly adamant.

Harold Brown called at 6:50 p.m. and told me he has talked with Steuart Pittman about what Civil Defense should do in the way of setting up or supporting laboratories. He said he assumed there were some problems in AEC about how a massive DOD function at Oak Ridge would be handled. He had the following suggestions to make: 1. That DOD support some laboratory (probably NRDL), and some additional studies elsewhere; 2. that AEC fund for a somewhat smaller and more restricted program at Oak Ridge, concentrating on a few things, i.e., post-attack, ecological studies, bio-medicine, etc. He felt also that Civil Defense should contribute funds. I asked Harold if he thinks this is the way the BOB would want us to do this. He said he thinks they will go along and that maybe the thing to do is fund and then transfer each year as it is harder for DOD to be stable than the AEC.

I said that at the meeting I had taken the view that it doesn't seem realistic to have all the Civil Defense work at a main laboratory such as Oak Ridge the way Wigner and Weinberg had envisioned it and that they should come up with a more limited program. I said I think both Wigner and Weinberg will go along with this.

OPTIONAL FORM NO. 10
5010-104
UNITED STATES GOVERNMENT

Memorandum

DECL. BY DOE NOV 86

TO : A. R. Luedecke, General Manager

DATE: September 16, 1963

Approved _____
A. R. Luedecke

FROM : W. B. McCool, Secretary (original signed W. B. McCool)

Date _____

SUBJECT: ACTION SUMMARY OF MEETING-1967, SATURDAY, SEPTEMBER 14, 1963, 10:45 A. ROOM 1113-B, D. C. OFFICE

SECY:ICB

Commission Business

1. AEC 194/46 - Renewal of the Allied Contract

Approved, as revised. (Baranowski)

The Commission requested the draft letter to Allied be revised so as to contain language similar to that in the draft letter to the JCAE. (Baranowski)

2. AEC 1132/3 - FY 1965 Budget Review, and
AEC 1132/4 - FY 1965 Budget Estimates - Laboratories

The Commission approved the following items and amounts for the FY 1965 Budget Estimates:

	Commission Program	Program Under BOB Target
	(In Thousands)	
Isotopes Development		
Operating Expenses	$ 12,500	$ 11,000
Capital Equipment	$ 2,500	$ 2,000
Construction	$ -0-	$ -0-
Special Nuclear Materials		
Construction	$ 26,950	$ 12,550
Peaceful Nuclear Explosives		
Operating Expenses	$ 21,500	$ 16,000
Capital Equipment	$ 500	$ 500

The Commission requested the letter to the BOB be developed in accordance with instructions given at the Meeting. (Abbadessa)

The Chairman requested staff continue discussions with Nucleonics re publication of AEC technical information. (Brunenkant)

The Commission noted operating and funding responsibility for the Argonne School (International Institute) will be transferred from DIA to DNET.

The Commission reiterated the letter to the BOB should contain Commissioner Ramey's position on the exclusion of a prototype in FY 1965. (Abbadessa)

Commissioner Ramey requested staff review the invitational criteria for proposals within the Cooperative Power Demonstration Program. (Abbadessa/Pittman)

Other Business

1. Proposed Letter to Mr. Bundy re Revised Testing Schedule

Approved, as revised. (Betts)

2. SNAP-9A Launching

The Chairman noted his telephone conversation with Mr. Welch and transmittal of the letter to the Vice President.

3. Arctic Research Laboratory

The Chairman requested Senator Bartlett be provided an early report. (Dunham)

cc:
Commissioners

	Commission Program	Program Under BOB Target
	(In Thousands)	
Training, Education & Information		
Operating Expenses	$ 20,379	$ 20,379
Capital Equipment	$ 660	$ 660
Construction	$ 1,350	$ 1,350
Community		
Operating Expenses	$ 4,499	$ 4,499
Capital Equipment	$ 90	$ 90
Construction	$ 6,690	$ 6,690
Program Direction & Administration		
Operating Expenses	$ 78,500	$ 76,000
Capital Equipment	$ 885	$ 885
Construction	$ 100	$ 100
Weapons		
Operating Expenses	$798,347	$798,347
Reactor Development		
Operating Expenses		
Total Satellite & Small Power Sources	$ 93,800	$ 93,800
Euratom*	$ 5,500	$ 5,500
Total Advanced Systems R&D	$ 34,200	$ 30,700
Total Operational Services	$ 4,800	$ 4,800
Construction		
Total Program	$ 62,350	$ 41,700

* GSO was increased by $3.0 million to provide new authority for EURATOM.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

DECL. BY DOE
NOV 86

COPY NO. 15
September 14, 1963

INFORMATION MEETING 307
1:00 p.m., Saturday, September 14, 1963, Room 1113-B, D. C. Office

✓ 1. Secretary of State Rusk's Letter to Senator Fulbright re Cooperation With France

Mr. Ink reported the matter is in staff review for assessment.

2. Commission Meeting, October 2

The Chairman noted the Commissioners' schedule will provide for a meeting on the 2nd of October. (Secy)

3. Letter to Mr. Bundy re Test Schedule (attached) in S/RD dated 9/16

Signed by the Chairman

✓ 4. Secretary Gilpatric's Letter to Mr. Bundy re Special Survey

Noted

✓ 5. Chairman's Letter to Secretary Gilpatric re Belgium

Signed by the Chairman.

✓ 6. Letter From Secretary U. Alexis Johnson re National Disclosure Policy

The Chairman noted the letter is in for review.

✓ 7. Chairman's Letter to Senator Stennis re Testing

Signed by the Chairman.

8. AIF Luncheon Meeting with Commissioners

The Chairman requested preparation of a reply. (Tremmel)

9. September 13 Pending Contractual Matters

The Chairman suggested the Commissioners' comments, if any, could be discussed on Monday.

10. Commissioners' Luncheon Meeting Monday

The Chairman suggested the Commissioners discuss the JCAE question and answer letter on private ownership at that time.

PRESENT		DISTRIBUTION
Dr. Seaborg	Gen. Luedecke	Commissioners
Dr. Wilson	Mr. Ink	General Manager
Mr. Palfrey	Mr. Minsch	General Counsel
Mr. Ramey	Mr. Henderson	Secretary
Dr. Tape	Mr. McCool	

W. B. McCool
Secretary

UNCL. BY DOE
9/19/63

DEPUTY UNDER SECRETARY OF STATE
WASHINGTON

September 12, 1963

DSS 9/13/63

Dear Mr. Chairman:

I have considered with care Commissioner Wilson's letter of August 20 which conveyed the views of the Commission on the draft revision of MIC 206/29 of April 10, 1963. This document, in accordance with NSC Action 2125 of September 10, 1959, is intended, for classified military information, to implement the Basic Policy Governing The Release of Classified Defense Information To Foreign Governments approved by the President on September 23, 1958.

The Department of State believes that the April 10, 1963 draft meets both in letter and spirit the requirement of NSC Action 2125, and that it takes into appropriate account the responsibilities of the Department of Defense, the Atomic Energy Commission, and the Department of State in the military atomic release field. The Secretary of Defense shares this view, since on September 2, 1963, he notified Secretary Rusk of his approval of the document. I have also been notified that the Director of Central Intelligence has accepted the document on behalf of his agency.

While I cannot assert that, because three agencies are in agreement in accepting the April 10, 1963 draft, it is vital the document retain its present form, I do believe that this agreement, coupled with the very long time the agencies have taken to comply with NSC Action 2125, should be persuasive in deciding the Commission to accept the document in its present format. I welcome, therefore, the Commission's willingness to proceed with this draft and I have requested the State Member, State-Defense Military Information Control Committee, to address, with representatives of the Commission, the Department of Defense, and the Central Intelligence Agency, the task of including in the document such points of clarification or refinement as the Commission considers essential.

I would, therefore, hope that, following the addition of such clarification, we could promptly forward the document to the National Security Council.

Sincerely,

U. Alexis Johnson

The Honorable
Glenn T. Seaborg,
Chairman,
Atomic Energy Commission.

...INGTON, MO.
...JACKSON, WASH.
...ERVIN, JR., N.C.
...THURMOND, S.C.
...ENGLE, CALIF.
...AD W. CANNON, NEV.
...RT C. BYRD, W. VA.
...EN M. YOUNG, OHIO
...L K. INOUYE, HAWAII
J. GLENN BEALL, MD.
BARRY GOLDWATER, ARIZ.
CLIFFORD P. CASE, N.J.

HARRY L. WINGATE, JR., CHIEF CLERK

United States Senate

COMMITTEE ON ARMED SERVICES

August 5, 1963

Dr. Glenn T. Seaborg, Chairman
U. S. Atomic Energy Commission
Washington 25, D. C.

UNCL. BY DOE
NOV 86

Dear Dr. Seaborg:

During the course of arms control and nuclear test ban hearings before the Senate Preparedness Investigating Subcommittee on August 2, 1963, Senator Henry Jackson requested that the Atomic Energy Commission be asked to provide for the hearing records a comprehensive history of all restrictions, delays and suspensions experienced by the U. S. nuclear weapons test program since September 1, 1961, as a consequence of official orders to the laboratories and test organizations emanating from the Atomic Energy Commission either at its own initiative or at the direction of higher authority. Accordingly, we are directing the request to you.

We also request that we be provided the history of all official communications transmitted between the Atomic Energy Commission, the Livermore Radiation Laboratory, the Los Alamos Scientific Laboratory and the Defense Atomic Support Agency in the period from November 1, 1958, and September 1, 1961, pertaining to the subject of preparations for readiness to resume both underground and atmospheric testing.

If these requests require further clarification, please do not hesitate to have your staff contact Mr. James T. Kendall, Chief Counsel, at Code 180, Extension 2127.

Sincerely,

John Stennis

John Stennis
Chairman, Preparedness
Investigating Subcommittee

...Return - De...
...5/6 Time ...

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

TO FILE

SEP 14 1963

UNCL.

Dear Senator Stennis:

In response to your letter of August 5, 1963, I am enclosing two reports. The first sets forth the history of the nuclear weapons readiness program, based on official communications during the period of the moratorium from November 1, 1958 to September 1, 1961.

In the second report, presented in the form of a chronological summary of the underground and atmospheric test programs since September 1, 1961, specific attention has been given to the various types of restrictions and delays experienced in the course of the conduct of the test program since the end of the moratorium.

A copy of this letter and the reports are being provided to the Joint Committee on Atomic Energy.

Sincerely yours,

(Signed) Glenn T. Seaborg

Chairman

Honorable John Stennis, Chairman
Preparedness Investigating Subcommittee
Committee on Armed Services
United States Senate

Enclosures:
1. Cys 1A & 2A - History of Communications, November 1, 1958 to September 1, 1961
2. Cys 1A & 2A - History of Test Program, from September 1, 1961

#2 Enclosure filed in S/RD under the date of 9/14/63

REPORT ON THE HISTORY OF OFFICIAL COMMUNICATIONS TRANSMITTED FROM NOVEMBER 1, 1958 TO SEPTEMBER 1, 1961 RELATING TO PREPARATIONS FOR READINESS TO RESUME NUCLEAR TESTING

DECL. BY DOE

On August 22, 1958, the President announced that U. S. negotiators at Geneva would be instructed and ready by October 31, 1958, to open negotiations for an agreement for suspension of nuclear weapons tests and the actual establishment of an international control system. On October 31, 1958, the U. S. suspended nuclear weapons tests for a period of one year and announced its willingness, under certain conditions, to continue the suspension on a year-to-year basis. The Soviet Union continued its test series with detonations on November 1 and 3, 1958. These were atmospheric detonations of relatively low yields. On November 7, 1958, the President stated "This action by the Soviet Union relieves the United States from any obligation under its offer to suspend nuclear tests. However, we shall continue suspension of such tests for the time being ..."

Later, in December 1959, the President stated that the United States considered itself "free to resume nuclear weapons testing" subject to advance notification of such intent.

The Initial AEC Readiness Program - By November 14, 1958, the Commission had approved a basic test readiness posture and issued instructions for its implementation. Under this readiness posture, the U. S. was to be ready to conduct a few (3-4) diagnostic tests on 90 days' notice at Eniwetok Proving Ground (EPG) or other oceanic locations; initiate low yield, primarily underground, tests at the Nevada Test Site (NTS) on 90 days' notice; and conduct a limited (12-14) atmospheric test series at EPG on 9 months' notice.

The Initial Department of Defense Readiness Program - On December 5, 1958, the Chairman, AEC, submitted to the DoD a statement of this readiness posture requesting continued cooperation in the maintenance of up-to-date plans. On March 2, 1959, the Deputy Secretary of Defense replied that for the immediate future DoD would be prepared to support the AEC program, unless the moratorium lasted more than a year. In that event, it might not be able to support a 90 day capability. The DoD, acting on the assumption that testing would not be resumed until the expiration of the announced one year, planned to maintain a capability to conduct limited effects tests not earlier than February 1960 and an extensive effects program (primarily higher altitude) not earlier than mid-1960.

The Nuclear Weapons Detection Program - At this time, in addition to maintaining the aforementioned readiness program, the AEC and DoD established study panels on the detection of nuclear detonations at high altitude and underground. On April 23, 1959, it was determined that the AEC and DoD would implement panel recommendations relating to an experimental test program of both non-nuclear and nuclear detonations to obtain data on nuclear detonations under different environmental conditions and to test theories on the possibilities of concealment, such as decoupling. This program was known as Vela.

The Effect of the Budget - The Fiscal Year 1959 budget presented to Congress contained $45.0 million for nuclear tests. Because of an over-all Congressional cut in the Commission's appropriations, test funds were reduced to $39.1 million. Additional funds were later programmed by the Commission to maintain a minimum readiness at NTS and carry out the non-nuclear portion of the Vela underground program.

EPG and the Readiness Program - Previous overseas nuclear weapons tests had been carried out at the Eniwetok Proving Ground, consisting of the Eniwetok and Bikini Atolls in the Marshall Islands. Following completion of the 1958 test series, the fact that these islands were Trust Territories raised doubts about the advisability of their continued use for testing.

On December 24, 1958, AEC informed the laboratories that further use of EPG might be denied for nuclear weapons testing. In February 1959 AEC called upon Commander, Joint Task Force Seven (JTF-7) to develop an open sea test capability in about 5 months. This development went to the point of planning, but implementation was never authorized.

During the period May to July 1959, correspondence took place between DoD, JTF-7, Defense Atomic Support Agency (DASA), and AEC concerning the revision of the overseas test organization and reduction of the garrison maintaining EPG in a readiness status. By October 29, 1959, arrangements were completed to place JTF-7 under DASA and place EPG in a stand-by status (requiring approximately 9 months to test) with minimum personnel remaining. The Chairman, AEC, wrote to the Secretary of Defense on April 22, 1960, and stated that the likelihood of resumption of atmospheric nuclear testing at EPG was small. As a result of a joint DASA-JTF-7-AEC study, the Chairman, AEC, recommended that EPG be placed in caretaker status (requiring approximately 12 months or longer to test).

By letter of May 16, 1960, the Secretary of Defense informed the Chairman, AEC, that DoD had a requirement for EPG as an addition to the Pacific Missile Range. As a result, an AEC-DoD agreement was formally signed on June 30, 1960, transferring EPG to DoD, subject to its being available for any activity the AEC might later need to conduct there. As a result of this agreement, plans were made to withdraw AEC personnel at EPG and to return usable AEC equipment to the Nevada Test Site.

The Readiness Program at NTS - The correspondence dealing with the NTS readiness program from November 1, 1958, to September 1, 1961, basically concerns proposed construction, proposed tests, progress reporting, and requests for readiness equipment. Preparation of firing sites and procurement of scientific equipment continued from November 1, 1958, to May 28, 1959. At that time, because of the severe limitation of funds for the balance of FY '59 and FY '60, drilling of shafts, scientific construction, and procurement of test material were drastically reduced. During this period, NTS administration, facility maintenance, and the "hard core" tunneling crew of approximately 70 to 100 men used all available funds. This state of activity was considered to be the "stand-by" level, and funding to support the test readiness was reduced to $6.5 million in FY '61.

The FY '61 budget contained $27.5 million for the program on improvement on methods of detecting nuclear detonations and in August 1960 the DoD and AEC agreed on NTS as the location for a series of tests for seismic detection of nuclear explosions (Vela Uniform). Under the agreement, AEC was to fund for preparation and firing of all nuclear shots. On August 31, 1960, the General Manager, AEC, informed the Chairman of the Joint Committee on Atomic Energy by letter of the AEC participation in the seismic detection program and reported that the previous NTS readiness program had been suspended, and that resources and funds for NTS were being used to support the Vela Uniform Program. Thus, the readiness program at NTS was terminated at this time (August 1960) because of the diversion of funds and test facilities.

The Moratorium Ends - In the early months of 1961, the possibility of the break up of the Geneva negotiations and a recognition of the continuing motive for Soviet testing, combined with uncertainties about our ability to detect such tests, led to increased concern that the U. S. improve its readiness posture. Combined weapons and Vela Uniform FY '61 funds enabled the AEC to continue preparations of nuclear weapons shot sites at NTS. Although the shot sites were being pre-empted by the Vela program, they could be assigned to a test program.

By the Spring of 1961, the situation at the Geneva Conference suggested that the President might find it necessary to order a resumption of underground testing on short notice. Preparedness efforts were carried out on the basis of attracting a minimum of public attention in order not to jeopardize the test ban negotiations. This situation continued until September 1 when the Soviets detonated a nuclear device in the atmosphere. At this time, the AEC had 3 tunnel sites and 4 holes available for use in underground testing.

On September 5, 1961, the President announced the intention of the United States to resume underground testing. The first detonation of this series was fired on September 15, 1961. At this point, the House Appropriations Committee amended the FY 1962 budget by adding $30.0 million to initiate the test program.

CROSS REFERENCE SHEET

Document* 908170

TITLE OF DOCUMENT Seaborg to Gilpatric, 9/14/63. one page, Re

This document requires further classification review and has been removed from this folder.

Name Jeffrey B. Nadler

August 25, 1986
Date

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

CLASSIFIED BY DOE
NOV 86

COPY NO. 15
September 16, 1963

INFORMATION MEETING 308
12:45 p.m., Monday, September 16, 1963, Room 1113-B, D. C. Office

1. Reply to JCAE Questions on Private Ownership

Approved, as revised. Dr. Wilson will discuss the changes with Mr. Ink prior to transmittal of the letters. (Ink)

(Dr. Wilson and Mr. Work left the meeting)

2. September 11 Letter From Dr. Eugene Wigner re Civil Defense Research Institute

The Chairman discussed briefly Dr. Wigner's letter and requested preparation of an appropriate reply. (English)

3. Proposed VELA Event, NTS

The Commissioners agreed an appropriate letter to the Secretary of Defense should be prepared. (Betts)

4. Review of Test Program by Commissioner Tape

5. Letter to Mr. Bundy re Test Program

The Chairman noted addition of a paragraph to the letter and said he would send it today. (Henderson)

6. Dr. Gerald Johnson's Proposed PLOWSHARE reference for Possible Use in a Presidential Speech

(Mr. Palfrey entered the meeting)

7. Third Geneva Conference

Taking note of the State Department telegrams, the Chairman stressed the need for the AEC to assure a good conference and requested that Commissioner Tape head a special committee for planning. (GM-Henderson)

8. Announcement re Withdrawal of Isotopes Production

The Chairman requested he be given information on the announcement in preparation for a call to Mr. Brightsen, Nuclear Science and Engineering Corporation. The General Manager reported that the report on Mr. Brightsen's allegations will be circulated soon. (GM-Henderson)

✓ 9. Letter to Senator Pastore re Toll Enrichment of Spanish Natural Uranium

Approved, as revised. (Henderson)

10. Commissioners' Meeting with Labor Management Committee Today

Mr. Ramey said he expected the Committee to recommend establishment of a subcommittee to review the question of U.S.-State compatibility.

11. Commissioners' October 15 Meeting with the Nuclear Committee of the Chamber of Commerce

The General Manager suggested a meeting on this date. (Secy)

12. FY 1965 Budget Line Item re SNAP Flight Tests

The Commissioners accepted the General Manager's recommendation for inclusion of a line item on this program. (Abbadessa)

13. Contract for LOFT Facility at NRTS

The Commissioners accepted the General Manager's recommendation to expand the scope of the contract with the Kellogg Company. (Vinciguerra)

PRESENT

Dr. Seaborg
Dr. Wilson*
Mr. Ramey
Mr. Palfrey*
Dr. Tape
Gen. Luedecke
Mr. Hollingsworth
Mr. Ink
Mr. Hennessey
Mr. Brown
Mr. Henderson
Mr. Work*
Mr. McCool

*Partial Attendance

DISTRIBUTION

Commissioners
General Manager
General Counsel
Secretary

W. B. McCool
Secretary

I told Harold I was going to be in Europe for about two weeks and asked if he will talk with Pittman about this. He said he would and that he thought this can wait until I return.

Tuesday, September 17, 1963 - D.C. enroute to Europe

At 9:40 a.m. I called Congressman Holifield to tell him of my conversations with Senator Pastore and Congressman Hickenlooper.

I said I had had a chance to talk to Pastore about the Oppenheimer case and had reminded him of several aspects including the fact the whole matter was pre-war stuff. Pastore felt I should see Hickenlooper. I told Pastore I would do that but didn't think I could before I left for Vienna. However, as I left Pastore's office, I met Hickenlooper in the elevator. I asked Hickenlooper if we might talk awhile and he agreed; he was very friendly. We talked nearly an hour and I can't say I convinced him but certainly set him to thinking about it--the effect on future awards, etc. The conversation with Hickenlooper ranged into other areas as well, and in general, was a very helpful conversation. He was good-natured and indicated he didn't want to split the committee. We left it that nothing would be done, that we would talk again. I think that part is under control for awhile and maybe won't come up again.

I didn't bring up with Pastore the possibility of delaying the Omnibus Bill. It didn't seem quite the thing for me to get into. Mr. Holifield said this trip gives us an excuse to drag a little bit, that they could live with a delay over there and if they got it in January it would be all right. He said he might direct a letter to me asking if this is a matter of urgency.

Mr. Holifield said he is leaving today at 3:30 p.m. and plans to meet me in Copenhagen and fly down with me on the MATS plane. He said flying together is very nice but he wouldn't want to interfere with my obligations. I said we should visit the atomic energy installation (Risö) in Copenhagen. He said he felt it might embarrass me to have a Member of the House present, but I don't think so.

I said I would tell Senator Pastore that I have seen Congressman Hickenlooper.

I mentioned that the President is visiting Hanford to dedicate the conversion of the NPR on September 26th and that his visit has been mentioned in the newspapers. Mr. Holifield said he didn't know this, but that the timing is bad since they vote on the tax bill on the 25th. He said he would like to go and probably would be invited to go on the President's plane. I told him that the President is going to 11 states and even on the 26th will be visiting several places on the same day, with only about 30 minutes at Hanford. I said I am a little unhappy that I can't be there.

At 9:50 a.m. I called Senator Pastore about my meeting with Senator Hickenlooper and our conversation. I then asked Senator Pastore if he would like to go to Hanford for the NPR conversion ceremony. He said he could not, that his trip back home to Rhode Island is personal and that he has to be back in Washington on Tuesday because of the test ban; but, of course, if this were a command performance, he would oblige. I said it is not that kind of thing.

At 10 a.m. I telephoned Congressman Craig Hosmer. In answer to my query, Congressman Hosmer said he and Mrs. Hosmer are going to Vienna but would not be leaving here before Friday so he will not be able to meet me in Belgrade. I said I would like to talk to him about the Fermi Award. He said he knew the award was being discussed, that Hickenlooper had asked him to go along with him, but he (Hosmer) hadn't done anything. He said he would go along with the presentation of

the award since there is a precedent for modesty but if it gets beyond that he thinks there is a limit. Mr. Hosmer said he feels that on the Democratic side, there won't be too much enthusiasm for Hickenlooper's Bill to change the criteria for the awarding of the Fermi Award. He said he hasn't completely made up his mind but is not making any quick moves. I said I won't make any quick moves either.

At 10:05 I called John Conway to tell him I had talked to Senator Pastore yesterday about the Fermi Award, that I met Senator Hickenlooper and had a long talk with him. John said he appreciated my letting him know, that he has to go over some of the items on the Omnibus Bill with Senator Pastore and this is one he is quite interested in. He said Chet had been thinking in terms of slowing down the Bill, but there is always the Supplemental Authorization. I said I had told Pastore I was even willing to consider foregoing any more Fermi Awards to prevent a head-on clash between the Congress and the scientists.

I said I had discussed with both Pastore and Holifield the President's trip to Hanford. John said he had talked to Senator Jackson and General Luedecke about the program at Livermore on the fallout study and the assignment out there. A question arises in view of the fact that they are having to go out and hire new people; the PLUTO people they are letting go are not the same ones they are trying to recruit, and with the problems at Hanford, he would like to put the program there. I said there are two reasons why the program could not be moved to Hanford, 1. it should be at a weapons laboratory and 2. the program has progressed too far. I said nobody could be more conscious of bringing things to Hanford than I; everything we do we ask if this can go to Hanford.

At 2 p.m. I called Bundy to tell him I am leaving today for Vienna and would not return to the office until two weeks from today. I asked whether there was anything I should know before I left, and he said he didn't know of anything.

I told him that several days ago we sent him a letter requesting permission for SCHOONER, the underground shot in the Plowshare program, which is to be detonated in Idaho. I said we need a fairly early O.K. if it is to be detonated before the grazing season begins. I mentioned that there are some potential problems in venting. Bundy said he hasn't seen the letter yet, but he will check into it.

I said I was sending him a staff-written analysis of the problems in underground testing. I said that, since it is staff-prepared, it paints a somewhat blacker picture than is actually the case. I said this was being sent to him for whatever it may be worth.

I had lunch with the Commissioners at the Metropolitan Club.

At 3:10 p.m. I presided over Information Meeting 309 (notes attached).

I flew to London on Pan American flight no. 106, leaving Dulles airport at 6:30 p.m. and arrived in London at 8 a.m. the next morning with Fritsch, Wells and King.

Wednesday, September 18, 1963 - London - Aldermaston

We are staying at the Dorchester Hotel. We were met here this morning by Nordlinger, the AEC Scientific Representative at the U.S. Embassy in London. We were driven to Aldermaston where we met Sir Roger Makins and had breakfast at the home of Sir Claude and Lady Pelly. Our party then toured the plutonium laboratory with Sir Roger Makins and saw a display of weapons models. Sir William Penney, Pelly, Levin (Director), and E. F. Newley (Deputy Director) accompanied us.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

DECL. BY DOE NOV 86

COPY NO. 15
September 17, 1963

INFORMATION MEETING 309

3:10 p.m., Tuesday, September 17, Chairman's Conference Room, D.C. Office

1. Chairman's Discussion with Mr. Bundy re SCHOONER Event

The Chairman said he had mentioned the SCHOONER event letter to Mr. Bundy and that Dr. Gerald Johnson had later called to say DOD needs an answer by next week. (Brown-Betts)

2. Civil Defense Institute

The Chairman discussed briefly Harold Brown's, DOD, telephone call re Civil Defense planning and the DOD preliminary plan to concentrate DOD efforts perhaps at the NRDL at San Francisco with coordination with AEC on a limited effort at Oak Ridge. Dr. Tape will follow this matter.

3. FY 1964 Supplemental

The Chairman said he had discussed the matter with Kermit Gordon, BOB, who said a decision would not be made until later and the Chairman will discuss the problem further with Gordon upon his return from Europe. (Brown)

✓4. September 9 Letter From I. Morokhov, Vice Chairman of the State Committee on the Utilization of Atomic Energy of the USSR

The Chairman noted Mr. Morokhov's letter suggesting an early exchange of scientists and said he had responded to the letter. (Wells)

5. September 12 Letter From Dr. Panofsky re his USSR Visit

6. AEC 1050/22 - PM-3A Shutdown

Noted.

✓7. Proposed Letter From Secretary of Defense to Senator Stennis re Weapons

The Commissioners agreed the AEC staff should mention to DOD the AEC letter of December 18 on this subject. (Brown-Betts)

8. Harold Etherington's, Allis-Chalmers Manufacturing Company, Letter re Inland Station Reactor Plant

The Chairman noted Mr. Etherington's request to meet with the Commissioners and suggested this be a matter of pending business. (Secy-Brown)

9. Chairman's Letter to Senator Symington re Employment of Mr. Minter at Bendix, Kansas City

The Chairman discussed briefly the letter which he signed today.

10. AEC 974/5 - Accepting the Return of Irradiated Fuel From The Proposed German Power Reactor

The Chairman noted the possibility of a query from Minister Lenz during the Chairman's visit to Europe and said he would be noncommital in response.

11. N.S. SAVANNAH

The Commissioners agreed Dr. Wilson should call Secretary Roosevelt.

12. Mr. Palfrey's Trip to Israel

Noted.

✓ 13. Senator Pastore's Letter Query re Interpretation of Test Ban Language

Mr. Palfrey discussed briefly the draft interpretation language developed by the JCS noting that such an interpretation would be advantageous to the AEC.

14. Effect of Test Ban on 144b Agreements

Mr. Palfrey noted language for Senator Fulbright's speech has now bee developed.

15. September 25 Meeting of the Interdepartmental Energy Study Committee

In response to Dr. Tape's query, the Chairman agreed a Commissioner should attend the meeting and suggested Dr. Tape follow-up on the matter.

16. FY 1965 PLOWSHARE Budget

The Commission approved the General Manager's recommendation, as revised. (Kelly)

17. JCAE Letter Query re SEFOR Project

18. JCAE Query re Fallout Laboratory at LRL

Mr. Ink noted JCAE staff wishes to discuss this matter with AEC.

19. Stay in School Fund Benefit, September 24

PRESENT

Dr. Seaborg
Dr. Wilson
Mr. Palfrey
Dr. Tape
Mr. Hollingsworth
Mr. Ink
Mr. Ferguson*
Mr. Kelly*
Mr. Brown
Mr. McCool

*Partial Attendance

DISTRIBUTION

Commissioners
General Manager
General Counsel
Secretary

W. B. McCool
Secretary

September 18, 1963

In the Rose Garden of home of Sir Claude Pelly, Aldermaston

L to R: Algie Wells, Sir Claude Pelly, Seaborg, Lady Pelly, Sir Roger Makins

The entire UK weapons effort appears quite sound and generally along the lines of our laboratories, although their total laboratory and staff is considerably less than that involved in the U.S. program.

After lunch Fritsch and I talked to Makins, Penney, Pelly, Levin and Newley on the plutonium weapons proliferation problem. I rode back to London with Makins and Penney and on the way told them about my May talk with Bertrand Goldschmidt; also we agreed not to pursue for the present the question of British weapons people working in weapons laboratories (as discussed by Commissioner Robert E. Wilson with the British at the Stocktake meeting). Sir Roger gave us a dinner at the Athenaeum Club attended by Lewis Jones, Lord Hailsham, Sir William Penney, Sir William Cook (Member for Reactors, UKAEA), James C. C. Stewart (Member for Production, UKAEA), Professor Alan Cottrell, Sir Harold Caccia, Professor Harry J. Emeleus, Fritsch, Wells, and Nordlinger.

Thursday, September 19, 1963 - London to Copenhagen

Arnie Fritsch, Algie Wells, Cecil King and I flew to Copenhagen in a MATS Convair, leaving Northhold Airport, London at 8 a.m. and arrived in Copenhagen at 10:50 a.m. We were met by U.S. Ambassador William McC. Blair, Jr., Congressmen Chet Holifield and Melvin Price, and Jack Newman (Counsel Joint Committee on Atomic Energy) who arrived just before we did. I rode with Blair (along with Holifield and Price) to the Risö Research Establishment, some 50 miles south of Copenhagen. We had lunch at Risö, then saw the reactors DR-2 (for which the United States gave a $350,000 grant), and DR-3 (a sort of Materials Testing Reactor, MTR, with 2×10^{12} flux), the metallurgy lab, and the hot lab. We received a description of the planned DOR (deuterium-moderated, organic-cooled reactor). Our hosts included Torkild Bjerge (Director, Risö), Niels Hansen (Head Metallurgist), Cecil F. Jacobsen (Head Chemist), Flemming Juul (Deputy Director), Jens Rasmussen (Head, Electronics), P. L. Olgaard (Head, Reactor Physics), Niels Bundgaard (Senior Administrative Officer), Henry L. Gjkörup (Head, Health Physics), Jörgen Marstrand (Head, Construction), and Hans H. Koch (Chairman, Executive Committee, Danish AEC).

We then returned to Copenhagen and attended a reception at the U.S. Embassy. I attended a dinner at Langelinie-Pavillonen with Julius Bomholt (Minister of Culture) as host, Bjerge, Aage Bohr (son of Niels), H. P. Christensen (Vice Chairman, Danish AEC), Anders Dybdal (Administrative Officer, Danish AEC), Arne Fock (Administrative Officer, Danish AEC), P. Gregors Hansen (Deputy Head, Chemistry, Risö), Juul, Erling Kristiansen (Deputy Under Secretary of State, Ministry of Foreign Affairs), Ben Mottelsen, Jens Möller (Member, Executive Committee, Danish AEC), P. Brandt Rehberg (Chairman, Danish AEC), Roy O. Carlson (American Embassy), Jacobsen, Koch, Holifield, Price, Newman, Fritsch, King, and Wells. I responded to a toast given by Bomholt. I spent the night at the U.S. Embassy residence as a guest of the Blairs.

Friday, September 20, 1963 - Copenhagen to Belgrade

Abe Friedman came up from Paris and joined us in Copenhagen in order to be with us during our visit in Yugoslavia. We all--Holifield, Price, Newman, Fritsch, Wells, King, Friedman and I--flew to Belgrade in the MATS Convair, arriving at 2:10 p.m. We were met at the airport by Avdo Humo (President, Yugoslav Federal Nuclear Energy Commission and Minister of Science), Slobodan Nakicenovic (Secretary of Yugoslav Federal Nuclear Energy Commission), Salom Suica (State Counselor at the Commission), Radomir Urosevic (Assistant Secretary of the Commission), Ivo Mirosevic (Minister in State Secretariat of Foreign Affairs), Dejan Kostic (American Desk Officer, Yugoslavian State Secretariat for Foreign Affairs), Rajkko Tomovic (Member of Yugoslav Parliament), Dr. Tomo Bosanac (Director, Rudjer Boskovic Nuclear Institute), and U.S. Embassy staff Eric Kocher (Charge

d'Affaires), Walter Roberts (Counselor of Public Affairs), Robert G. Cleveland (Counselor for Economic Affairs), Joseph C. Wheeler (Deputy Public Affairs Officer), Charles T. York (Economic Officer), James G. Lowenstein (Second Secretary and Political Officer). I rode with Humo to the Guest House--this is the previous home of Prince Paul, and I was told that this is the first time it has been made available to an American.

Somewhat later, at 4:30 p.m., I went to the Federal Executive Council Building, where our group had an appointment with Humo, for an hour's discussion. We discussed U.S.-Yugoslav cooperation in science, the concept of an international accelerator, U.S. aid to Yugoslavia for a planned 300 MW reactor, the role of the IAEA, etc.

I then visited the USAEC "Atoms-at-Work" Exhibit at the Belgrade Fairgrounds, and attended a scientific reception there. Our group then went to Humo's official dinner at the Federal Executive Council Building (a magnificent building), where I responded to a toast given by Humo. We spent the night at the Guest House.

Saturday, September 21, 1963 - Belgrade

Our group met with Vice President Aleksandar Rankovic in a session including Humo, Nakicenovic, and others, at the Federal Executive Council Building, for 45 minutes. We discussed similar subjects as at yesterday's meeting with Humo. TV cameras covered both occasions. Then our group visited the Boris Kidric Nuclear Institute where staff members, under Director General Milorad Ristic, described their work in physics, chemistry, biology, metallurgy, etc. We visited their 6 MW heavy water (Russian built) research reactor, their hot laboratory, heat exchange research laboratory, metallurgy fuel fabrication (U-0.5% Mo Alloy) laboratory and UO_2 fuel fabrication laboratory.

We had lunch as guests of the Kochers at their home--Humo, Nakicenovic, other government officials, U.S. Embassy people, etc. Before lunch, at Kocher's, I was interviewed by Voice of America. After lunch, at the Guest House, I held a press conference--representatives of Yugoslav papers, AP and UPI were present--and it seemed to go well. I then recorded an interview for the Voice of Yugoslavia radio.

After this I made the opening speech at the USAEC "Atoms-at-Work" Exhibit, followed by remarks by Humo, who cut the ribbon in the presence of a cute little girl. I then toured the Exhibit with our group, Humo, Nakicenovic, Jesse Taylor (Director of our "Atoms-at-Work" Exhibit), Yugoslav officials, USAEC Exhibit people, etc.

We then went to a reception given by Humo at the Federal Executive Council Building where we met many Yugoslav government officials, including Ministers, Members of Parliament, etc. I invited Humo to visit the United States and, through Humo, I invited Marshal Tito (President of the Republic of Yugoslavia) to visit the USAEC laboratories during his visit to the United States next month. Again our group spent the night at the Guest House.

Sunday, September 22, 1963 - Belgrade to Vienna

Our group, plus Ristic, members of the "Atoms-at-Work" delegation, and many Yugoslavs went sightseeing. Accompanied by Nakicenovic, we saw the War Museum at Fort Kalemegdan (at Sava and Danshe Rivers), Avala (the Tomb of the Unknown Soldier, World War I, 10-15 miles out of Belgrade), and the site of the concentration camp where 84,000 Yugoslav civilians were killed by Germans in World War II. Then Fritsch, King, Friedman, Ristic and I toured Fort Kalemegdan and saw old Roman walls and a Roman well still intact. Our American group had lunch with Taylor and others at the Guest House.

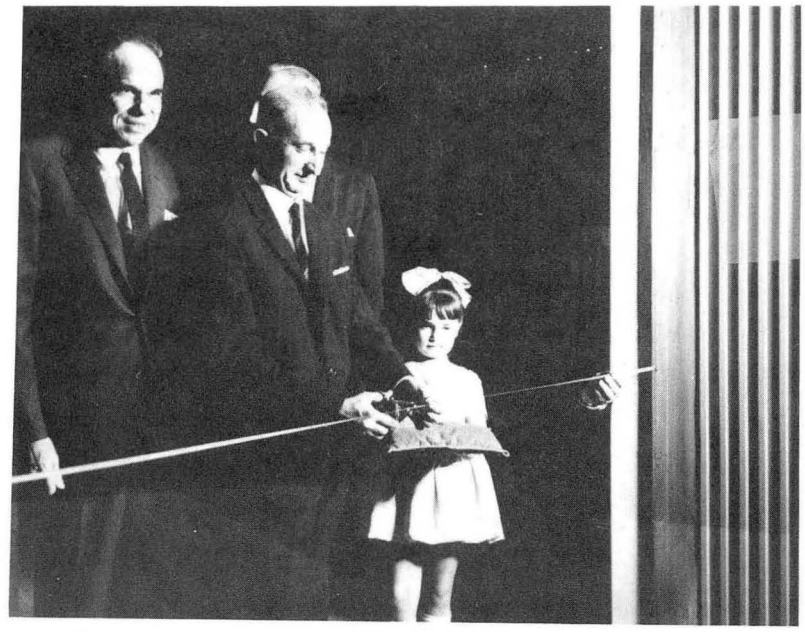
Visit with Vice President Aleksandar Ranković, Belgrade, September 21, 1963
Left side of table (front to back): C. Holifield, Seaborg, M. Price, A. Wells
Right side of table (front to back): S. Nakicenovic, E. Kocher,
Vice President Rankovic, A. Humo

Seaborg and Vice President Ranković, Belgrade, September 21, 1963

Visit to the Boris Kidric Nuclear Institute, Belgrade, September 21, 1963

Front Row L to R: M. Price, Seaborg, M. Ristic, C. Holifield

A. Wells and A. Friedman in back between Seaborg and Ristic. To the right and behind Holifield, Professor Anton Moljk (University of Ljubljana)



Opening the USAEC "Atoms-at-Work" Exhibit, Belgrade, September 21, 1963
Seaborg and A. Humo

Touring the USAEC "Atoms-at-Work Exhibit, Belgrade, September 21, 1963
L to R: Seaborg, A. Humo, S. Nakicenovic

We were seen off at the Airport by Humo, Nakicenovic, Ristic, Kocher, Cleveland, and many others. Humo had placed gifts in our rooms at the Guest House--mine was a fancy tablecloth and stationery. Holifield, Price, Fritsch, King, and I flew to Vienna on the MATS Convair, arriving at 5:10 p.m. I checked into the Bristol Hotel. I had dinner with Fritsch at a charming, quiet restaurant, followed by a nightclub visit.

Monday, September 23, 1963 - Vienna

I attended the opening session of the IAEA Panel on the Use of Nuclear Energy in Saline Water Conversion, held in the new conference room at IAEA headquarters in the Grand Hotel Building, where I gave a few words of greeting. I then attended the U.S.-Japan-IAEA trilateral safeguards agreement signing (by Sigvard Eklund, Henry Smyth, and the Japanese Ambassador to Austria, Fujio Uchida) in the New Board Room of the IAEA Headquarters. I then met with Eklund, along with Smyth, to discuss Conference problems. We discussed especially the African plan, lead by Ghana, to try to expel South Africa because of its racial discrimination policies; we will try to keep this problem out of the IAEA.

I had lunch with Fritsch, Robert Hollingsworth, Wells, and Robert N. Slawson at the Rathauskeler Restaurant. Fritsch and I visited the Radium Institute, where Berta Karlik gave us a tour. We saw the laboratory (and balance) where O. Hönigschmid did his early work on radium, and the laboratory where F. A. Paneth, George de Hevesy, and Stefan Meyer worked.

I then attended a reception for the U.S. Delegation and Mission, given at the home of the Frank Hefners (he is Deputy Delegate). After this, I visited briefly with Mr. and Mrs. Ashton O'Donnell and met their four daughters.

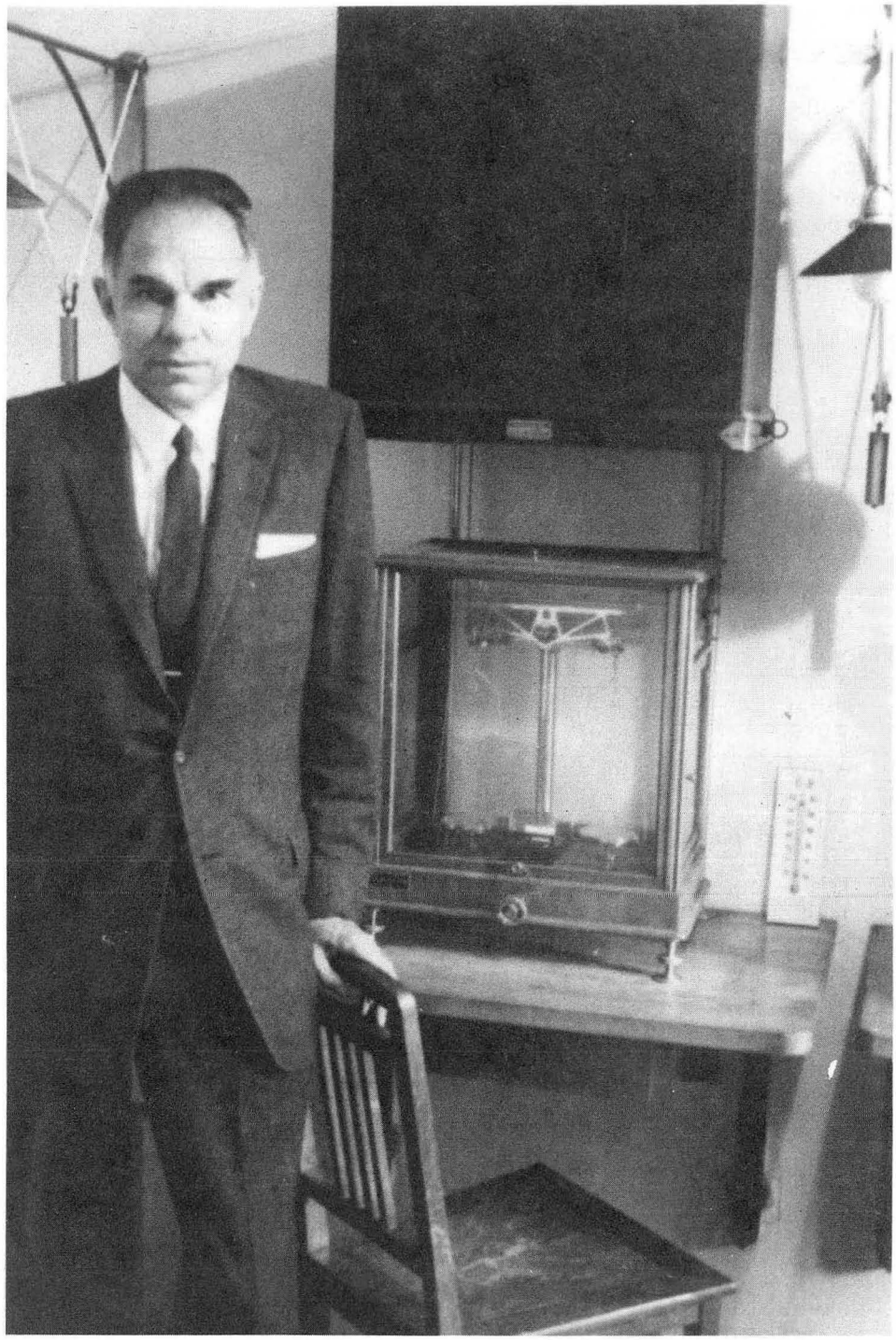
Tuesday, September 24, 1963 - Vienna

I attended the opening session of Seventh General Conference of IAEA in the Hofburg. I had trouble with my voice on giving the seconding speech on the election of H. E. Benjamin Franklin Perera (of Ceylon) as Conference President. I had lunch at the home of Eklund with Sir Roger Makins, Vasily Emelyanov, Michael Michaels (United Kingdom), P. K. Ponomarenko (USSR), Robert Patrick Baffour (Ghana) and others. I spoke at the Symposium on Savings in Industry and Agriculture through Isotopes at the Hofburg, with Emelyanov, George Laurence (Canada), A. R. Gopal Ayengar (India), John L. Putman (England), Charlie Fisher (France), and with Henry Seligman of the IAEA as Moderator. I later attended the reception given by Eklund in the Board Room at the IAEA headquarters.

Wednesday, September 25, 1963 - Vienna

I gave the opening address at the General (debate) session in the Hofburg--my talk was about 40 minutes long. I made complimentary references to our visit in May to the Soviet Union, and as a result of this Emelyanov told me he will change his speech to include a complimentary reference to our visit. I hosted the luncheon given by the United States for about 100 guests, consisting of delegates, members of the U.S. Delegation and Mission, IAEA, etc. I gave a short toast to which Eklund responded (seating chart diagrams attached).

After attending part of the afternoon session in the Hofburg, I visited an art gallery near the Hofburg Palace with Fritsch and King. In the evening with representatives of Canada, Mexico, Brazil, Columbia, and Argentina, I co-hosted a huge reception at the Palais Auersperg.



Visit to Radium Institute, Vienna, September 23, 1963.

Seaborg next to O. Hönigschmid's balance

Seventh General Conference of the IAEA, Vienna, Austria, September 24, 1963

L to R: E. L. Bartels (alternate from Ghana), Congressman Craig Hosmer, Seaborg, R. P. Baffour, Dr. Wilson, Professor F. A. Kuffour (alternates from Ghana)

Seventh General Conference of the IAEA, Vienna, Austria, September 24, 1963

L to R: F. Malu (alternate from the Congo), Monsignor L. Gillon (alternate from the Congo), Seaborg

Seaborg with Hans H. Koch, Chairman of the Executive Committee of the Danish AEC, at the Seventh General Conference of the IAEA

Vienna, Austria, September 24, 1963

At the opening session of the Seventh General Conference of the IAEA, Vienna, Austria, September 24, 1963

L to R: J. Palfrey, H. Smyth, J. Ramey, F. Hefner, Seaborg

Public panel discussion "Symposium on Savings in Industry and Agriculture through Isotopes" at the Seventh General Conference of the IAEA, Vienna, Austria, September 24, 1963.

L to R: A. R. Gopal Ayengar, G. C. Laurence, Seaborg, H. Seligman, V. S. Emelyanov, J. L. Putman, C. Fisher

fig 20
v. 6
p. 344

Seaborg addressing the Seventh General Conference of the IAEA, Vienna, Austria, September 25, 1963

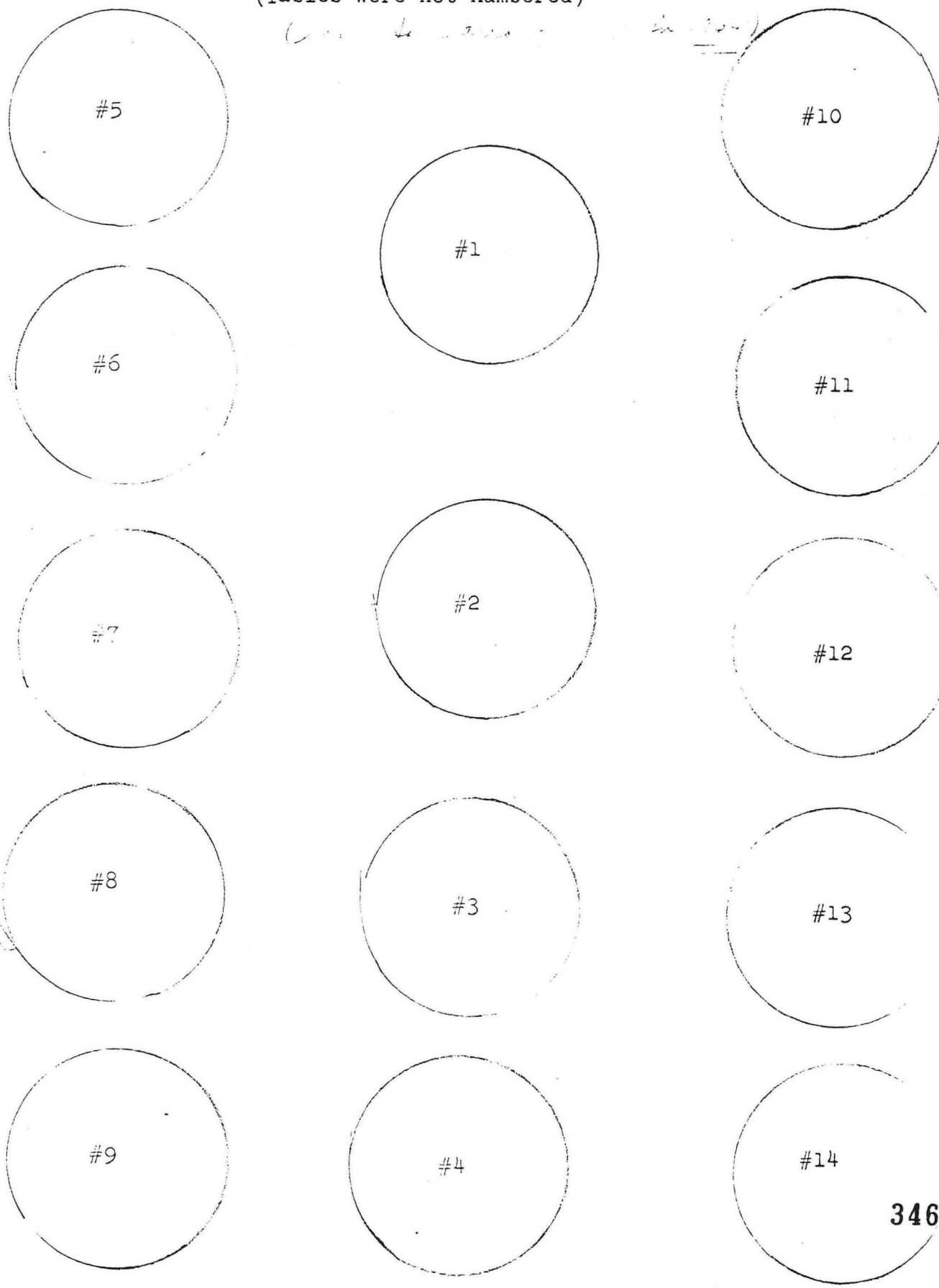
Western Hemisphere Reception at the Seventh General Conference, September 25, 1963

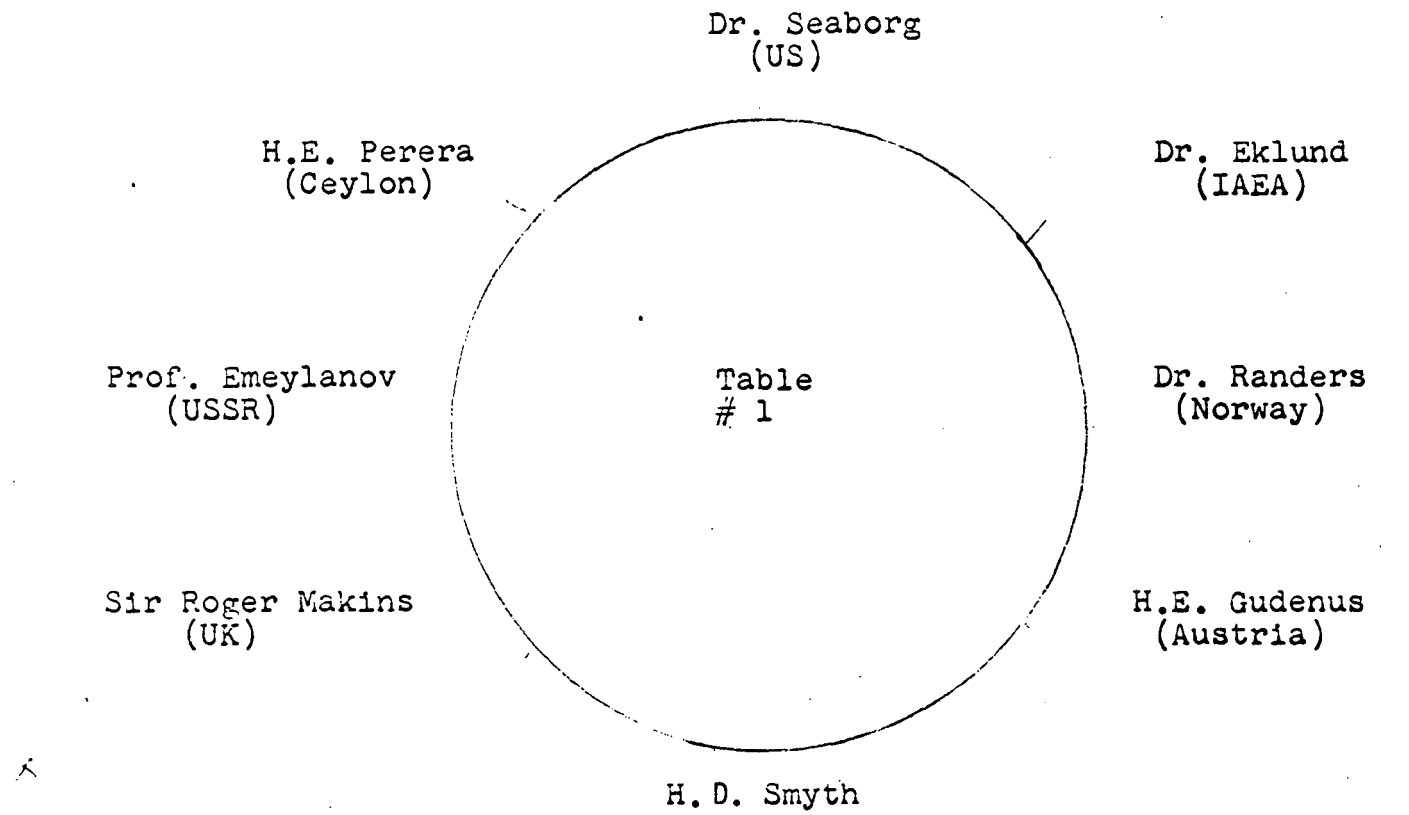
L to R: V. N. Kosyakov (USSR, Staff Member, IAEA), H. J. Bhabha (India), Seaborg, Father T. Hesburgh (Holy See)

Western Hemisphere Reception at the Seventh General Conference, September 25, 1963

L to R: M. Sandoval Vallarta (Mexico), Seaborg, T. A. Marulanda (Colombia), Mildred Cecil (U.S.), Ambassador B. Meagher (Canada), M. D. de Souza Santos (Brazil)

SEATING ARRANGEMENT OF US DELEGATION LUNCHEON - 9-25-63
(Tables were not numbered)

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H.E. Perera
(Ceylon)
Dr. Eklund
(IAEA)
Prof. Emeylanov
(USSR)
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Sir Roger Makins
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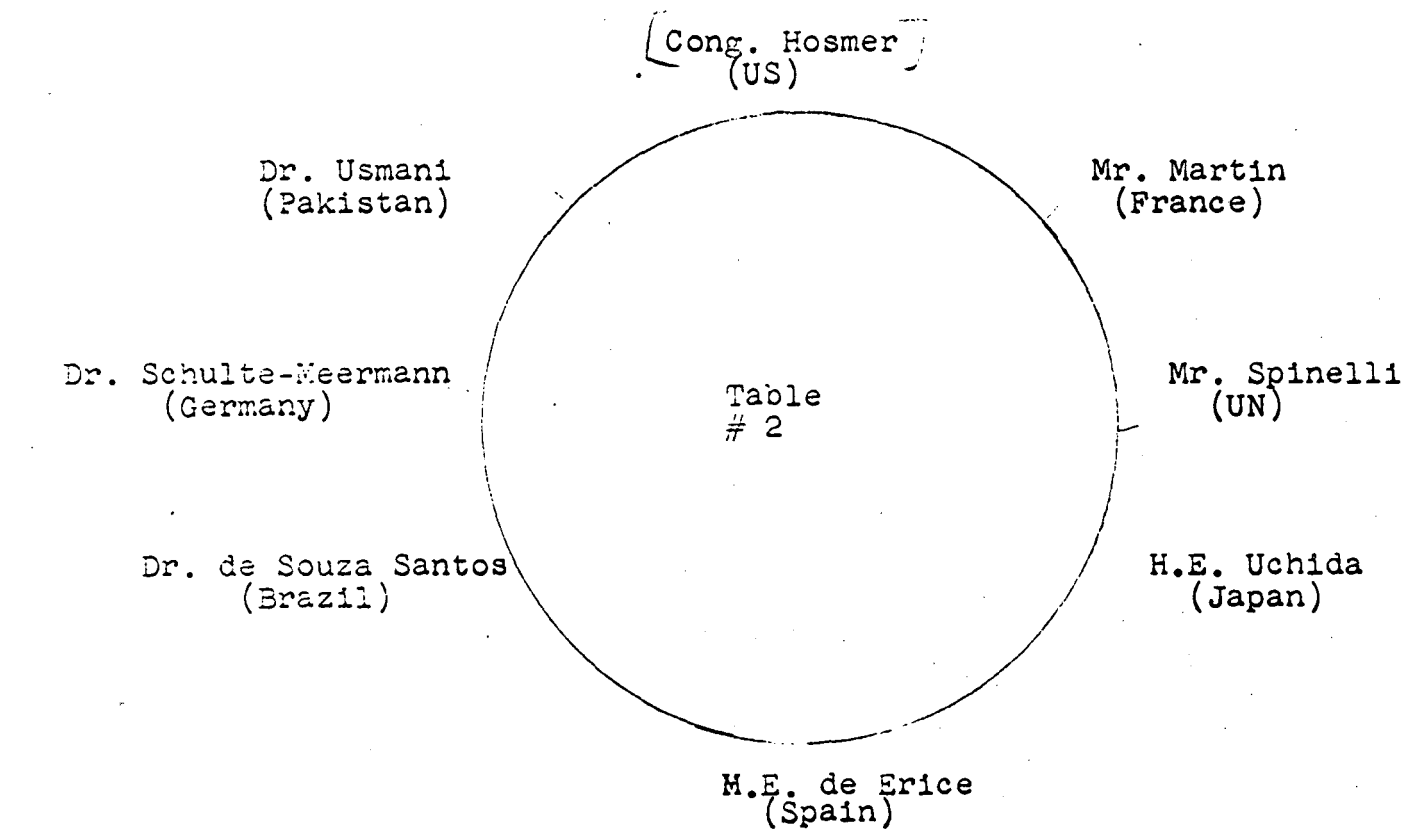
H.E. Gudenus
(Austria)
H. D. Smyth


Cong. Hosmer
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Dr. Usmani
(Pakistan)
Mr. Martin
(France)
Dr. Schulte-Meermann
(Germany)
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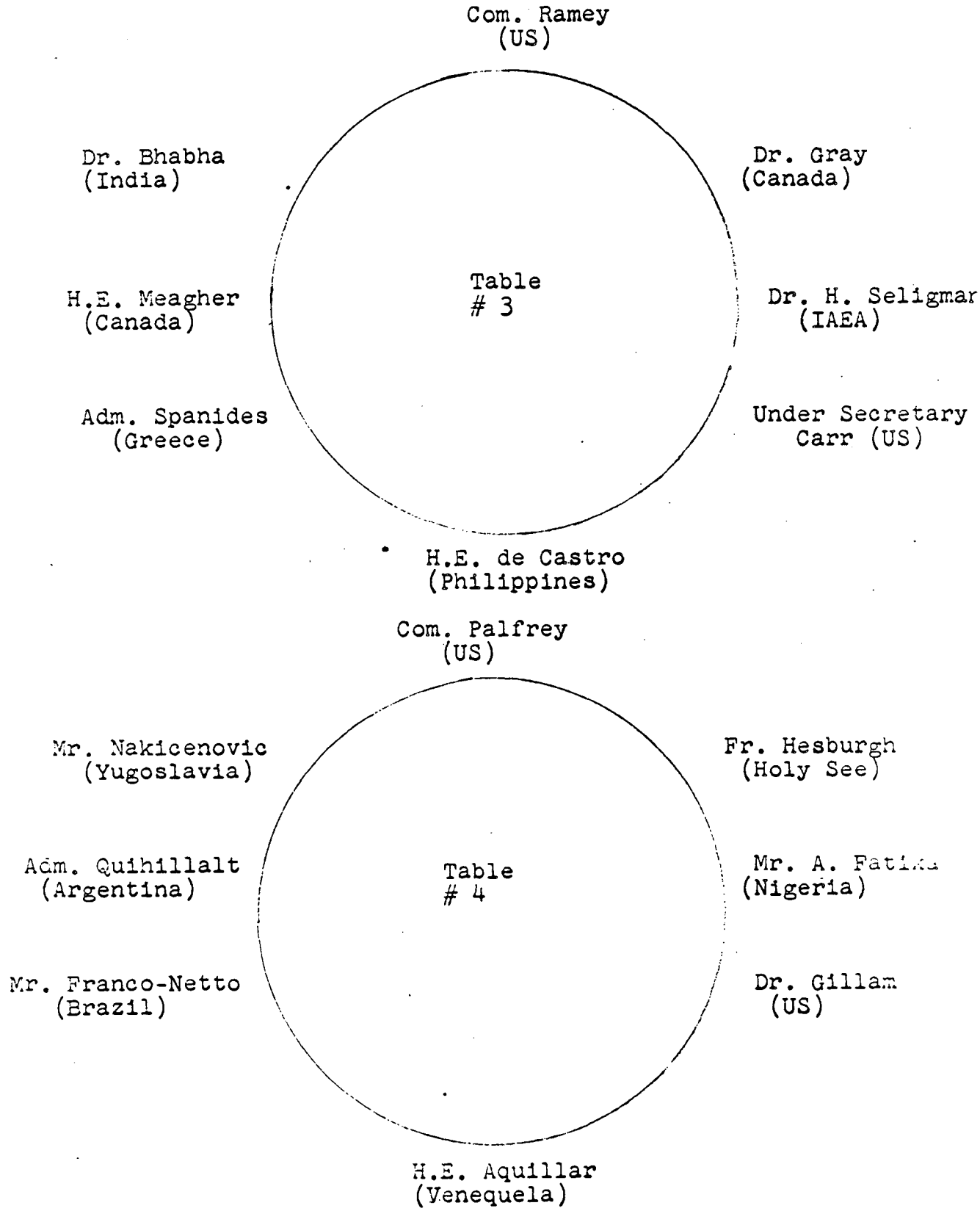
(UN)
Dr. de Souza Santos
(Brazil)
H.E. Uchida
(Japan)
M.E. de Erice
(Spain)


Com. Ramey
(US)
Dr. Bhabha
(India)
Dr. Gray
(Canada)
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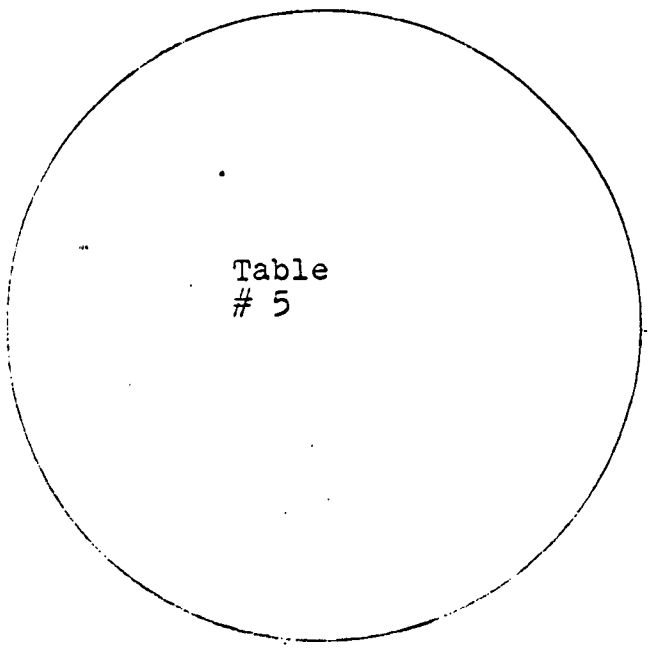
3
H.E. Meagher
(Canada)
Dr. H. Seligmar
(IAEA)
Adm. Spanides
(Greece)
Under Secretary
Carr (US)
H.E. de Castro
(Philippines)
Com. Palfrey
(US)
Mr. Nakicenovic
(Yugoslavia)
Fr. Hesburgh
(Holy See)
Adm. Quihillalt
(Argentina)
Table
4
Mr. A. Fati
(Nigeria)
Mr. Franco-Netto
(Brazil)
Dr. Gillam
(US)
H.E. Aquillar
(Venequela)


Mr. Hefner
(US)
Mr. Michaels
(UK)
Dr. Azad
(Iran)
H.E. Mushiete
(Congo)
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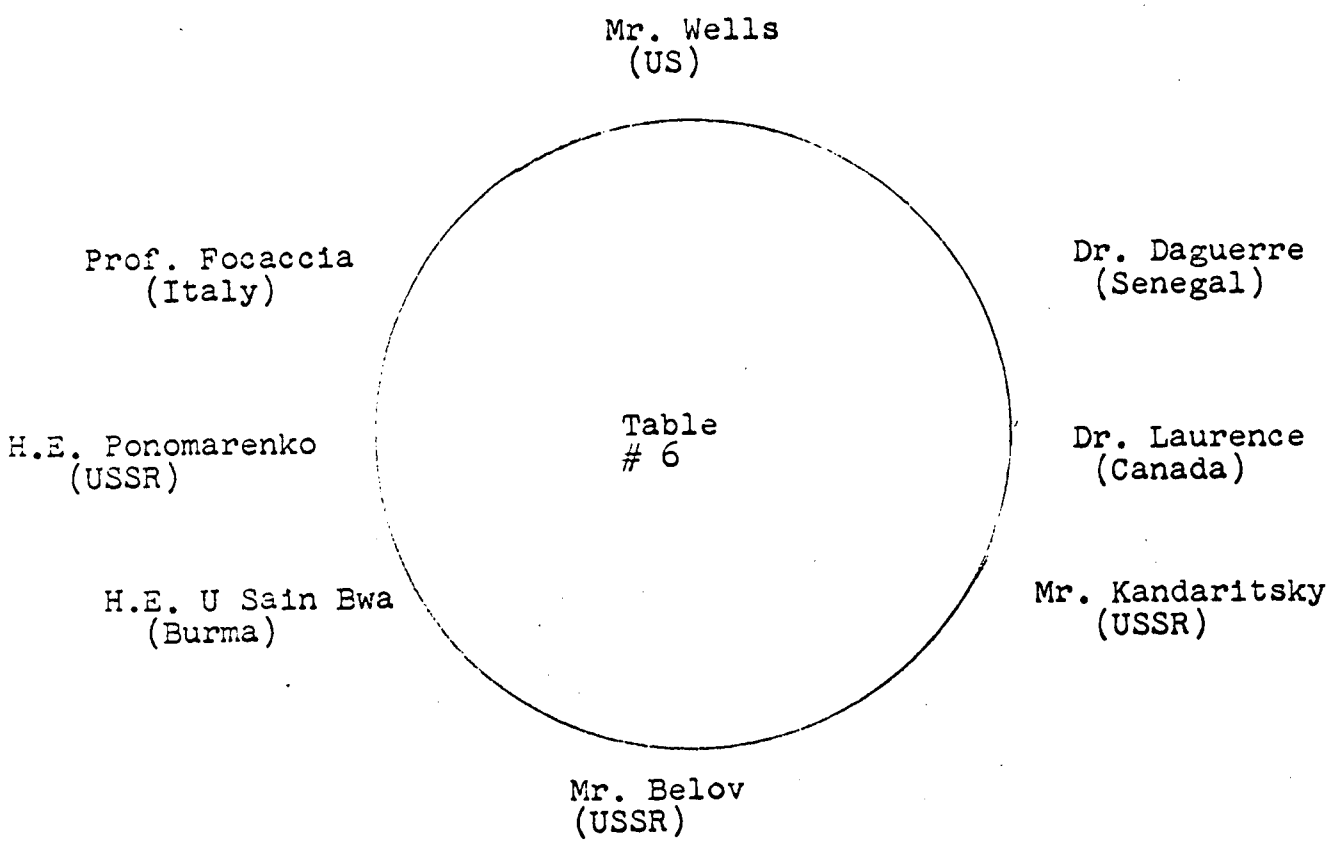
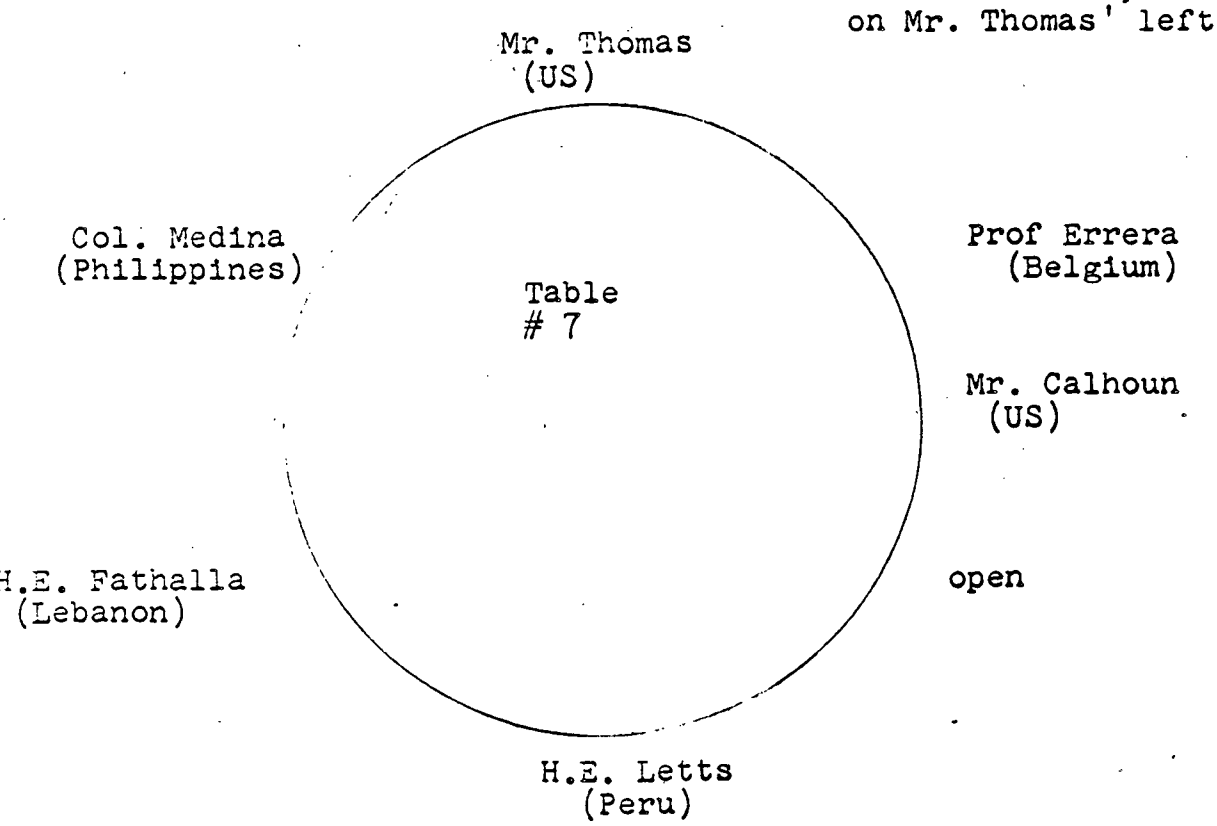
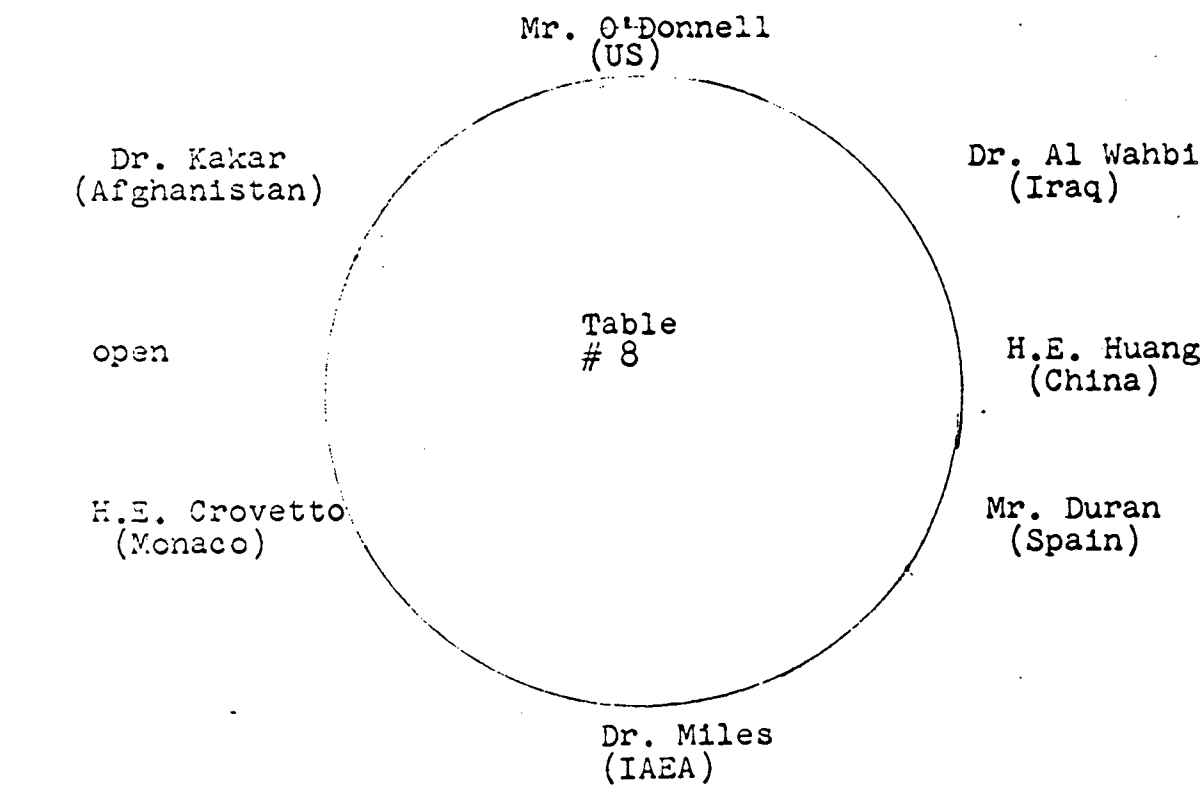
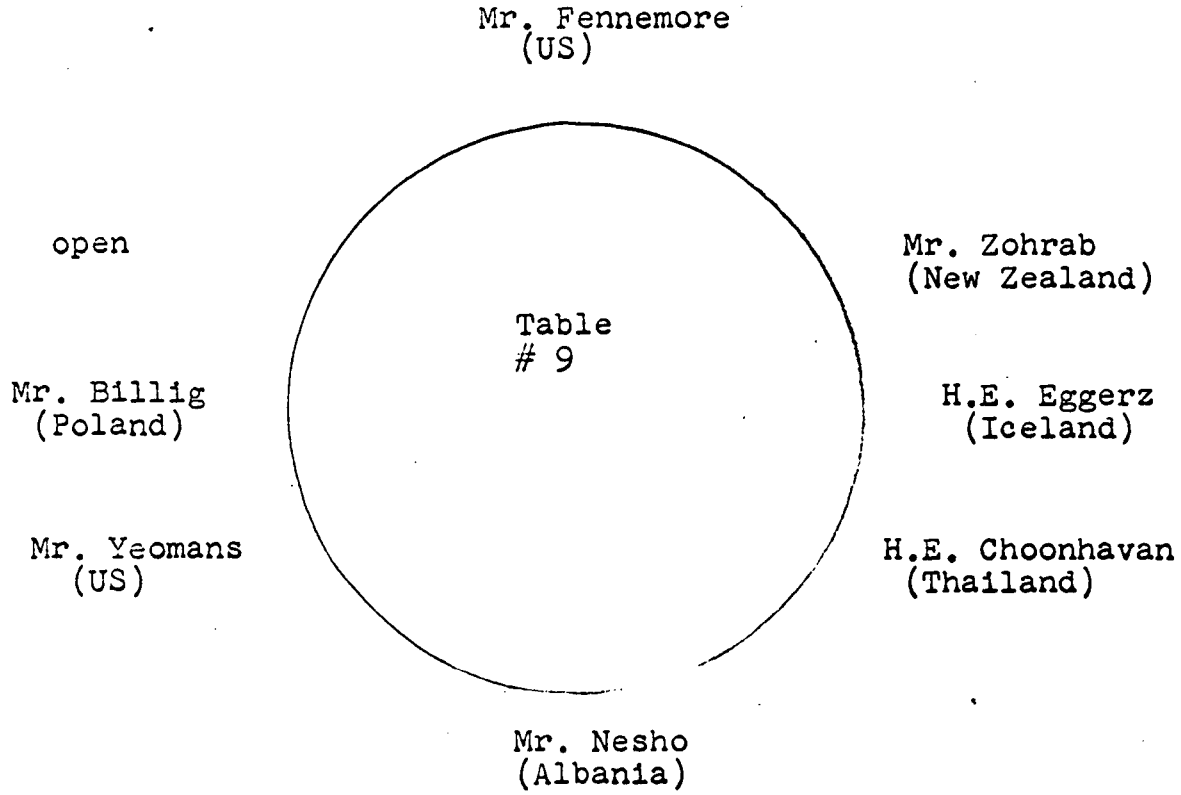
5
(open)
Mr. Balligand
(IAEA)
Dr. Kim
(Korea)
Dr. Chorfi
(Morocco)

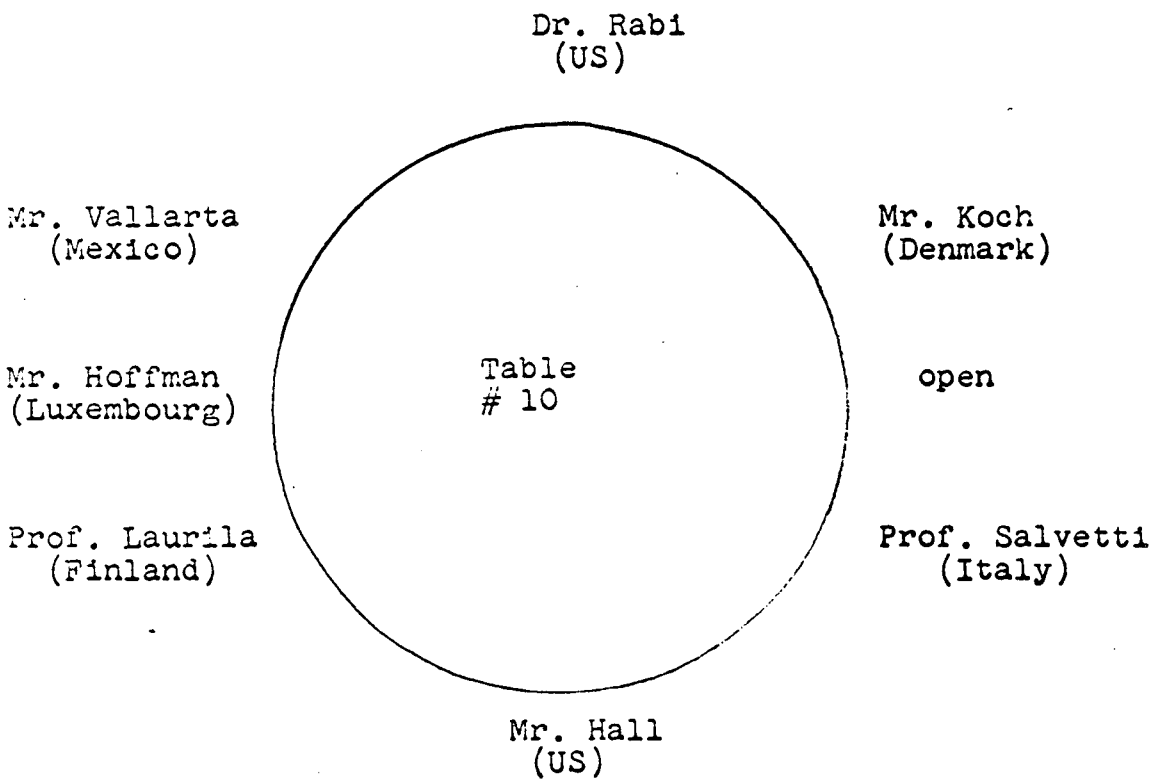

Mr. Wells
(US)
Prof. Focaccia
(Italy)
Dr. Daguerre
(Senegal)
H.E. Ponomarenko
(USSR)
Table
6
Dr. Laurence
(Canada)
H.E. U Sain Bwa
(Burma)
Mr. Kandaritsky
(USSR)
Mr. Belov
(USSR)

Seating arrangement for #7
was in reverse, i.e., Prof.Errera
on Mr. Thomas' left.






Mr. Fennemore
(US)
open
Mr. Zohrab
(New Zealand)
Table
9
Mr. Billig
(Poland)
H.E. Eggerz
(Iceland)
Mr. Yeomans
(US)
H.E. Choonhavan
(Thailand)
Mr. Nesho
(Albania)


Dr. Rabi
(US)
Mr. Vallarta
(Mexico)
Mr. Koch
(Denmark)
Table
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Mr. Hoffman
(Luxembourg)
open
Prof. Laurila
(Finland)
Prof. Salvetti
(Italy)
Mr. Hall
(US)

Mr. Hollingsworth
(US)

H.E. Barrau
(Bolivia)

Dr. Folsom
(Holy See)

Table
11

Miss Gough
(US)

Mr. Sole
(So. Africa)

Mr. Finkelstein
(France)

Mr. Stuchly-Luchs
(Dominican Republic)

Mr. Yaffe
(IAEA)

Mr. Tobin
(US)

Dr. Marulanda
(Columbia)

Dr. Cook

Table
12

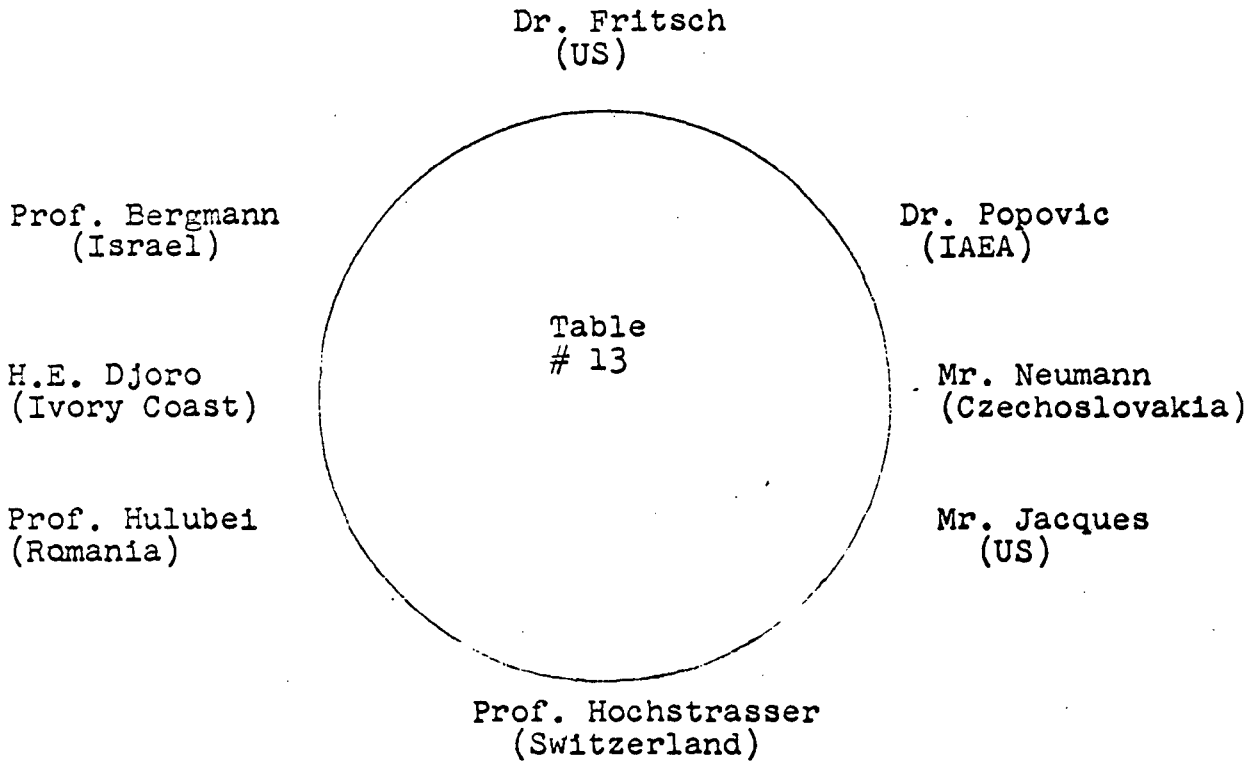
Prof. Nadjakov
(Bulgaria)

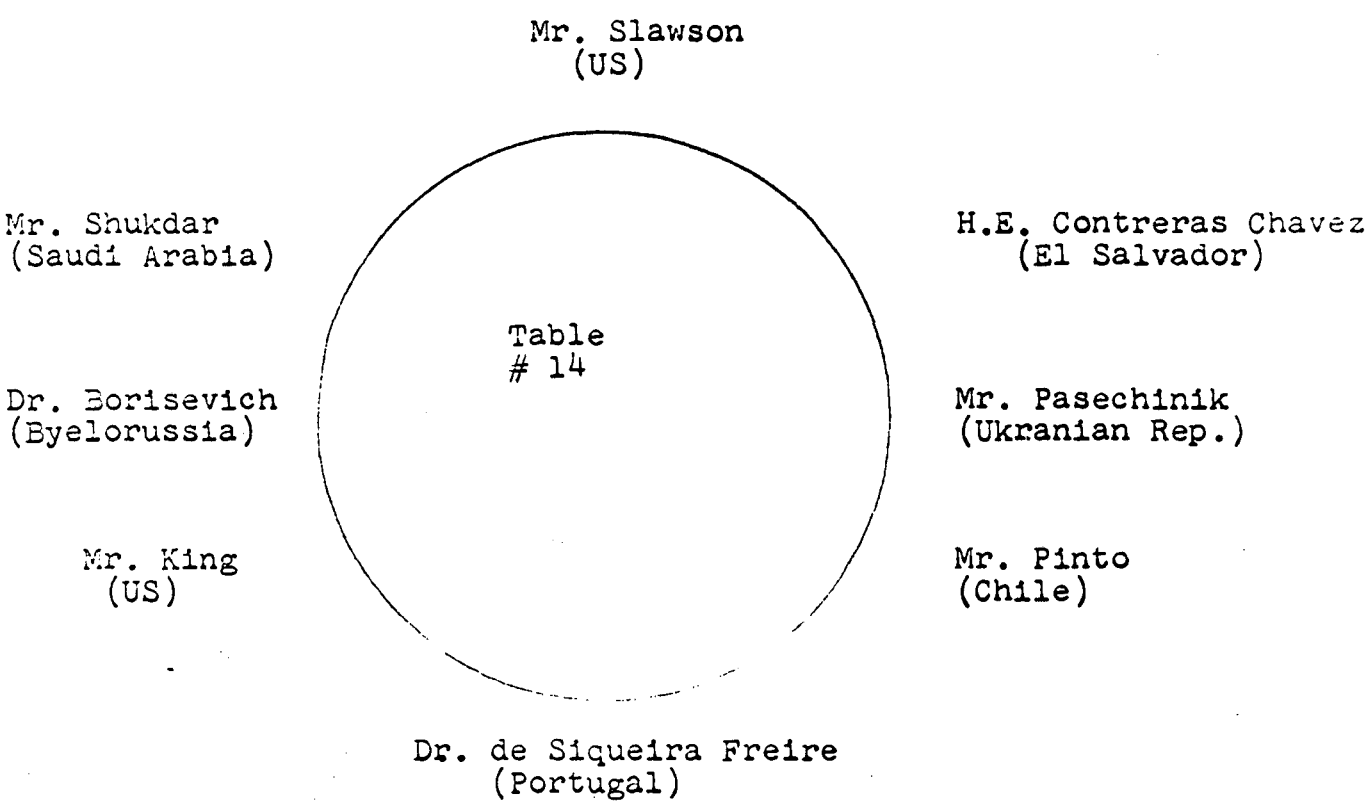
Mr. Thinh
(Viet Nam)

Mr. Ritzmann
(US)

Dr. de Gloger
(Nicaragua)

Dr. Darusman
(Indonesia)


Dr. Fritsch
(US)
Prof. Bergmann
(Israel)
Dr. Popovic
(IAEA)
Table
13
H.E. Djoro
(Ivory Coast)
Mr. Neumann
(Czechoslovakia)
Prof. Hulubei
(Romania)
Mr. Jacques
(US)
Prof. Hochstrasser
(Switzerland)


Mr. Slawson
(US)
Mr. Shukdar
(Saudi Arabia)
H.E. Contreras Chavez
(El Salvador)
Table
14
Dr. Borisevich
(Byelorussia)
Mr. Pasechinik
(Ukranian Rep.)
Mr. King
(US)
Mr. Pinto
(Chile)
Dr. de Siqueira Freire
(Portugal)

Thursday, September 26, 1963 - Vienna

I held a press conference in the Bristol Hotel, which was well attended (transcript attached). I opened by saying that Austria doesn't give sufficient support to science, mentioning the Radium Institute as an example of an historical laboratory that should be better supported. I attended the remainder of the morning IAEA session in the Hofburg where I heard Emelyanov speak; he did refer to our USSR visit in May in a complimentary way. I then attended a meeting with Eklund, Makins, Michaels, Robert Hirsch (France) and Smyth to discuss the concept of an international accelerator. The IAEA will convene a meeting of U.S., USSR, and CERN representatives in December to discuss such a project. I said that the United States is probably not interested in putting the 200-300 BeV accelerator project on an international basis, but maybe we would be interested in the case of the 1000 BeV project.

I then visited the Crown Jewel Museum in the Hofburg Palace area with Palfrey--we also briefly visited the Kaiser's apartments. I later attended the French reception, the Italian reception, and then hosted Emelyanov, Makins, Santos, and Smyth on a visit to the Opera House, where Cavalleria Rusticana and I Pagliacci were performed.

Friday, September 27, 1963 - Stuttgart - Karlsruhe - Baden-Baden

I flew to Stuttgart on Air Austria flight 701, leaving Vienna at 8:50 a.m. and arrived in Stuttgart at 10 a.m. with Fritsch, Wells and King, where we were met by John Erlewine (AEC representative) and W. W. Williams of the U.S. Embassy, Bonn. I was interviewed at the airport by the U.S. Armed Services Radio. We were driven to the Karlsruhe Nuclear Research Center at Karlsruhe. Here we heard one hour of descriptions of the research program. We had lunch with a number of people at the Center. Then we toured the FR-2 (12 MW heavy water reactor) area, the Isochronous (50 MeV deuteron) Cyclotron area (that I had suggested in 1957 to Seelemann Eggebert, during his visit to Berkeley, that they build), and the Transurainum Institute (under construction - to cost $20,000,000). Schnurr (Director of Karlsruhe) and Becker were our guides. After a social hour, at which I spoke about my trip to the USSR to discuss cooperation in the peaceful uses of nuclear energy and the U.S. nuclear power program, we were driven to Baden-Baden and checked into the Hotel Europiascher Hof. We visited the huge gambling casino there.

My visit to the Euratom project at Karlsruhe, though brief, gave me the impression that work there was progressing well; it seemed evident that the Institute would make significant contributions in the years to come.

Saturday, September 28, 1963 - Strasbourg - Bonn to Oslo

We were driven to Strasbourg, where we took a MATS Convair to Bonn--landing at the Cologne Airport. We were driven to the U.S. Embassy in Bonn, where we met with Ambassador McGhee. Then we went to the Ministry for Scientific Research, where we met with Minister Hans Lenz, Professors Heinz Maier-Liebnitz, Fritz Strassmann, Dr. Joachim Pretsch, Dr. Wolfgang Finke, and others to discuss German and U.S. nuclear power programs.

We attended a luncheon at Redoute given by Minister Lenz, and were accompanied by Lenz despite his crippled condition. I responded to a toast given by Lenz. Our group visited the upstairs birthplace of Beethoven on Bonngasse in Bonn.

We then flew by MATS Convair from Bonn-Cologne to Oslo, where we were met by Gunnar Randers and others. We stayed at the Continental Hotel in Oslo. I was interviewed by Eric Lunde of Aftenposten. Fritsch and I took a walk in downtown Oslo.

CHAIRMAN SEABORG'S PRESS CONFERENCE
SEVENTH GENERAL CONFERENCE OF THE IAEA

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CHAIRMAN SEABORG'S PRESS CONFERENCE
SEVENTH GENERAL CONFERENCE OF THE IAEA

1. Q: Does the U. S. want to support the development of nuclear power around the world?

A: The U. S. is extremely interested in seeing nuclear power plants established in areas where nuclear power can be competitive, as evidenced by the recent Tarapur project agreement concluded with India. We are accordingly very much heartened to note the way in which the proposed long-term plan of the International Agency envisages the Agency's role in the development of nuclear power to be one of increasing emphasis. We believe that one of the most important functions being carried out by the IAEA is to help identify areas where nuclear power can be competitive. The Agency can help in this way especially and should be prepared to increasingly provide technical experts, materials, training and information to stimulate the world-wide development of nuclear power.

Perhaps the most important kind of support the U. S. gives to the development of nuclear power abroad is by forwarding the role of nuclear power in our own economy in accordance with objectives outlined in the report that the U. S. Atomic Energy Commission submitted to President Kennedy last November. There we pointed out that continuation of the Commission's present effort, with some augmentation in support of the power

demonstration program, and with program adjustments to give added emphasis to advanced converter and breeder reactors, would bring nuclear power to a competitive status with conventional power throughout most of our country during the 1970's and would make breeder reactors economically attractive by the 1980's. Furtherance of this program will complement and assist our efforts to develop, in cooperation with other countries, advanced and reliable technology on a number of promising reactor types for use in meeting power needs all around the world.

Insofar as the financing of any nuclear power plant is concerned, the U. S. has no special funds for providing grants-in-aid or other special financial benefits. U. S. support of nuclear power projects abroad is governed by the same criteria as those that apply to conventional power plants, and such projects are considered in terms of a country's over-all needs.

Moreover, we do not believe that the IAEA, or any of the other UN technical agencies, should be used as channels for major financial aid. We continue to believe that the international, regional and national financing institutions are better equipped for this purpose.

2. Q: Is the U. S. going to work through the Agency in supplying facilities and special nuclear materials or continue its bilateral and regional arrangements in the nuclear energy field?

A: I should point out that under the U. S. Atomic Energy Act agreements for cooperation are required before equipment and special nuclear materials can be exported - whether we are dealing with an international organization or directly with another country. Safeguards provisions are specified in all U. S. agreements for cooperation. Insofar as the transfer of equipment and materials is concerned, we do not believe that the question of "bilaterals versus the Agency" is necessarily an "either-or" question; or that one mechanism should be adopted universally to the exclusion of the other. When we are dealing with so many different countries at varying levels of development, we cannot expect them all to have the same preferences and seek the same channels of assistance for their nuclear energy programs. For this reason the United States continues to honor each country's desires in this matter while encouraging them to work through the Agency. Our position on safeguards is distinct from our stand on the mode of transfer. Here the U. S. policy is to negotiate

for the transfer of our bilateral safeguards responsibilities to the International Agency as we have already done in the case of Japan and are doing with other countries.

3. Q: What can you say about the future of the IAEA?

A: The IAEA provides a forum in which the scientists and other representatives of the national nuclear energy programs may discuss problems of general scientific and technical interest. These problems and the prospects for future development in the nuclear field are of such a nature that the IAEA is uniquely adapted to serve as the meeting ground for their consideration. Worldwide problems in the regulatory and standardization fields, for example, will continue to require international cooperation. For these and other cogent reasons, I feel that the International Atomic Energy Agency has an assured future.

4. Q: Will the nuclear test ban treaty in your opinion affect the basic issues of disagreement between the U. S. and the USSR in their participation in the IAEA?

A: The USSR has in the past introduced issues into IAEA meetings that we felt were of a political nature and should be taken up in other forums. To the extent that the nuclear test ban treaty has helped to resolve one of these issues we would expect that areas of disagreement within the IAEA would be lessened. I think

it is pertinent to mention also my recent visit to the USSR and the visit we are expecting this fall of Chairman Petrosyants to the U. S. as events leading perhaps to better understanding between our two countries with respect to international cooperation in the atomic energy field.

5. Q: What effects on the functions and responsibilities of the Agency do you foresee as a result of the nuclear test ban treaty?

A: At this stage of events it would be difficult to make any worthwhile prediction. Certainly the nuclear test ban treaty encourages the growth of attitudes that will help the Agency in carrying out more effectively its present broad responsibilities with respect to safeguards and the peaceful uses of atomic energy. I would anticipate that the Agency will continue to make its most significant contributions in these areas.

6. Q: What can be done to improve the Agency's financial support?

A: Contributions to the operational budget from which technical assistance and laboratory activities are financed have consistently fallen below the target figure. While it may be possible to increase the contributions to some extent by vigorous personal appeals on the part of the Director General, it does not seem likely that the results would reach the target level. The most effective solution, and that which would

provide a sound basis for programming and budgeting, would be to place the budget on an assessed basis. An amendment to the Statute to accomplish this purpose has been approved by the Board of Governors, with the support of the U. S., the U. K. and others and recommended to the General Conference. I think the Agency deserves and should receive financial support from its Member States on a fully-assessed basis.

7. Q: Can you explain the U. S.-Indian understanding with respect to application of IAEA safeguards to the Tarapur project?

A: Our recently concluded agreement for cooperation with India in connection with the proposed 380 MW(e) Tarapur Atomic Power Station sets forth our two countries' agreement in principle to request the Agency to apply safeguards to the station at a suitable time after the Agency adopts an expanded system which is generally consistent with the safeguards provisions in the agreement. In our view the system which is up for final consideration by the General Conference now convening is consistent with the provisions in the U. S.-Indian agreement. We would therefore expect to go ahead with our mutual arrangements for requesting application of Agency safeguards when such a request becomes appropriate. Meanwhile the bilateral safeguards will, of course, be applicable.

8. Q: What has been the practical effect of the Four Reactor inspection?

A: It has provided a valuable training ground for the Agency's inspection system and it has demonstrated that the U. S. would accept the safeguards system that the Agency will impose on smaller nations receiving nuclear assistance.

9. Q: Why are safeguards necessary?

A: The Agency and its Member States, including the U. S., since the founding of the Agency have accepted the premise that the worldwide development of the peaceful uses of nuclear energy must be able to proceed rapidly without thereby encouraging proliferation of military nuclear developments. Adequate safeguards, providing assurance that nuclear facilities and materials intended for peaceful use are actually so used, have therefore received sanction of the Member States who also believe that these safeguards can be most effectively and objectively administered by the International Atomic Energy Agency. The United States continues to support the Agency strongly in the prime role its Members have given to it in this significant area. We believe that an important subsidiary effect of our experience with the Agency safeguards system will be in proving out methods of control and inspection invaluable as a contribution toward the solution of such problems connected with disarmament.

10. Q: What if supplier nations do not adopt safeguards under their bilateral arrangements? Would this not weaken the Agency system?

A: It would indeed. We believe it is incumbent on all supplier nations to take whatever steps they can to minimize the likelihood of the nuclear facilities or materials they supply to other nations being put to other than peaceful use. This is another reason for the U. S. policy of turning to the Agency for administration of safeguards applicable to our bilateral arrangements.

11. Q: Why is it important at this time to extend the Agency's safeguards system to large reactors?

A: a. To give parties to negotiations on international sales of large reactors an idea of the nature of safeguards which would be applied if the IAEA were requested to safeguard the transaction.

b. To provide leadership in setting the standards which, hopefully, other countries would maintain if they were to supply large reactors under bilateral safeguards.

12. Q: You have mentioned the need to extend Agency safeguards to include other links in the fuel cycle. How soon will a safeguards system for fuel fabrication and chemical reprocessing plants be required?

A: As soon as fuel safeguarded by the Agency is processed in such facilities. With the expected increase of Agency safeguards activities in assuming bilateral safeguards responsibilities that time is not too far off. The system must be available sufficiently in advance of actual application to give parties which are negotiating fuel fabrication and chemical reprocessing contracts an idea of the nature of the safeguards the IAEA would apply to such activities.

13. Q: What is the difference between the earlier safeguards system and the proposed extension of the system to large reactors?

A: As the term "extension" implies, the new system is in fact a logical continuation and extrapolation of the earlier system for smaller reactors. Two of its chief functions are (a) to assure that fissionable material derived from the use of Agency supplied material is not used for military purposes and (b) to provide for the obvious need for more frequent peaceful use verification of the considerably larger quantities of fissionable materials used and produced in large reactors.

14. Q: When will the IAEA begin inspections in Japan?

A: The Trilateral Agreement between the IAEA, Japan and the U. S. providing for IAEA safeguards in Japan was signed just _____ days ago and will become effective on _____.

The Agency will only be able to begin implementing the agreement after that date and what their plans are on the matter I do not know.

15. Q: What other countries are considering turning over their bilateral safeguards to the IAEA?

A: Speaking only of U. S. bilateral safeguards, we are presently exploring the matter with Austria, Greece, Norway and the Philippines.

Visit to German Nuclear Research Center at Karlsruhe, September 27, 1963

L to R: Karl Wirtz, Wolf Haefele, Walter Seelmann-Eggebert, Seaborg, Walter Schnurr, W. W. Williams, Rudolf Greifeld and Erwin Willy Becker

Sunday, September 29, 1963 - Oslo - Halden

I flew to Halden (some 60 miles south of Oslo) in a seaplane (a single engine Cessna) with Fritsch, Gunnar Randers and Finn Lied (Board Chairman, Institute for Atomenergi), followed by King and Wells in another plane. We saw their experimental boiling heavy water reactor for which the United States has supplied heavy water, fuel material and technical assistance and which is operated by the Norwegian Institutt for Atomenergi (IFA) in cooperation with the OECD-ENEA. We then flew back to Oslo and visited Vigeland Park, where sculptor Vigeland has about 100 bronze and marble sculptures of men, women, and children on display. This is an impressive collection.

I attended a luncheon at the U.S. Embassy hosted by Ambassador and Mrs. Wharton. Among those present were Mr. and Mrs. Randers, Finn Lied, Professor and Mrs. Alexis C. G. Pappas (University of Oslo), Mr. and Mrs. Scott George (First Secretary of the Embassy), Wells, Fritsch, and King.

After lunch our group visited the Viking Ship Museum, the Folke Museum (consisting of old Norwegian homes and churches, etc., from 1200 to 1700 AD), the Kon-Tiki (Thor Heyerdahl's raft), the boat used by Fridtjof Nansen and his crew to try to reach the North Pole in 1893-96.

I then attended a dinner given by the Board of the Institute for Atomic Energy at the Holmenkollen Turist Hotel. Among those present were Randers, Trygve Lie, Ambassador Wharton, Emil Jansen (Director of Halden), Lied, Jens Christian Hauge (Vice Chairman, Norwegian AEC), Olderin, King, Fritsch and Wells. This hotel is near the Olympic ski jump area. I responded to toasts given by Lied and Randers.

Monday, September 30, 1963 - Oslo, Kjeller, to London and home

We visited the Institutt at Kjeller, 15 miles northeast of Oslo. We saw the metallurgy laboratory, shown us by Steinar Aas, JEEP-I shown by K. P. Lien, the Chemical Processing plant shown by K. P. Lindland, NORA* (IAEA reactor) shown by Bjarne Eriksen, the Isotope Laboratory shown by Ulf Been, the Reactor-Tech. lab shown by Lien, and the Nuclear ship project shown by Olderin. We had lunch at the Institute with Randers, Lied, Nils G. Aamodt, Olderin, Lien, Jens Wilhelmsen, Aas, Been, Lindland, and Bjarne Aabakken.

We then left and flew to London on British European Airways flight 763, leaving Oslo at 2:45 p.m. and arriving in London at 6 p.m., where we changed to Pan American flight 1, which left London at 7 p.m. and arrived in New York at 10 p.m. Here we were met by a MATS plane, which left New York at 10:56 p.m. and arrived in Washington at 12 midnight.

*The "Norwegian Zero Energy Reactor Assembly" (NORA) was the focus of an international reactor physics research project established under a 1961 agreement between IFA and the IAEA. The United States contributed a grant of $350,000 to the cost of the reactor, leased enriched uranium for the fuel, and also gave financial support to the research conducted.

Tuesday, October 1, 1963 - D.C.

At 11:30 a.m. I met with Curt Heidenreich (EURATOM, Washington Representative), who urged that the AEC allow EURATOM to pay, on a slightly deferred basis, for the plutonium which the U.S. is furnishing for their fast breeder program.

I had lunch with my assistants at the Roger Smith Hotel.

I returned Don Burnett's thesis to him and sent a letter telling him he did a fine job.

Wednesday, October 2, 1963 - Germantown

At 11 a.m. I presided over Information Meeting 310 (notes attached). We discussed our reply (copy of enclosing letter and Holifield's incoming letter attached) to Holifield's letter requesting information regarding private ownership of nuclear fuel.

Senator Anderson objects vigorously to the School of Applied Science at Livermore because of Teller's activities in connection with the test ban. I must discuss this with him.

Senator Jackson wants the Biomedical Laboratory on Fallout scheduled for Livermore to be put at Hanford. He also wants the SEFOR reactor, scheduled for Arkansas, to be put at Hanford.

I had lunch with Chuck Dunham and others to discuss Senator E. L. Bartlett's and Senator Ernest Gruening's demands that the AEC support a biological research program on fallout at the University of Alaska.

At 2:50 p.m. I presided over Commission Meeting 1968 (action summary attached).

I sent a response to the GAC report of the 85th meeting (attached July 25th).

Thursday, October 3, 1963 - Germantown

Indiana Senator Vance Hartke called at 10:40 a.m. to ask me to speak in Indianapolis at a joint meeting of two engineering organizations. He suggested several dates in November. I told him that the last two weeks would be taken up with my hosting the return visit of the Russian delegation and that I have a very heavy schedule, in and out of town, the first two weeks. He said that these engineering organizations are trying to undo some of the difficulties mentioned in a remark by Secretary McNamara that the engineering brains of the country were going to the East and West coasts. I said I would look at my schedule, set a date in December, and I will let him know what it is.

I called Harlan Cleveland at 12:05 p.m. to tell him that in Vienna I had discussed with Dr. Eklund the matter of Algie Wells being replaced by John Hall at the IAEA and Eklund's response was that he was delighted with the idea.

I had lunch with Ambassador Oscar Quihillalt (Chairman) and Professor Jorge A. Sabato (Head, Metallurgical Department) of the Argentine AEC.

I met with Charles Johnson in his office and learned that the President is not going to approve the SCHOONER (Plowshare) shot because there is a possibility that detectable radioactive debris in Canada would violate the test ban treaty.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 25
October 2, 1963

INFORMATION MEETING 310
11:00 a.m., Wednesday, October 2, 1963, Room A-447, Germantown

1. Shields Warren Ceremony, October 7

2. CIA Request for AEC Seal

   Approved. (Secy)

3. General Manager's September 27 Outline of Army Nuclear Power Program Evaluation

   For discussion at the Information Meeting on Monday, October 7. (Secy)

4. Commissioners' European Visit

   The Chairman and Mr. Ramey discussed briefly their visit to Europe and attendance at the IAEA General Conference.

5. President's Visit to Hanford

   The Chairman noted Commissioner Tape's attendance with the President and asked the General Manager to compliment the staff on ceremony arrangements.

√ 6. Letters by Harold Brown, DOD and John Foster re PLUTO Program

   Noted.

7. General Betts' September 20 Memo Enclosing LRL Memo re Plutonium

   The Chairman noted receipt of the memo and the General Manager said a report will be provided the Commission at an early date. (Betts)

8. Proposed Reply to JCAE Questions on Private Ownership (October 2 version)

The Commissioners approved the proposed reply for clearance with the BOB and transmittal to the JCAE. (Ink-Brown)

9. Research and Surveillance Program at University of Alaska

In response to the Chairman's request, the General Manager said a briefing on the staff's recommendation can be scheduled at an early date. (Secy)

10. House Appropriations Committee Hearings

Tentatively scheduled for late October.

11. Chairman's Visit to Brookhaven Laboratory, Tuesday, October 8

The Chairman noted Commissioner Tape and Representative Pillion will accompany him.

12. Hearings on Nevada Community

Mr. Ink said the hearings would probably be scheduled during the week of October 14.

13. International Collaboration on a High Energy Accelerator

The Chairman reported briefly on the Vienna meeting with Dr. Eklund and others to discuss this matter. The IAEA sponsored meeting on the subject will be held in Vienna in December with Commissioner Tape to attend.

14. MURA Proposal

The Chairman said he had discussed with Dr. Wiesner the Commission's position on this matter.

15. Proposed Itinerary for USSR Delegation Visit (See DIA September 24 Memo)

The Chairman suggested the Commissioners coordinate their plans with the General Manager and Dr. Fritsch.

16. Letter From Pierre Chatenet re Purchase of Plutonium

The Chairman noted receipt of the letter and requested staff review. (Wells)

17. Chairman's Appointment with Kermit Gordon, BOB, Tomorrow to Discuss FY 1964 Supplemental

The General Manager said he would prepare material for the Chairman's use. (Abbadessa)

18. Earl Voss' October 1 Evening Star Article re USSR Nuclear Event

The General Manager reported that in response to queries, AEC staff had referred to the AEC June 30 and September 23 announcements.

19. CLEARWATER Event

The Chairman requested a briefing on the safety review of this event. (Betts-Secy)

20. Exchange of Letters Between JCAE and President re PAL Devices

Noted.

21. Congressman Saylor's Letter Query re Production

Noted.

22. Letter to Mr. Bundy re Proposed NTS Events in October

The Chairman noted he had signed the letter to Mr. Bundy requesting approval.

23. John Finney's October 2 Article re Utah Fallout

Noted.

24. Commissioners' Schedules in October

The Chairman suggested discussion on Friday. (Secy)

25. South African Neutrino Study

Mr. Ramey reported Adrian Fisher, ACDA, had telephoned him on this matter.

26. Vienna Meeting on Saline Water Studies

Mr. Ramey said he would report further on his participation in this meeting.

27. Stephen F. Dunn's Letter to the JCAE re Private Ownership Legislation

The Commissioners noted Mr. Dunn's request for analysis of his calculations and suggested circulation of the letter. (Fine-Secy)

28. Appraisal of Seed and Blanket Concept

Dr. Wilson discussed briefly appraisal of this concept which was presented to him during his recent visit to Knolls Laboratory.

29. Senator Tower's Request for a Briefing

The Chairman suggested a telephone query to Senator Tower's office to ascertain whether a briefing by CIA is in order. (GM-Brown)

30. SNAP 9A

The General Manager reported briefly on the operation of the device and said the next event could not be scheduled before early December. The Commissioners requested circulation of the briefing material. (Ink)

31. Construction Contractor for FARET Project

The General Manager reported the staff is now evaluating four proposals.

32. Proposed Bill re Construction of Nuclear Reactors

Mr. Hennessey said the Farbstein bill has been referred to the JCAE and that no hearings are anticipated this year.

33. Oak Ridge Proposal on Civil Defense

The General Manager said the proposal has been circulated to the Commissioners and is in staff review. A copy will be sent to Steuart Pittman, DOD, for his comment. (Dunham)

34. Amendment of French Bilateral

The Commissioners agreed the Department of State should be urged to modify their position. (Wells)

35. SCHOONER Event

Mr. Ink discussed briefly the information which has been provided the White House on the proposed event and said he understood the matter will be referred to Mr. Bundy today.

36. Production Study

Mr. Ink said some queries had been evoked by Mr. Tremmel's statement at the recent Federal Bar Association meeting.

37. September 27 Letter to the JCAE re AEC Weapons Laboratories Preparedness to Resume Nuclear Testing in 1961

Mr. Ink noted circulation of the letter which was in response to a JCAE query following the John Finney September 25 article in the New York Times.

PRESENT

Dr. Seaborg
Dr. Wilson
Mr. Ramey
Gen. Luedecke
Mr. Hennessey
Mr. Brown
Mr. Ink
Mr. McCool

DISTRIBUTION

Commissioners
General Manager
General Counsel
Secretary

W. B. McCool
Secretary

DO FILE

JCAE 3-163

DECL. BY DOE
NOV 86

Dear Mr. Holifield:

Subsequent to the hearings of July 30, July 31, and August 1, 1963 on S. 1140 and H.R. 3035, your letter of August 12, 1963 forwarded a list of questions pertinent to the matter of private ownership of special nuclear material. Answers to a few of these questions have required consultation with the Departments of State, Treasury, and Justice. Although replies from these Departments are not in hand, we have assembled answers to the balance of the questions and are enclosing them for your consideration.

The additional information will be forwarded as soon as possible. If the Commission can be of further service in studying the impact of this legislation, we stand ready to assist in any way possible.

Sincerely yours,

(Signed) Glenn T. Seaborg

Chairman

Honorable Chet Holifield
Vice Chairman, Joint Committee
on Atomic Energy
Congress of the United States

Enclosure:
Replies to Questions
Submitted with August 12,
1963 ltr. on private ownership

Distribution:
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- Cong. (2)
- GM
- Secty. (2)
- AGMPP
- OA Subj.
- OA Chron.

CC - GC

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JBWork:jen
PCFine
9/30/63

GVQuinn

CHET HOLIFIELD, CALIF.
VICE CHAIRMAN
MELVIN PRICE, ILL.
WAYNE N. ASPINALL, COLO.
ALBERT THOMAS, TEX.
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JACK WESTLAND, WASH.
JOHN B. ANDERSON, ILL.

...IOWA
...UTAH
...CONWAY, EXECUTIVE DIRECTOR

Congress of the United States

JOINT COMMITTEE ON ATOMIC ENERGY

August 12, 1963

UNCL. BY DOE
NOV 86

...onorable Glenn T. Seaborg
...hairman
...S Atomic Energy Commission
...ashington 25, D. C.

Dear Dr. Seaborg:

At the conclusion of the recent hearings on the Atomic Energy Commission's proposed legislation to provide for the private ownership of special nuclear material, I stated that we "should now have the opportunity to review the record thus far developed and analyze the many arguments that have been made before the Committee." I also indicated that supplementary questions would be submitted to the AEC in writing in order to obtain further information and clarification on a number of points raised during the hearings. Accordingly, I am forwarding to you by attachment to this letter several questions, the answers to which will help us to determine the future course of legislative consideration of the private ownership bills.

When I opened the hearings on H.R. 5035 and S. 1160, I stated my belief that these bills would vitally affect the future legal and economic structure of the atomic energy industry. After almost three days of extensive testimony, I am more convinced than ever of the far-reaching impact of this legislation. I believe it is especially important, therefore, that the Committee explore the implications of toll enrichment and private ownership in the greatest detail.

No lesser degree of review will satisfy the obligation of the Joint Committee under the Atomic Energy Act of 1954, and I am sure you will agree that the Commission's responsibilities under the Act require no less an obligation on its part.

It is in this spirit that we submit the attached questions to the Commission. I believe that, working together, we can find solutions which will permit the industry to move gradually into the channels of normal free commerce. You may certainly be assured of the Committee's continuing interest in achieving this goal.

Please do not feel constrained to reply only to the specific questions raised in the attachment to this letter. We would welcome any other comments you may wish to offer covering any other matter which should be considered in relation to the proposed legislation. The staff of the Joint Committee is, of course, available to discuss with the AEC staff any of the matters raised in this letter.

The executive hearings on this legislation, requested by Commissioner Wilson, will be scheduled in the near future.

Sincerely yours,

Chet Holifield

Chet Holifield, Chairman
Subcommittee on Legislation

Attachment

) STATES GOVERNMENT

Memorandum

DECL. BY 002
NOV 86

TO : A. R. Luedecke, General Manager

DATE: October 3, 1963
Approved _____
A. R. Luedecke
Date _____

FROM : W. B. McCool, Secretary

SUBJECT: ACTION SUMMARY OF MEETING 1968, WEDNESDAY, OCTOBER 2, 1963, 2:50 P. M., ROOM A-410, GERMANTOWN, MARYLAND

SECY:ICB

Commission Business

1. Minutes of Meetings 1951, 1952, 1954, 1955, 1956 and 1957

Approved, as revised, subject to comments by Commissioners Ramey and Palfrey.

2. AEC 25/277 - Proposed Air Force Safety Rules

Approved, as revised. (Betts)

The Commission requested the letter to the Secretary of Defense be revised. (Betts)

3. AEC 25/278 - Proposed Air Force Safety Rules

Approved, as revised. (Betts)

The Commission requested the letter to the Secretary of Defense be revised. (Betts)

4. AEC 25/279 - Proposed Navy Safety Rules

Approved. (Betts)

5. AEC 25/280 - Proposed Air Force Safety Rules

Approved. (Betts)

6. AEC 1023/23 - University of California Proposal for Use of Livermore Laboratory

Discussed.

The Commission noted your revision of page 12.

Commissioner Ramey requested development of an appropriate memorandum for the record documenting staff's understanding that

the University is aware of AEC policy re enrollment of aliens. It should also include reference to the procedure used for security checks. (Betts)

The Chairman requested deletion of his name from the draft public announcements. (Betts)

7. AEC 974/5 - Accepting the Return of Irradiated Fuel from the Proposed German Power Reactor

Approved, as revised. (Wells)

The Commission requested the draft letter to Minister Lenz be revised in accordance with the discussion at the Meeting. (Wells)

The Commission requested the draft letter to the Chairman, JCAE, be revised:

(a) to indicate no final action will be taken pending their comments;

(b) to delete the last sentence of paragraph 6. (Wells)

8. AEC 1037/19 - Proposals for Implementation of U. S./U. S. S. R. Memorandum on Cooperation

Approved. (Wells)

9. AEC 1099/5 - Amendment to Charter of the Labor-Management Advisory Committee

Approved, as revised. (Smith)

The Commission requested the second paragraph page 3, be revised to read "... such pertinent general problems as the Commission may select, ..." (Smith)

The Commission noted an appropriate Information Paper will be circulated. (Secretary)

Other Business

1. Preview of Exhibit Material for the New York World's Fair

cc:
Commissioners

From 4 p.m. to 5 p.m. I met with Kermit Gordon (in his office) to argue for $22.7 million supplementary funds for FY 1964 for the buildings at Livermore, Los Alamos and Sandia, for the purpose of strengthening the laboratories in line with the President's promise in connection with the test ban treaty.

I wrote to Wayne Kinney declining his invitation to be a candidate for President on the Benjamin Franklin party ticket.

Helen and I attended a reception for University of California President and Mrs. Clark Kerr, hosted by the University of California D.C. office at the Statler Hotel.

Friday, October 4, 1963 - D.C.

At 9:30 a.m. I presided over Information Meeting 311 (notes attached).

At 11:30 a.m. I met with Earl Crockett (Acting President, Brigham Young University) to discuss his difficulties with their AEC contracts due to the antidiscrimination clause; they want to hire only Mormon professors. I said I think that this problem can be remedied.

I called Manson Benedict to tell him that I will not be available when the Commission meets with the GAC on Sunday, October 20th, because I will be out of the city, but that I will be here for the wind-up session on October 22nd. Manson said he has written to me asking that the GAC be given a fill-in on the happenings in Vienna. I said that both Ramey and Palfrey were in Vienna and will be able to do this. He said they will also want to hear about the test ban. He also said that the GAC hopes to be informed on the status of the invitation to the Russians for the return visit. I said I will send him a copy of our draft itinerary, which has not yet been commented on by the Russians.

I had lunch at Paul Young's with Jim Corley and Robert Kerley of the University of California, and Rick Todd (PG&E). We visited the University of California office at 1725 K Street.

I met with Paul Rosenbaum of New Haven, who urged me to run for the U.S. Senate from Connecticut. I told him I have no interest in doing so.

Ed Brunenkant said that, following my suggestion, he called Jerry Luntz to see whether they will be interested in my meeting with the president of McGraw-Hill Publishing Division regarding the future of Nucleonics. He said Luntz was delighted with the possibility. Brunenkant will arrange an appointment, probably in New York City.

Dwight Ink and I met with Senator Anderson (in his office) to try to persuade him to drop his opposition to the School of Applied Sciences using AEC facilities at Livermore. His opposition stems from Teller's role in the School, and he deplores Teller's attack on the President in connection with the Test Ban Treaty as well as other Teller actions. I convinced him to drop his opposition, although he will not support it, and I feel he should acquaint President Kennedy with the situation.

I called Jerry Johnson about the SCHOONER shot. The President thinks we should develop a cleaner explosive and go ahead a little later. I said there is no indication of what or when but that there is talk in terms of maybe even going for an amendment to the Test Ban Treaty. I emphasized that this information on a postponement was given to me only informally for my reaction. I reacted, but I don't think there is any argument that I can muster to convince them. I asked him not to say anything about this yet because the final word has not yet been given to us. I emphasized that this isn't a safety question, but rather a political one.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 15
October 4, 1963

INFORMATION MEETING 311

9:30 a.m., Friday, October 4, Chairman's Conference Room, D. C. Office

1. Indemnity Authority Under Price-Anderson

Mr. Hennessey reported that Jersey Central representatives have raised the question of the Commission's indemnity authority with respect to plants which would be constructed but would not be licensed for operation until after August 1, 1967, when our indemnity authority expires. They have requested that the Commission introduce clarifying legislation in the present Congress and have said they probably will not plan to construct a nuclear plant without assurance of the introduction of such legislation. The Commissioners discussed the alternative of obtaining an affirmative Attorney General's opinion and of support of the JCAE. Mr. Hennessey is to discuss the matter today with JCAE staff and Department of Justice representatives. Dr. Wilson will telephone Jerry Luntz, Nucleonics, to discuss the matter and an early meeting with representatives of Jersey Central will follow. (Ink-GC-Secy)

2. SCHOONER Event

The Chairman reported briefly on the meeting yesterday and requested Commissioners' comments. (Henderson)

3. October 3 Meeting with Kermit Gordon, BOB, to Discuss FY 1964 Supplemental

The Chairman reported briefly on his meeting yesterday with Mr. Gordon in which a possible cut of $12 million construction funding and $10 million operating funding was considered. No final decision has yet been made.

4. September 18 Letter From Mr. Charles Luce re Operation of the NPR

To be circulated. (Secy)

5. Press Reports re Forthcoming DOD Decision on the Nuclear Aircraft Carrier

6. Schedule for Month of October

The Commissioners discussed briefly their respective schedules for the month of October. The Chairman suggested a meeting with Allis-Chalmers representatives in late October in response to Mr. Etherington's September 6 letter. House Appropriations Committee hearings are now tentatively scheduled for October 17 and hearings on the NTS Communities are tentatively scheduled for October 16 and 17. (Secy.)

7. Agenda for Week of October 7

Approved. (Secy.)

8. Chairman's 2:00 p.m. Meeting, Monday, October 7, with Representative Carl Elliott of the House Select Committee on Research and Development Study

The Chairman said he is to discuss the study with Representative Elliot and will also discuss possible candidates for a position of Executive Director.

9. Meeting of the 210 Committee Today

Dr. Tape said he and General Betts are scheduled to meet with the Committee this afternoon and the Chairman commented briefly on a desirable position with respect to the schedule of events.

10. COACH Event

The Chairman requested review. (Kelly)

11. ACDA Meeting Tuesday, October 8

In response to Dr. Tape's query, the Chairman suggested Dr. Tape telephone Adrian Fisher.

12. Assistance to the French

Mr. Ink reported that Department of State now agrees and will recommend to the Secretary that the U.S. provide SNM at an enrichment of 93%.

13. Draft Department of State Document re MLF

Mr. Ink reported receipt of the material from State which has been reviewed by staff. Mr. Palfrey will be informed by cable of staff comments.

14. ACDA-AEC Meeting Today

Mr. Ink reported AEC staff will meet today with ACDA to discuss the economic impact of possible production cuts.

15. Possible Republican Charges re Nuclear Test Ban Treaty

16. Piqua and Elk River Overruns

Mr. Ink said AEC staff will meet with JCAE staff to discuss this matter today.

17. Denning Report on the Profumo Case

Mr. Ink said the report indicates no Restricted Data information was involved.

PRESENT		DISTRIBUTION
Dr. Seaborg	Mr. Ink	Commissioners
Dr. Wilson	Mr. Hennessey	General Manager
Dr. Tape	Mr. Price*	General Counsel
	Mr. Lowenstein*	Secretary
	Mr. Henderson	
	Mr. McCool	

*Attendance for Item 1

W. B. McCool
Secretary

Saturday, October 5, 1963 - D.C.

I worked in the office until noon.

I wrote to my mother telling her a bit about the European trip and enclosed a couple of photographs.

I played nine holes of golf with David and his friend, Don Schuirmann, at the Chevy Chase Club.

Sunday, October 6, 1963

I read AEC papers and journals.

The family, except Pete and Lynne (who is visiting in Pennsylvania this weekend), drove to the Catoctin Mountains and hiked along the Nature Trail to Hog Rock.

Monday, October 7, 1963 - D.C.

I called Korth at 9:20 a.m. and said I had read and heard rumors that the decision on the nuclear carrier is about to be made and that it will be adverse. Korth said he had breakfast with McNamara and Gilpatric on Friday, and he pressed them on this. Gilpatric has been reviewing the paper, which had Rickover's input, and he is going to discuss it with McNamara. They indicated that perhaps this week there would be a decision, but there is no actual indication as to the character of the propulsion (i.e., nuclear or conventional). He suggested it would not be amiss for me to call McNamara and indicated that, if I learned anything, he would appreciate it if I could let him know. He did say he would not want to be quoted on any of the above.

I tried to call McNamara, but because he is out of town and at 10 a.m. I called Gilpatric who said that the decision will probably go against the nuclear carrier. He said that the carrier was authorized and funded by Congress on a conventional power basis. Defense does not have the additional $125 million that would be required to convert the project to nuclear power. If a request were put in for a supplemental for this amount, it would have to go through four congressional committees again; and he said it would run into considerable opposition. He said that the Navy has not yet come in with the results of its full study of the relative effectiveness of nuclear and conventional propulsion. DOD has received a request from the Navy for the 1963 carrier to be converted to nuclear. They have various alternative means of trying to do this, but all mean delay and uncertainty.

He said he was saying all this to me confidentially because McNamara had not yet signed the paper. He stated that the problem is separated into two parts: 1. decision on the 1963 carrier; and 2. study on the question of where we go from here on all future ships, from frigates up. They will give the Navy full time to complete its study, then DOD will take it up with AEC and the JCAE. As far as the 1963 carrier is concerned, he said they will have to make an immediate decision on an ad hoc basis because they have no choice.

I asked whether it was that clear cut and said I was going to ask for an opportunity to see him and McNamara. He said they are fully aware of our views and also the views of the Navy. He said the point is that they don't have the authority today to build the 1963 carrier with nuclear propulsion, nor do they have the funds. To go back to Congress and ask for an additional $125 million would mean a considerable delay, and on this basis he and McNamara have made the decision.

I asked whether he can feel sure that Congress would have some difficulty with

this. He said there is not a great deal of support for it. He said that Senator Russell talked to him and expressed very grave doubts. I said I really think very strongly that this is the wrong thing to do and that they are building an obsolete type of ship. I asked how well the President is briefed on this. He said he didn't know, but that McNamara has talked to him; however, he said it was the responsibility of DOD, and after taking into account everybody's views and all the facts, it was up to DOD to make the decision.

He reiterated that this is entirely without prejudice as to where we go from here. He said he would tell McNamara of my call and that I expressed very grave concern. He said he doesn't think this is a national issue; I said I wasn't so sure. He asked that this information be confined to the Commissioners for the present and particularly asked that we not mention it to the JCAE yet.

At 9:40 a.m. I presided over Information Meeting 312 (notes attached).

Commissioners Tape, Ramey and I, and Luedecke met with Admiral William F. Raborn (Vice President for Program Management, Aerojet General) regarding the NERVA project.

I taped a ten-minute interview for German Radio and TV.

At 2:30 p.m. I met with Congressman Carl Elliott (in his office). He described the assignment of the Select House Committee to Investigate Government Research and said that he wants my advice as to the method of the operation of the Committee and the recommendations for an Executive Director. I asked him what the salary would be, and he said it would be $18,500. I said this would make it difficult to get an active scientist with a reputation, and he agreed it might have to be a younger man or one who was recently retired or who is about to be retired. With this background, I suggested Alan Waterman, Lou Turner, and Norman Hilberry. He seemed interested in these possibilities but asked if I knew anyone from Alabama. I said I did not. With respect to the method of procedure, he said he thought he would begin hearings by receiving the testimony of the heads of government agencies, such as, the Office of Science and Technology, National Science Foundation, AEC, and the Scientific Representatives of Agriculture, HEW, etc.

He asked my opinion on this approach and I said I thought this would be fine. He also thought that he might have an advisory committee of some eight scientists: four from government, and the other four from industries and universities. I said I thought this would be fine. I urged him to undertake the study on a broad basis and that, in the case of universities, he look for methods for improving relations between government and the universities and methods for strengthening the universities rather than just exploiting them. I said that, in this connection, I would send him a copy of the PSAC Panel Report, of which I was Chairman, some three years ago.

I made the presentation of the AEC Citation to Shields Warren.

I called Charles Johnson at 5 p.m. I said I had tried to contact Bundy. He said Bundy's father died suddenly so he went up to Boston. I said I was calling regarding SCHOONER. He said that, if the matter of political guidance on this one major project made some difference to us on the timetable, then we might consider the possibility of deferring any further decision on SCHOONER at this time in favor of concentrating on the device development.

I said I wouldn't place any great emphasis on this one project, that there are many projects that are potentially available, but that the suggestion may be all right, nevertheless. He said he didn't want to prejudice anything else and said we might

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

DECL. BY DOE
NOV 86

COPY NO. 15
October 7, 1963

INFORMATION MEETING 312,
9:40 a.m., Monday, October 7, 1963 - Chairman's Conference Room, D. C.

1. Chairman's Telephone Conversations with Secretary Korth and Secretary Gilpatric

The Chairman discussed briefly his telephone conversations this morning with DOD representatives regarding the forthcoming decision on the aircraft carrier. Secretary Gilpatric will discuss with Secretary McNamara the Chairman's position on the decision.

2. Chairman's October 4 Meeting with Senator Anderson to Discuss School of Applied Science at Livermore

The Chairman discussed briefly his conversation with Senator Anderson and said he thought the Commission could proceed now, but that the Senator may discuss the matter further with the White House. The Commissioners requested a report on the status of patents which were discussed by Dr. Teller in recent Congressional testimony. (GC)

(General Luedecke entered the meeting)

3. Meeting of the 210 Committee, Friday, October 4

Dr. Tape said Mr. Bundy had indicated forthcoming approval of the CLEARWATER, TORNILLO, and GRUNION Events. Mr. Bundy discussed briefly the White House staff's present position regarding the SCHOONER Event and after review of the General Manager's proposed directive language, the Chairman said he would telephone Mr. Bundy. (Mr. Brown)

4. Proposed Letter to John Conway, JCAE, re LRL Proposal for Use of Additional Reactor Products

The Chairman discussed briefly revisions of the letter and requested review by the Commissioners prior to dispatch. (Brown)

5. October 4 Memorandum from Secretary Gilpatric re Dispersal

Noted for staff review.

6. Mr. Bundy's September 30 Memorandum to Secretary Gilpatric re Dispersal

The Commissioners noted the limitation imposed by Mr. Bundy's letter.

7. Letter to Mr. Gordon, BOB, re Analysis of Readiness Capability

The Chairman discussed the proposed letter briefly and said he would sign the letter for transmittal today. (Brown)

8. Indemnity Authority under Price Anderson

Mr. Hennessey said he had discussed the problem with John Conway, JCAE, Friday and Mr. Conway indicated the staff is prepared to recommend introduction of clarifying legislation during this session of Congress. The problem has been discussed with the Department of Justice, and Justice is prepared to provide an opinion at AEC request. The Commissioners suggested further exploration of the alternative route discussed at last Friday's meeting and Mr. Ramey will talk to Mr. Conway.

9. Congressional Hearings Scheduled

Hearings have now been scheduled as follows:

Elk River, Piqua -- October 15
NTS Community -- October 16 and 17
Appropriations -- October 21
Reactor Safety -- October 22 and 23

10. AEC Comments on Energy Study

Dr. Tape noted the telephone call from Dr. Wiesner's office requesting AEC comments by October 21. The General Manager noted the study is in staff review and the Commissioners suggested a seminar meeting at an appropriate time. (Pittman, Baranowski, Fine)

11. Army Nuclear Power Program Evaluation (See the General Manager's September 27 Memorandum to the Commissioners)

Mr. Ramey discussed briefly his questions regarding (a) arrangements for program management, (b) the role of nuclear industry, and (c) the need for an integrated study. The General Manager discussed briefly the status of the present DOD/AEC efforts and the Chairman requested appropriate coordination to assure the development of an integrated study. (Pittman)

12. Pending Contractual Matters (October 3 Report)

Mr. Ramey suggested the General Manager look at the prospective R&D contract with GE/AT(04)189. The October 3 report is to be noted at a later meeting. (Secy)

13. SEFOR Project and BioMed Laboratory at LRL

The Chairman noted it would be desirable to discuss these projects with the Joint Committee at an early date.

14. Aerojet General-Westinghouse Contract for Nerva Program

The General Manager reported that in discussions with NASA representatives this morning he had agreed to a one-year extension of the contract effective September 30, 1963 and negotiation of scoping for the one-year period. An evaluation of the contract for the period ending September 30, 1963 is now underway.

15. Safety Review of the CLEARWATER Event

PRESENT		DISTRIBUTION
Dr. Seaborg	Gen. Luedecke*	Commissioners
Mr. Ramey	Mr. Ink	General Manager
Dr. Tape	Mr. Hennessey	General Counsel
	Mr. Brown	Secretary
	Mr. McCool	

W. B. McCool
Secretary

*Partial Attendance

put this one shot on the back burner for a few months. I said I thought this was a better way of doing it, rather than issuing the NSAM he had showed me. He didn't think Bundy felt it was important to get out a piece of paper. The discussion of Thursday afternoon supersedes the paper, and our action is to be based on the results of that meeting. He thought a follow-up might be in order--a note from me, saying that we prefer not to have any action on it and will set it aside for the time being in favor of the development of cleaner and smaller-scale devices, etc. I said we would get a letter to Bundy along these lines. I mentioned that BOB will be stepping in, wanting to cut our budget, whereas we will still need the funds for the development of cleaner explosives, and said I hoped they would be of help to us in that respect. He said he understood that such funds are needed.

I sent my biweekly report to the President (copy attached).

Tuesday, October 8, 1963 - D. C. - Brookhaven National Laboratory-Washington

I called Wiesner at 10 a.m. to tell him about my appointment yesterday with Congressman Carl Elliott. Wiesner said he had a couple of talks with Elliott and that he, also, is collecting a list of names for him. He said he is especially making a check on William Golden, recommended by Rabi. I said Golden would be O.K. I said that apparently McNamara is going to make the decision on the aircraft carrier this week and apparently he will decide against nuclear propulsion. I said I talked to Korth and Gilpatric and told them I feel very strongly that this would be wrong. Wiesner said that he and Harold Brown are getting their facts together and they will talk to McNamara. I said this is something the President should get into. Wiesner said he doesn't have a good case, just his instincts, but within the next two days they are going to try to make a case. Regarding SCHOONER I said we are going to withdraw our request and concentrate on the other experiments.

Dr. Ralph Bunche (United Nations) called a little after 10 a.m. to say that he is on the Board and Executive Committee of the New York World's Fair. At a meeting last week he raised the question whether any effort had been made to include anything in the U.S. Pavilion on the peaceful uses of atomic energy. He thinks it is most unfortunate that the fine exhibits that the U.S. has had at the two Geneva Conferences have been seen mainly by Europeans and that so little opportunity has been available for the American public to see them. Since the Fair will run for a two-year period it would provide an excellent opportunity for this display. I explained that about a year ago we made representation to the Department of Commerce to include something and we got nowhere. Then we went ahead and worked with the authorities building the Science Hall and made arrangements to get about 6,000 square feet of space; and we will put in it, at our own expense, one of the exhibits that Bunche mentioned.

In the meantime, Commerce has begun to worry about what they will put in their building. Bunche said that they now have an entire floor of the U.S. Pavilion with nothing to put into it. I said the only thing we could do now would be to move from the Hall of Science into the Commerce building. I mentioned that the completion of the Hall of Science will now be delayed; but Bunche said it will be a delay of only one month. Bunche asked whether our exhibit will include a reactor. I said, no. He said it's a pity because most Americans have never had an opportunity to view a reactor. I said we don't have any money for that and it is what we suggested to Commerce a year or so ago and that Commerce has now spent most of their $18 million on the building. But, I said I would look into this again. Bunche said if there is anything he can do let him know. He feels the present plan is selling the American public short. I said that our exhibit will be good but that it is one we had to fit within our budget; therefore, it is modest.

I flew to Islip, Long Island, in a MATS Convair, to visit Brookhaven National

DECLASSIFIED

OCT 7 1963

UNCL. BY DOE
NOV 86

Dear Mr. President:

As you are aware, it was not possible for me to participate personally in your visit to the Hanford site and the dedication of the N-R reactor project because of my attendance as the U.S. delegate to the Seventh Annual General Conference of the International Atomic Energy Agency (IAEA) in Vienna. Dr. Tape advises me that a most enthusiastic crowd of 37,000 people greeted you at the N-R site.

Besides attending the IAEA General Conference, I also took the occasion while in Europe to open a U.S. Atomic Energy Commission sponsored "Atoms at Work" exhibit at Belgrade, Yugoslavia, as well as to tour the atomic energy installations there and in several other countries. For a portion of the trip, Representatives Holifield and Price accompanied my party, and I believe that they were generally well impressed with what they saw.

Vienna, Austria - Seventh General Conference of the IAEA

During my attendance at the IAEA General Conference, I had the opportunity to once again renew acquaintance with the heads of most of the atomic energy programs in the various countries. Representatives Holifield and Price were present for the first days of this Conference.

In comparison with preceding years, this session of the General Conference was marked by a most friendly atmosphere. The Soviet bloc was most cordial and receptive and supported several of the positions taken by the West, including the important safeguards issue. With U.S. and U.S.S.R. support, the resolution to extend the IAEA's safeguards system to reactors over 100 megawatts was adopted by a 57 to 4 vote with 6 abstentions.

The only momentary flare-up was among the African Delegation, who early in the Conference raised the South African question; however, they accepted the general consensus of the delegates that this political issue was not appropriate in the technical forum of the IAEA.

Yugoslavia

I, together with Representatives Holifield and Price, visited Yugoslavia for three days. During the course of the visit, our party met with Vice President Rankovic, in the absence of President Tito. In later discussions with President Nuno of the Federal Nuclear Energy Commission, Representative Holifield and I invited President Tito to inspect one of our atomic energy installations - perhaps the Brookhaven National Laboratory - during his forthcoming visit to the United States.

During the visit I had the pleasure of opening one of the AEC's international "Atoms at Work" exhibits in Belgrade, together with President Nuno. This exhibit, the first large atomic energy display on the part of the U.S. Atomic Energy Commission in Eastern Europe, began quite successfully. I anticipate that this exhibit will bring the U.S. many dividends in the next several weeks.

While in Yugoslavia, our party also took the occasion to visit the Boris Kidric Nuclear Institute near Belgrade. This is the largest of the three nuclear installations in Yugoslavia. The Kidric Institute has two reactors - one built solely from Yugoslavian resources and the second supplied by the Soviet Union. However, our tour indicated that the influence of the West was predominant. All the leading investigators and administrators in the Institute spoke reasonably good English. Many of the projects being carried forward at the laboratory were cooperative ones involving countries in the West. A great deal of the instrumentation and auxiliary equipment at the site was of Western origin. And perhaps most important, many of the investigators had spent one or more years training in the West. In fact, to date we have trained about 40 Yugoslavian students in our AEC facilities.

The over-all contrast between Yugoslavia and the Soviet Union is rather striking. Western influence is apparent not only in their scientific research programme but in their dress and manner. I believe that Yugoslavia is a good example of what closer contacts between peoples can accomplish in the relaxation of tensions and differences.

German Federal Republic

While in Europe, I also had the opportunity to visit West Germany to inspect one of their two large government-supported nuclear laboratories at Karlsruhe and to have discussions in Bonn with Minister Lenz of the Ministry for Atomic Energy. As you know, West Germany did not have an active program in the peaceful uses of nuclear energy until 1955, and one could readily observe their determined effort to recapture lost ground.

At Karlsruhe we visited their 10-megawatt research reactor and a 50-Mev isochronous cyclotron. Both appeared to be well-designed facilities. It was interesting to note that at Karlsruhe fundamental work is proceeding on isotope separation techniques in addition to the gas centrifuge work. We were also informed that, under a recently completed cooperative agreement with France in the field of heavy water moderated reactors, a joint France-German project may be organized to construct a large reactor of this type.

While at Karlsruhe, I also took the opportunity to visit the Euratom project there which is now under construction - the European Institute for Transuranic Elements. This project seems to be progressing well and may make significant contributions in years to come.

During my brief visit to Bonn, it was interesting to note that Minister Lenz did not raise any substantive issues, although there were several pending. I can only assume that this gives credence to the rumor that Minister Lenz will step down in the forthcoming Adenauer retirement.

United Kingdom

While in Europe, I also availed myself of the opportunity to visit the United Kingdom and to tour their nuclear weapons research facilities at Aldermaston. The visit was quite useful since it provided me with a first-hand look at the United Kingdom's long-range nuclear weapons program. They seem well along on adapting and modifying the Polaris warhead design developed by the U. S. to one more suited to their production techniques and requirements. The entire U. K. weapons effort appears quite sound and generally along the lines of our laboratories, although their total laboratory and staff is considerably less than that involved in the U. S. program.

Denmark and Norway

Finally, during my European trip, I visited the Scandinavian countries of Denmark and Norway. Representatives Hollifield and Price accompanied me in my visit to Denmark. Here, again, our group toured the various nuclear facilities. In both countries, it was surprising to see such significant programs in nuclear energy relative to the size of the country and its Gross National Product. Norway's program was especially remarkable for its cooperative aspects. Its power prototype reactor at Halden is an OECD project, while the critical facility at their nuclear institute is sponsored by the IAEA. Several of their other programs are in conjunction with the Netherland or other European countries.

* * * *

In general, I believe my recent trip was most useful. If I came back with any single impression, it was the obvious relaxation of tension between the East and the West which was apparent everywhere I went.

Respectfully submitted,

(Signed) Glenn T. Seaborg

Glenn T. Seaborg

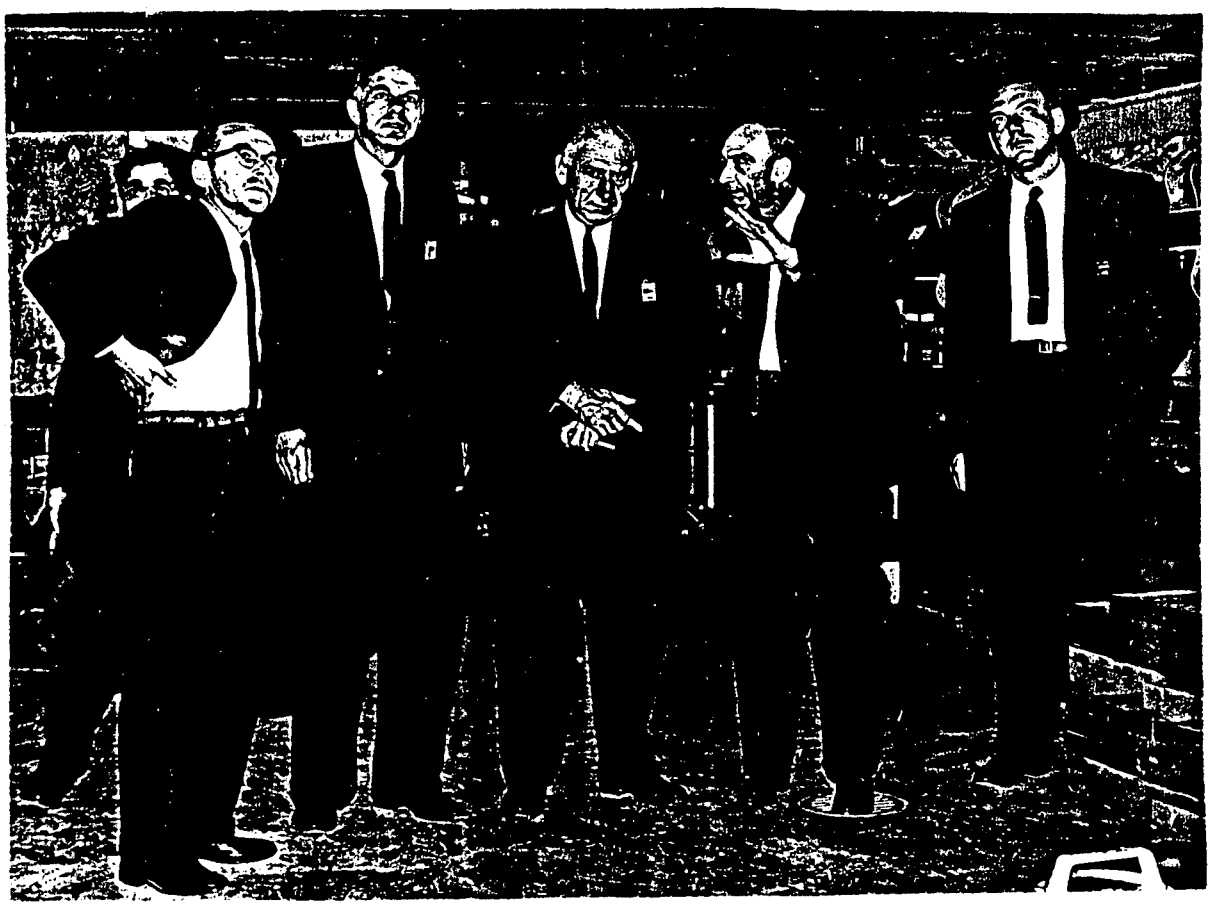
The President
The White House

Laboratory, accompanied by Commissioner Tape, New York Congressman John Pillion and Arnie Fritsch. We left Andrews Air Force Base at 11 a.m. and arrived at 12:15 p.m. We were met by Maurice Goldhaber (Director of Brookhaven), Charles Falk (Assistant Director of Brookhaven) and E. L. Horn (Manager of Brookahven AEC Field Office).

We visited the Medical Center, the AGS, the Radiation Development Laboratory and the Graphite Reactor, after which Pillion returned to Washington.

I gave a dinner talk, with slides, on "The International Aspects of Science," at the IAEA Symposium on Biological Effects of Neutron Irradiations in the Conference Room of the Physics Building at Brookhaven. I spoke about my recent visit to the Soviet Union and other countries. Participants from many IAEA member countries were present.

We flew back to Washington in the MATS plane, leaving at 10:20 p.m. and arrived at Andrews Air Force Base at 11:40 p.m.



Visit to Brookhaven National Laboratory, Upton, Long Island, New York
October 8, 1963

L to R: Charles Falk, Maurice Goldhaber, Seaborg, Congressman Pillon, Ken Green, A. Fritsch

Wednesday, October 9, 1963 - Germantown

At 10:50 a.m. I presided over Information Meeting 313 (notes attached). We discussed a letter from Sir Roger Makins concerning material for Euratom (copy attached). Palfrey reported briefly on his attendance at the meeting of the Committee of Principals yesterday. He said it was decided that banning nuclear weapons in space would be done via a resolution in the U.N. General Assembly.

At 12 noon the Commission was briefed on the proposed program at the University of Alaska. As a proper response to the pressures from Senators E. L. Bartlett and Ernest Gruening and Governor Egan of Alaska, we decided to give a contract to study the effects of fallout on fish, birds, etc. (that is, retention by) to the University of Alaska.

At 3:10 p.m. I presided over Commission Meeting 1969. The Commissioners discussed the proposed sale of materials to the United Kingdom and agreed to Luedecke's suggestion that the matter be rescheduled. The Commissioners approved the University of California proposal for use of the Livermore Laboratory and reiterated its request that the press releases be revised.

Thursday, October 10, 1963 - D.C.

At 9:30 a.m. I attended the Test Ban Treaty ceremony of ratification at the Department of State. Secretary Rusk, Ambassador Ormsby-Gore and Ambassador Dobrynin participated.

I met with High Commissioner Francis Perrin of the French CEA. He is still pressuring for a change of the U.S.-French bilateral agreement to allow the U.S. to furnish more than 8 Kg of enriched U-235 and to increase its concentration from 90 to 93 per cent for the Pegase (fast neutron) reactor.

I attended a luncheon at the French Embassy given in honor of Francis Perrin by Ambassador Alphand.

The question of converting an authorized conventional aircraft carrier to nuclear power is still an issue. There is great support for this from Korth, McDonald, Rickover, Wiesner, Harold Brown, me, and, in fact, everyone except McNamara and Gilpatric.

Helen and I attended a reception commemorating the 52nd anniversary of the founding of the Chinese Republic at the Chinese Embassy. We then attended a dinner of the National Security Industrial Association at the Sheraton Park Hotel. Vice President Johnson was the speaker.

Friday, October 11, 1963 - D.C.

At 10:30 a.m. Commissioner Palfrey, a staff lawyer and I met with Mr. Fensterwald, Majority Counsel, and Mr. Kennedy, Minority Counsel, of the Subcommittee on Administrative Practice and Procedure of the Senate Committee on Judiciary to discuss their proposed amendments to the Administrative Procedure Act, which affects our hearing procedures.

At 11:45 a.m. I met with Carlton Ward (head, Inter-Industry Advisory Committee), Steve Cobb (Executive, Inter-Industry Advisory Committee on Nuclear Energy) and William Borda of the National Association of Manufacturers. They wanted to bring me up to date on their activities and to describe to them in a general way, which they did. Mr. Ward offered to obtain the advice of members of their organizations (NAM, Edison Electric Institute, Manufacturing Chemists Association, and Cham[illegible] of

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

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NOV 86

COPY NO. 15
October 9, 1963

INFORMATION MEETING 313
10:50 a.m., Wednesday, October 9, Room A-457, Germantown, Md.

1. Department of Defense Testimony at AEC Appropriations Hearings

The Chairman noted the telephone call from DOD regarding Defense participation in the Appropriations Hearings later this month. The General Manager said AEC is coordinating with DOD on the matter.

2. October 4 Letter From Sir Roger Makins re Material for EURATOM

To be circulated. (Brown)

3. Production Study

The General Manager discussed briefly the forthcoming study and its relationship to the U.S.-UK agreement. The Chairman referred briefly to his July 24, 1962 conversation with Sir Roger Makins and the General Manager said consideration of Sir Roger's query will be undertaken. (Baranowski)

4. AEC Exhibit at New York World's Fair

The Chairman discussed the query from Mr. Ralph Bunche, United Nations, and requested preparation of an appropriate letter. (Gardner)

5. Desalination Studies

Mr. Ramey noted the call from Mr. Fred McGowan, Office of Saline Water, and the possibility of queries by House Appropriations staff. The General Manager and staff will review the relationship between the Office of Saline Water and Oak Ridge. (English)

6. Meeting of the Committee of Principals

Mr. Palfrey reported briefly on his attendance with Dr. Kavanagh and the position regarding U.S. support of a General Assembly resolution.

7. Intelligence Report

8. Labor Negotiations re Wage Reopener, October 15 (Paducah and Oak Ridge)

The General Manager reported briefly on the status of the negotiations.

9. Chronology for Stennis Committee

10. Proposed Letter to John Conway, JCAE, re Reactor Products

The Chairman suggested review by the Commissioners and transmittal to the White House. (Brown)

11. Press Release re SHOAL Event

The Commissioners discussed minor revisions and the General Manager said the proposed release will now be coordinated with the Departments of State, Defense and the White House.

12. Reactor Conversion Study

The Commissioners had no objection to the General Manager's proposal. (Vinciguerra-Baranowski)

13. CLEARWATER Event

14. Proposed Letter to Congressman Hosmer re Test Readiness

The Chairman discussed the letter briefly and suggested the Commissioners review it. (Brown)

15. MLF Discussions in Paris, October 11

Mr. Ink discussed briefly the draft position papers and the AEC staff comments on them.

16. Commissioners Meeting with Jersey Central Representatives

The Commissioners agreed an early meeting should be held. (GC-Secy)

PRESENT		DISTRIBUTION
Dr. Seaborg	General Luedecke	Commissioners
Dr. Wilson	Mr. Hennessey	General Manager
Mr. Palfrey	Mr. Ink	General Counsel
Mr. Ramey	Mr. Brown	Secretary
Dr. Tape	Mr. McCool	

W. B. McCool
Secretary

UNITED KINGDOM ATOMIC ENERGY AUTHORITY,

11, CHARLES II STREET,

LONDON, S.W.1.

4th October, 1963

DECL. BY DOE
NOV 86

SSS 10/7/63

Dear Glenn,

On my return to London I have looked into the point which you raised with me about plutonium for Euratom.

As I told you, we made an offer to supply the quantity of plutonium required. The costs which we quoted covered the expenditure which we would have to incur to supply this plutonium, with a proper allocation for fixed costs.

We were of course aware that you also were offering plutonium. Although we did not know the precise terms and conditions on which you had made your offer, in making our offer we did not set out to undercut you, and our impression is that in fact our offer did not do so.

In the course of these negotiations, however, the physicists on both sides took up an idea which had been in their minds for some time that there should be a pool of fissile material in Europe which several countries could use for fast reactor zero energy experiments. This is the basis on which discussions are now proceeding. If it were possible to realise such a proposal, it would not only save the European countries and us heavy expenditure, but it would also lead to a marked increase in collaboration which for a long time past has been an objective both for your Government and mine.

On the basis of the idea that there should be a pool of fissile material for fast reactor zero energy experiments, partly owned by the U.K. and party owned by Euratom, some of our people yesterday had talks in Brussels with their opposite numbers in Euratom. Some progress was made and the discussions will continue.

Yours sincerely,

Roger Makins

Dr. Glenn T. Seaborg,

OPTIONAL FORM NO. 10
5010-104
UNITED STATES GOVERNMENT

Memorandum

DECL. BY DOE
NOV 86

TO : A. R. Luedecke, General Manager

DATE: October 9, 1963

Approved _____
A. R. Luedecke

FROM : W. B. McCool, Secretary (Official signed W. B. McCool)

Date _____

SUBJECT: ACTION SUMMARY OF MEETING 1969, WEDNESDAY, OCTOBER 9, 1963, 3:10 P.M., ROOM A-410, GERMANTOWN, MARYLAND

SECY:ICB

Commission Business

1. AEC 352/44 - Proposed Sale of Materials to the United Kingdom

Discussed.

The Commission agreed to your suggestion that the matter be rescheduled.

2. AEC 1023/23 - University of California Proposal for Use of Livermore Laboratory

Approved, as revised. (Betts)

The Commission reiterated its request that the press releases be revised. (Betts)

cc:
Commissioners

Commerce Commercial Committee on the Peaceful Uses of Atomic Energy) regarding a possible successor to Commissioner Wilson, if he should decide to retire.

I encouraged them to do this, but on an extremely careful basis. I asked Mr. Ward to handle it personally and to not write letters, but to obtain his information orally and to make it clear that there is no date for Dr. Wilson's retirement, nor any assurance that I would necessarily accept their recommendations.

I had lunch with Harvey White (Director, Lawrence Hall of Science) and Bob and Peggy LeBaron at the Army-Navy Club. We discussed the Lawrence Hall of Science and the campaign to raise funds for it.

From 2 p.m. to 4 p.m. I attended a meeting of the Federal Council for Science and Technology, where we discussed the FY 1965 budget for oceanography (resume attached).

At 4:15 p.m. I met with Mr. Putt (new Vice President, Nuclear Space Program Division, Lockheed), Dr. Plank and Mr. Burke of Lockheed to discuss the status of the RIFT program.

Saturday, October 12, 1963 - D.C.

I worked in the office in the morning.

In the afternoon I played six holes of golf with Dave at the Chevy Chase Club.

I worked at home on the speech I will give on October 19th for St. Mary's College in Oakland, entitled, "The Liberal Arts: Language of Free Men," and on an article, "The International Conversation of Science," for Think Magazine. I also read magazines and journals.

Sunday, October 13, 1963

The family, except Dave who stayed home to work on a book report, and Bill Puppa drove to Shenandoah National Park in Virginia to see the beautiful fall colors. We hiked the Nature Trail from Skyland Lodge area to Stony Face Mountain.

Shenandoah Mountains, Virginia, October 13, 1963
L to R: Steve, Eric, Dianne, Bill Puppa, Lynne and Pete

FEDERAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Minutes and Record of Action
Meeting of October 11, 1963

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NOV 86

The meeting was convened at 2:00 p.m., in Room 208 Executive Office Building.

Attendance - Members of the Federal Council: Dr. Jerome B. Wiesner (Chairman); Dr. John C. Calhoun, Jr. (Interior); Mr. William Carey (for Mr. Elmer Staats - BOB); Dr. Willard Cochrane (Agriculture); Dr. Leland J. Haworth (NSF); Dr. J. Herbert Hollomon (Commerce); Mr. Boisfeuillet Jones (HEW); Dr. Ragnar Rollefson (State); Dr. Glenn T. Seaborg (AEC); Mr. R. J. Shank (for Mr. N. E. Halaby - FAA); Dr. C. W. Sherwin (for Dr. Harold Brown - DOD); Dr. George Simpson (for Mr. James E. Webb - NASA).

Participants - Captain Henry Arnold, USN (Ret) (Ost Consultant); Dr. J. Brackett Hersey (OST Panel Chairman); RAdm Edward Stephan, USN (Ret) (Deep Submergence Systems Review Group); Honorable James H. Wakelin, Jr. (ICO).

Guests - Messrs. Robert Abel, John Padan and Cdr. Edward Snyder, USN (ICO); Messrs. Enoch Dillon, Samuel Lawrence, Hugh Loweth, and Thomas O'Brien (BOB); Mr. Howard Eckles and Dr. Donald McKernan (Interior); Dr. Donald P. Martineau (DOD); Mr. William Salmon (State); Mr. Richard Raring (NASA); Drs. Robert Fleagle, J. H. Kelley and Colin MacLeod (OST).

Resume of Actions

Item 1 Chairman's Report - Dr. Colin MacLeod was introduced as the newly appointed Deputy Director, OST.

Item 2 National Program in Oceanography

Proposals for the National Program in Oceanography for FY 1965 were submitted to the Council by Secretary Wakelin for review and endorsement. A critique on scope and balance was presented by Dr. J. Brackett Hersey for the OST ad hoc panel on oceanography, together with a set of 11 recommendations focused on new issues or steps by which the program could be strengthened. Presenting a status report on the Navy's Deep Submergence Systems Review Group, its Director, Rear Admiral Edward Stephan, pointed out the potential applicability of the standby search, salvage and rescue equipment for oceanographic research.

In subsequent discussion, Secretary Wakelin indicated that ICO concurred with virtually all the consultants' findings, and had already initiated responsive action. A major problem remained in understanding and

solving the problem of increased representation of the scientific community on the ICO survey panel, and it was agreed that this issue is to be studied further by Messrs. Wiesner, Wakelin, Hollomon and Spilhaus.

The need to develop a strong underwater engineering capability was also discussed, as was the possible role of an interagency committee in fostering such activities. Problems in maintaining adequate momentum of oceanographic research appeared serious in view of the FY 1964 Congressional cuts; Council action on ICO FY 1965 proposals and consultants' recommendations was deferred.

Monday, October 14, 1963 - D.C.

I called Senator Pastore at 9:20 a.m. and, in his absence, talked with his assistant, Jim McKenna, regarding the matter of holding hearings on safety of reactors. I said it was the feeling of the Commission that this would not be very timely right now because of the two cases pending, i.e., Bodega Head and Ravenswood, as the opposition could come in with all kinds of charges and we would be constrained because we are not allowed to discuss the merits of a pending licensing case. This might lead to a very undesirable situation. McKenna said that if the Senator called his office today he would make sure he was informed of my call.

At 10:30 a.m. I attended a PSAC meeting in the Executive Office Building. I reported on the Seventh General Conference of the IAEA.

I had lunch at the White House Mess with PSAC members.

At 2 p.m. I met with Secretary McNamara (in his office) to try to convince him to change the FY 1964 conventional aircraft carrier to nuclear. I emphasized the versatility of the nuclear carrier and the importance to the technology of the development of nuclear plants.

Secretary Korth resigned today, apparently because of the nuclear carrier issue.

At 3:25 p.m. I presided over Information Meeting 314 (notes attached). The White House wants me to answer Hosmer's letter which demands that we spend up to $1 billion annually in the weapons safeguards program (underground testing, readiness, etc.); this is not a good idea because Hosmer will regard it as a brushoff.

Ron Brightsen (President, Nuclear Science & Engineering Corporation) called at 5:15 p.m. and said Howard Brown has told him that the Commission would be shortly reviewing a staff paper on his isotope criticisms. Ron expects to be at the AIF meeting on Thursday of this week and he wondered if it would be possible to get an indication of the Commission's thinking by that time. I said the Commissioners had not yet read it, but I would have one of them talk to him about this on Thursday. I called Palfrey and advised him of Brightsen's call and asked that if he has an opportunity to read the paper by Thursday he might describe to Ron the gist of the paper, i.e., generally his charges are without foundation. The Commission might think otherwise, of course.

Secretary Willard Wirtz called at 5:45 p.m. to say he has just been informed that there is a possibility of a strike tonight at Oak Ridge and asked if I knew about it. I said I did not; I knew something was pending, but I didn't know it might come off tonight. He said that the Labor Relations people, Oscar Smith and the Ching Panel feel it is not a situation on which we should consider special Presidential action, as the situation in terms of criticality is not what it was two years ago. He asked if that was my impression and I said it was. I told him I would get in touch with our General Manager and would call him back if we expected a break tonight.

Helen and I attended a reception for the Ambassador of Nicaragua and his wife, given by the LeBarons at the Sulgrave Club.

Tuesday, October 15, 1963 - D.C.

At 10 a.m. James F. Young, the new Manager of G.E.'s Atomic Products Division, Palo Alto, came in to say hello. He was accompanied by Vincent Mullaney and John Barnard of G.E.'s D.C. Office.

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UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 15
October 14, 1963

INFORMATION MEETING 314
3:25 p.m., Monday, October 14, 1963 - Chairman's Conference Room, D. C.

1. HR 8716 - Federal Employees Salary Systems

The Chairman said he had spoken to John Macy, CSC.

2. Chairman's Meeting 2:00 p.m. Today with Secretary of Defense McNamara

3. Tentatively Scheduled Executive Session Meeting of the Commission with JCAE, October 24

The Chairman noted the following matters will be among those discussed: The SEFOR Project, Toll Enrichment Arrangements with the Government of Spain, Bio-Med Lab at LRL, and Plant Research Lab at Michigan State.

4. Research Contract Negotiations with Brigham Young University

The Chairman noted the problem raised with respect to the discrimination clause and suggested Commissioners Ramey and Palfrey review the proposed letter from Oscar Smith to the President's Equality Committee prior to Mr. Smith's discussion with Hobart Taylor. (Smith)

5. JCAE Hearings on Reactor Safety

The Chairman discussed briefly his call to Senator Pastore's office.

6. Reply to Congressman Hosmer's Letter re Test Readiness

The Chairman requested preparation of a draft for discussion with Mr. Bundy, White House. (Henderson/Betts)

7. Kermit Gordon's Letter to the President re AEC FY 64 Supplemental

Noted.

8. Mr. Bundy's October 11 Letter Confirming Deferral of SCHOONER

Noted.

9. October 11 Letter from Acting Secretary of Agriculture re Uranium Barter Arrangements with the Government of South Africa

The Chairman noted receipt of the letter and said a meeting is scheduled for October 16. Mr. Ramey said he may attend.

10. Announcement re School of Applied Sciences at LRL

The Chairman commented on his conversation with John Foster and the General Manager said he will discuss with Mr. Foster the timing of the announcement. (GM)

11. October 10 Letter from National Associated Businessmen, Incorporated, re Los Alamos Disposal of Electrical Facilities

For Staff review. (GC)

12. U.S.S.R. Delegation Visit and Commissioners' Schedules Beginning November 17

The Commissioners discussed their respective participation in hosting the U.S.S.R. delegation beginning November 17. A Commission meeting will be scheduled Monday morning, November 18. (Henderson/Wells/Secy)

13. General Manager's October 3 Memorandum re Nuclear Science and Engineering Corporation's Letter of June 14, 1963

The Chairman suggested Commissioner Palfrey review with staff.

14. Commissioner Wilson's Report on the Interdepartmental Committee Meeting to Discuss the Saline Water Task Force Report

15. Commissioner Wilson's Report on Today's Meeting with Atomic Industrial Forum

16. Seismic Report

In response to Dr. Wilson's query, the General Manager said a report will be made. (Betts)

17. Frank Press' Comment at PSAC Meeting Today

The Chairman suggested he or Dr. Tape telephone Mr. Press. (Henderson)

18. Commissioners' Visit to Nevada Test Site, Saturday, October 12

Dr. Tape and Mr. Palfrey reported briefly on their visit to the Nevada Test Site Saturday. The Commissioners requested preparation of a release on the CLEARWATER Event for pre-event clearance with the White House. (Clark)

19. October 15 to October 23 Hearings on Science-Government Relations (Space Science Committee of the House)

The General Manager reported Messrs. Wiesner, Haworth and Teller have been invited to testify.

20. Press Report on U.S. Defector to East Germany

The General Manager said an investigation is underway.

21. Release on SHOAL Event

The General Manager reported the release has been authorized for 4:00 p.m. today.

Discussions

22. General Manager's Report on Project Control and Meeting with Managers

23. Appropriation Committee Hearings October 23

The General Manager reported hearings are now scheduled for October 23, with the Department of Defense as lead-off witness and AEC in attendance.

24. Response to Queries on Deferral of SCHOONER Event

The Commissioners discussed briefly an appropriate response to queries.

25. Pending Contractual Matters (October 3 and 10 Reports)

Noted.

PRESENT		DISTRIBUTION
Dr. Seaborg	General Luedecke	Commissioners
Dr. Wilson	Mr. Henderson	General Manager
Mr. Ramey	Mr. McCool	General Counsel
Mr. Palfrey		Secretary
Dr. Tape		

From 10:30 a.m. until 2 p.m. I attended a PSAC meeting, where the MURA accelerator was discussed. I presented my plan to reduce the energy to 10 BeV and build it at Argonne under joint management with ZGS.

I had lunch at the White House Mess with PSAC members.

John Conway called at 2:10 p.m. and asked if I had had an opportunity to talk with Senator Pastore regarding the possible hearings on safety criteria. He said McKenna had told him of my call to Pastore; he (Conway) doesn't think we will get a decision on the New York case for a long, long time. I said the Commission feels it will be in no position to go into the merits of the case on either Bodega Head or Ravenswood. His answer to this was that they could keep the hearing under control; and, if these cases didn't come up, others would be coming up; and, if they have to wait until all of these are decided, the Joint Committee won't be able to get into the licensing picture at all. I told him in my opinion Bodega Head was the worst example to use.

At 2:30 p.m. I met with Alvin Weinberg to discuss the ORNL proposal for a huge, dual purpose desalination plant.

At 3:30 p.m. Harold Brown called and said they have been looking at the proper management of the SNAPSHOT program for 1965 and onward. He said their staff thinks that probably the right way to handle this is for the AEC to manage and fund the whole thing after FY 1965. Although they think this is important, they do not have a specific requirement; and, since a technology program must be sustained, they think it is best to have one agency manage and fund it. He said he would like to talk with me about this and I agreed.

I took the 5 p.m. train to Wilmington with Bill Jenkins. We had dinner en route and arrived at 6:50 p.m. I was met by Joe Balthis, who drove me to Kennett Square, Pennsylvania, where I delivered the Hadley Memorial Lecture at the Kennett Consolidated Junior-Senior High School. My talk on the "Peaceful Uses of Atomic Energy" was well received by a capacity crowd in the auditorium. I was introduced by Crawford Greenewalt (Chairman of the Board, du Pont Company).

I spent the night at the home of Bill Jenkins (104 Augustine Cut-off), Wilmington.

Wednesday, October 16, 1963 - Wilmington - Philadelphia - D.C.

Bill Jenkins drove me to the G.E. Valley Forge Space Technology Center, where Roy Beaton (General Manager of the Center and who worked with me at the Met Lab) and others showed me space work, capsules, environmental studies, etc.

We then drove to Philadelphia, where I attended the Franklin Institute luncheon at the Barclay Hotel with 14 other medalists (including Nicholas Christofilos of the Lawrence Livermore Laboratory). I spoke briefly. I had press interviews for radio and TV.

In the evening I attended a reception and black tie dinner at the Franklin Institute, where I was presented with the Franklin Medal. After being introduced by President Wynn L. LePage, I gave a talk, "Recent Research on the Transuranium Elements." The other medalists were presented with their medals. My citation reads, "For outstanding contributions to our country as a distinguished scientist, as a thoughtful and imaginative educator, and now as the leading representative of science in our nation's service."

I returned to Washington on United Flight 41, which left at 11:05 p.m. and arrived at 12:05 a.m.

Medal Day Award Ceremony, Franklin Institute, Philadelphia, Pennsylvania October 16, 1963. Seaborg and Laurence LePage, President of the Franklin Institute

Thursday, October 17, 1963 - D.C. - Berkeley, California

At 10:15 a.m. I presided over Information Meeting 315 (notes attached).

Commissioner Tape and I met with Wiesner (in his office) who requested that the AEC put MURA in its FY 1965 budget (the larger, alternate one), which we agreed to do. Wiesner said that this is the President's wish.

I attended a lunch honoring Yugoslav President Tito, at the White House.

The Commission met with the AIF Isotope Production and Distribution Group to discuss AEC's policy about withdrawal, etc, from the sale of some radioisotopes.

At the request of the White House I wrote to Congressman Hosmer describing the proposed augmentation of the AEC budget for support of our nuclear weapons safeguards program (Hosmer letter and incoming memo from President Kennedy and BOB Director Kermit Gordon are attachment.)

I flew to San Francisco on United Flight 63 which left at 6 p.m. and arrived at 7:45 p.m. I was met by Dan Wilkes. I visited the HILAC at the Rad Lab where Ghiorso was working and where he is looking for element 104. He may have some evidence (two 9.2-9.3 MeV alpha particles).

I stayed overnight at the Durant Hotel, Berkeley.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

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NOV 86

COPY NO. 15
October 17, 1963

INFORMATION MEETING 315
10:15 a.m., Thursday, October 17, Chairman's Conference Room, D. C. Office

1. Agenda for the Week of October 21

   Approved. (Secy)

2. U.S.S.R. Delegation Visit November 17-December 2

   The Commissioners and the General Manager discussed briefly their respective participation in the schedule. The Chairman suggested Manson Benedict might wish to participate in the visit. (Brown-Wells)

3. Department of Defense Testimony at Appropriations Hearings October 23

   The Commissioners agreed a copy of Harold Brown's testimony should be obtained and the Chairman requested preparation of a rationale on the timing of production planning. (Brown-Baranowski)

4. Commissioners' Meeting Today with AIF Representatives

5. Chairman's Conversation with Secretary Hodges re Donald Alexander's Resignation as Maritime Administrator

6. Letter to Congressman Hosmer re Test Readiness

   The Chairman signed the letter, attached on 10/18.

7. Proposed Letter to the President re NIBLICK II

   The Commissioners will review the letter prior to dispatch. (Brown)

8. White House Staff Query re SHOAL Event

   The Chairman noted the query from the White House and Mr. Ramey's comment regarding the JCAE query. (Ink)

9. General Manager's October 15 Memo re Integration of Various Community Functions

For discussion at the next Information Meeting. (GM-Secy)

10. Proposed Letter to John Conway, JCAE, re Reactor Products

The proposed letter will be sent to Mr. Bundy and the Chairman will discuss the matter with him. (Brown)

11. Meeting This Morning with Jerome Wiesner to Discuss MURA Project

12. NTS Community Hearings

The General Manager reported briefly on the Hearings yesterday noting the query raised by Congressman Aspinall and the need to discuss the matter further with Department of Interior. In response to Commissioner Ramey's comment re NASA's testimony on flight test schedules, the General Manager suggested it might be desirable to clarify the record through an extension of Harold Finger's testimony. (Ink)

13. Kermit Gordon's October 16 Letter Approving FY 1964 Supplemental

14. Kermit Gordon's October 15 Letter Enclosing White House Statement re Manpower Utilization

15. NASA Briefing, 8:30 a.m., Saturday, October 19, on Nuclear Power in Space

The Chairman noted the invitation. Dr. Tape and the General Manager plan to attend.

16. Admiral Waters' October 14 Memo re Soviet Attempt to Steal Davy Crockett Weapon in Germany

The Chairman noted receipt of the report and Mr. Ramey requested preparation of an analysis. (Waters-Reichardt)

17. Funding of SNAPSHOT Program

The Chairman discussed briefly Harold Brown's call and the tentative funding plans for the program. The General Manager commented that early resolution of a DOD position is desirable and the Chairman said a copy of the DOD memo of analysis is in transit. The matter will be discussed at an early date after the Chairman's further conversation with Mr. Harold Brown. (Brown)

18. FARET Contract (October 10 Pending Contractual Matters Report)

19. October 10 Letter from Buffalo Beacon re Nuclear Fuel Services

In response to Dr. Wilson's query, the General Manager said he would review the matter and discuss it with Dr. Wilson.

20. UN Resolution re Orbiting of Weapons in Space

Discussed.

21. Letter From National Associated Businessmen, Inc. Regarding Los Alamos Electrical Generating Facilities

In response to Dr. Wilson's query, the General Manager said this matter is in review by the General Counsel. (GC)

22. MLF Discussions in Paris

Mr. Palfrey discussed briefly the position paper which it is proposed to transmit as staff comments after review by the Commissioners. He suggested, and the Commissioners agreed, that it would perhaps be appropriate to send an AEC representative to Paris as the discussions develop. (Ink)

23. Relationship of the Office of Saline Water to ORNL

In response to Mr. Ramey's query, the General Manager reported briefly on his discussions with ORNL and AEC staffs. The Chairman suggested Commissioners Wilson and Ramey review the problem with staff in preparation of a possible meeting with officials of the Department of Interior. (English)

24. N.S. SAVANNAH

In response to Mr. Ramey's query re installation of control rods, the General Manager reported that recommendations on the SAVANNAH program will be circulated at a early date.

25. October 16 Transmittal of AEC Supplemental Bill to Congress

26. LRL School of Applied Sciences

The General Manager said he had notified the JCAE and authorized the San Francisco Operations Office to proceed upon receipt of the required memo of record.

27. Negotiations on SEFOR Project

The General Manager noted this is a matter for discussion at the JCAE Executive Session and said negotiations with GE lawyers were broken off yesterday afternoon. (Ink)

28. Draft Record of Meeting of 210 Committee

Dr. Tape discussed briefly the revised definition.

29. Suit re SL-1 Accident

For discussion at a later meeting. (GC)

PRESENT		DISTRIBUTION
Dr. Seaborg	General Luedecke	Commissioners
Dr. Wilson	Mr. Schur	General Manager
Mr. Palfrey	Mr. Brown	General Counsel
Mr. Ramey	Mr. McCool	Secretary
Dr. Tape		

W. B. McCool
Secretary

OCT 17 1963

DECL. BY DOE
NOV 86

Dear Craig,

The President forwarded to the Commission your letter of September 24th on the question of safeguards under the Limited Test Ban Treaty. We have held up our answer until we could provide you with specific information on the subject of planning and a review of funding requirements.

As you know, our principal assignment has been the development, in coordination with the Department of Defense, of detailed plans, such as those referred to in your letter, to assure a vigorous program of weapons development through underground testing, the maintenance of strong weapons laboratories and the retention of top-flight scientists, and, in addition, a program that will enable us to maintain and strengthen our capability to resume testing promptly, should it become necessary.

I am enclosing, for your information, a copy of the President's letter of October 16, 1963, to the Speaker of the House, forwarding a request for an amendment to the Commission's FY 1964 Plant and Capital Equipment budget. This increase will be used to construct facilities, mainly in the Commission's three weapons laboratories, as a part of the safeguards program.

You will note from the President's letter that most of the Commission's part of the program will be funded by savings in and reprogramming of available and budgeted funds, and that this program will complement the measures being taken by the Department of Defense.

The President's request will undoubtedly be forwarded to the Joint Committee on Atomic Energy. I assume there will be an opportunity in the Committee for further discussion of the safeguards program when the Commission meets with the Committee in Executive Session on October 24th.

Sincerely yours,

Glenn T. Seaborg

The Honorable Craig Hosmer
The House of Representatives

Enclosure

HCD:gl

COPY

THE WHITE HOUSE

Washington, D.C.

October 16, 1963

UNCL. BY DOE
NOV 86

The Speaker of the
House of Representatives

Sir:

I have the honor to transmit herewith for the consideration of the Congress an amendment to the budget for the fiscal year 1964 in the amount of $5,945,000 for the Atomic Energy Commission.

The details of this amendment, the necessity therefor, and the reason for its submission at this time are set forth in the attached letter from the Director of the Bureau of the Budget with whose comments and observations thereon I concur.

Respectfully yours,

Signed: John F. Kennedy

Attachment

Estimate No.
83th Congress, First Session

EXECUTIVE OFFICE OF THE PRESIDENT
BUREAU OF THE BUDGET
WASHINGTON 25, D.C.

UNCL. BY DOE
NOV 86

The President

The White House

Sir:

I have the honor to submit herewith for your consideration an amendment to the budget for the fiscal year 1964 in the amount of $5,945,000 for the Atomic Energy Commission.

The Atomic Energy Commission is undertaking a number of additional steps to implement the various safeguards referred to in your letter to Senators Mansfield and Dirksen of September 10, 1963, and Deputy Secretary of Defense Gilpatric's letter of August 23, 1963, to Senator Russell on the three-environment test ban treaty ratified by the Senate on September 24. These steps include intensification of underground testing, preparations to resume atmospheric testing if that should ever become necessary, and further improvement and expansion of facilities at the Commission's weapons laboratories. The additional steps being taken by the Atomic Energy Commission complement additional measures being taken by the Department of Defense.

Most of the Commission's program will be funded by savings in and reprogramming of available and budgeted funds. The portion of the program requiring further funds is described as follows:

ATOMIC ENERGY COMMISSION

Budget appendix page	Heading	Original estimate	Revised estimate	Increase
693	Plant and capital equipment	$420,200,000	$426,145,000	$5,945,000

The proposed increase of $5,945,000 is needed to construct facilities, mainly at the Commission's three weapons laboratories, to improve further those laboratories as a part of the safeguards program referred to above. The amount requested, together with $12,000,000 available through reprogramming of budgeted funds, will

provide for a special construction program at the laboratories in the amount of $17,945,000. Authorizing legislation is being proposed to the Congress by the Atomic Energy Commission to cover these additional construction projects.

I recommend that this amendment to the budget for the fiscal year 1964 be transmitted to the Congress.

Respectfully yours,

Director of the
Bureau of the Budget

Friday, October 18, 1963 - Berkeley

I visited my optometrist, Dr. Raymond P. Johanson (Room 509, American Trust Building), who found undiagnosed trouble with my right eye. My left eye is still O.K. with 20-20 vision.

I visited the Rad Lab and had lunch with the old nuclear chemistry crowd.

I drove to Davis with McMillan, where I gave an executive session talk to the Regents on the effect of the test ban on weapons laboratories. McMillan, Foster and Bradbury were also present.

I explored with Foster and Bradbury my concern with the French thermonuclear capability.

I visited Mrs. Strong, our tenant with four children (Mr. Strong is not home) at our Lafayette home to go over a number of matters. The house seems to be in good shape.

I had dinner at Petars with the Wilkes, Templetons and Hollanders.

Saturday, October 19, 1963 - Berkeley

I visited the Radiation Laboratory for discussions with Ed McMillan, Harold Fidler and Wally Reynolds.

I held a press conference and a Channel 4 TV interview in the Regents' Suite of University Hall, covering the Van Allen Radiation Belt, Bodega Head, the Arctic Research Center, the Comprehensive Test Ban, nuclear weapon testing, desalination, the VELA program, etc. The reporters included Mary Ellen Leary (Scripps-Howard newspapers), George Rhodes (News Call Bulletin), and James Hazelwood (Oakland Tribune).

I attended a luncheon given in my honor by President and Mrs. Kerr in University House, and this was followed by attendance at the U.C.-San Jose State football game (U.C., 34 - SJS, 13).

After a cocktail party at the home of Arthur Sherry (President, St. Mary's College Alumni Association), I attended a reception for St. Mary's College Regents at the Kaiser Center in Oakland. This was followed by a banquet in the Garden Room at which I gave an address, "The Liberal Arts: Language of Free Men," to an audience of 400-500 people.

The dinner was an Oakland Civic Banquet commemorating the 100th Anniversary of the Founding of St. Mary's College. The program included remarks by State Assemblyman Charles W. Meyers, Oakland Mayor John Houlihan, C. Easton Rothwell (President, Mills College), Edwin McInnis (President, Board of Regents), Professor Lee Smith (Faculty Centennial Chairman), Arthur Sherry, Malcolm McLory (President, Student Body) and St. Mary's College President, Brother T. Michael (who introduced me for my talk). The St. Mary's President's Award was awarded to the Honorable Frank J. Youell.

Sunday, October 20, 1963

I returned to Washington on TWA flight 64, leaving at 9:15 and arriving at Dulles at 4:50 p.m. The McMillans and Gen Calvin were on the same plane, so they dropped by the house on their way to the hotel.

I worked on a huge stack of AEC papers.

Monday, October 21, 1963 - D.C.

At 9:50 a.m. I presided over Information Meeting 316 (notes attached).

I met with Rene Foch and Curt Heidenreich (Euratom) to discuss Euratom's request that we lease rather than sell plutonium for fast neutron experiments.

I had lunch at the Metropolitan Club with Arne Tiselius, Swedish Ambassador Gunnar Jarring and Jerry Wiesner. I discussed with Tiselius the problem of naming element 102. He is very concerned that the Swedish scientists have behaved poorly in not retracting their claim to discovery of element 102 and will talk to them about this.

I called Bill Webster at 3 p.m. to ask him if the situation is now such that he could consider a commissionership either when Commissioner Wilson leaves (now scheduled for February 1, 1964), or next summer. He said that due to various reasons he couldn't commit himself to either of these dates and that I should make my plans accordingly. However, I got the impression that if there should be an opening next summer, he might at least consider it. I asked him to give me any names of people who might occur to him, directly on a confidential basis, or through Howard Brown or Commissioner Wilson.

The Commissioners met with Harold Brown to discuss Hanford diversification problems. I told Jackson that we couldn't put SEFOR at Hanford and couldn't move the biomet (fallout) laboratory, planned for Livermore, to Hanford. Jackson will talk to Bundy regarding postponing the shutdown of the Hanford reactors until after January 1, 1965.

We announced today that the SCHOONER project would be suspended for the present (copy of announcement attached).

Tuesday, October 22, 1963 - D.C.

From 10 a.m. to 12:15 p.m. the Commission and staff met in executive session with the Joint Committee on Atomic Energy to discuss: 1. toll enrichment for Spain, 2. postponement of reactor safety hearings (in view of pending hearings for Bodega and Ravenswood), 3. our choice of Michigan State for a radiation plant biology program, 4. the biomedical (fallout) project at Livermore. After some argument in each case we succeeded in convincing them of our point of view, or at least that we should go ahead.

The Commission had lunch with the GAC to hear their oral report. We described to them our view of the MURA project and asked Norman Ramsey to reconvene his panel to again look at this.

At 3 p.m. I attended the National Academy of Sciences Centennial Convocation at Constitution Hall; President Kennedy spoke even more eloquently than usual.

Commissioner Ramey and I met with Bundy in his office to discuss the timing of our report on the 1972 stockpile. The President wants this to be delayed. We will probably ask DOD to study the value of increasing the amount of plutonium in a number of weapons.

Congressman James J. Delaney (New York) called at 6 p.m. and said that some time ago he spoke to me about three or four of the Queens County, New York, Congressmen's sitting down with the Commission regarding the Ravenswood reactor, which is to be located in Queens. He said they are in a spot because, while they are for progress and for the utilization of atomic energy, they have to show concern for the feelings of the people of that area who have doubts and fears.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 15
October 21, 1963

DECL. BY DOE NOV 86

INFORMATION MEETING 316
9:50 a.m., Monday, October 21, Chairman's Conference Room, D.C. Office

1. November 4 Ceremony at Oak Ridge

The Chairman and Commissioners Wilson and Palfrey hope to attend. (Brown)

2. Commissioners' Briefing Material for Executive Session Meeting with JCAE, 10:00 a.m., Tuesday, October 22

The Commissioners discussed briefly the briefing material circulated by the General Manager. The Chairman requested the addition of information on test program funding and suggested the Commissioners review the material at 9:00 a.m. tomorrow. (Ink)

3. Tuesday, October 22 Luncheon with the General Advisory Committee

The Commissioners and the General Manager will have a luncheon meeting with the Committee tomorrow following the meeting with the JCAE. (Secy)

4. Proposed Letter to Senator Burdick re Coal Association Statements

The Chairman suggested the Commissioners review the draft letter for early transmittal. (Brown)

5. Chairman's Press Conference, Saturday a.m., October 19, Berkeley, California

The Chairman commented briefly on queries regarding Bodega Head desalination and the SHOAL event.

6. School of Applied Sciences, LRL

The Chairman said the University of California plans no ceremony until January and suggested AEC could proceed with its press release. (Clark)

7. Chairman's Testimony for Appropriations Committee Hearings, Wednesday, October 23

To be circulated. (Abbadessa)

8. Commissioners' Meeting with Harold Brown, DOD, 4:00 p.m. Today, D.C. Office

9. Commissioners' Meeting with Senator Jackson Today at 5:00 p.m.

The Chairman noted he and Mr. Ramey will meet with the Senator today to discuss the SEFOR project, the SHOAL event and possibly Hanford. Mr. Ramey suggested a check for possible additional preparatory material. (Ink)

10. Letters of Invitation to the SHOAL Event

The Chairman commented briefly on the invitations to Senators Pastore, Cannon and others.

11. MURA Project

The Chairman discussed briefly the meeting with Jerome Wiesner and the tentative conclusions. Dr. Tape will assist in the preparation of a letter. Mr. Ramey noted the importance of informing the JCAE at the appropriate time.

12. Atomic Industrial Forum Request for Commissioners' Statements for Use in the November Meeting in New York

✓ 13. SCHOONER Announcement Today

14. Telegram re Third Geneva Conference

The Chairman noted the U.K. and Canadian position to postpone the Conference until 1965 and the Department of State's decision to resist that position.

15. Revelation of NATO Information by French National (George J. L. Paques)

The General Manager discussed briefly the report of the security violation. Mr. Ramey noted the need for a review of security procedures. (Ink)

16. Intelligence Briefing

17. NASA Briefing, October 29, 9:00 a.m.

Dr. Tape suggested the Commissioners and staff would find it useful to attend a re-run of the briefing which he and the General Manager attended on Saturday. (Secy-Pittman)

18. Niagara-Mohawk Announcement re Construction of a 500 MW Boiling Water Reactor

The General Manager said he was informed that Mr. Pratt, Vice President, Niagara-Mohawk, plans to announce, perhaps today, the Company's plan to proceed with the contract with General Electric.

19. SEFOR Negotiations

The General Manager discussed the problem which has developed in the negotiations regarding General Electric's position on force majeure and SAEA's position with respect to the contract. The Commissioners agreed the negotiating position should be held and mentioned their hope that SAEA would not be lost to the power program.

20. Proposal to Integrate Various Community and Related Study and Liaison Functions

The General Manager discussed briefly with the Commissioners the recommendations in his proposal. The Chairman suggested deferral pending clarification of the questions raised in discussion.

PRESENT		DISTRIBUTION
Dr. Seaborg	General Luedecke	Commissioners
Dr. Wilson	Mr. Hennessey	General Manager
Mr. Ramey	Mr. Ink	General Counsel
Mr. Palfrey	Mr. Brown	Secretary
Dr. Tape	Mr. McCool	

W. B. McCool
Secretary

AEC Suspends Schooner Site Preparations

UNCL. BY DOE NOV 86

The Nevada Operations Office of the Atomic Energy Commission is suspending for the present its site exploration activities now being carried out near the West Fork of the Bruneau River, South of Mountain Home, Idaho. Initiation of these activities was announced on June 4. This area is being investigated for conduct of a proposed nuclear excavation experiment, Project Schooner.

The Commission has decided not to proceed at this time with site preparations for the proposed experiment, pending a detailed study of how specific plans for the experiment relate to the terms of the Limited Test Ban Xxx Treaty. Project Schooner is a nuclear excavation experiment in the Commission's Plowshare program for developing peaceful uses for nuclear explosives. It would involve an underground detonation of a nuclear explosive to obtain cratering information in the 100 kiloton yield range in hard, inert rock.

Site exploration activities to date indicate that the Bruneau River area appears to meet both technical and safety criteria for the experiment and would be preferred over the many other sites which were considered and investigated.

END

They feel they could demonstrate this interest to their constituents by having a talk with the Commission, having their picture taken during such an appointment, and afterward, on their own, releasing a press statement regarding the meeting.

An appointment was set up for Tuesday, October 29th. I pointed out that we can't get into the merits of the case, since we are also a regulatory agency. He said they will ask us whether there will be an opportunity for the people of the district to testify, and when this might take place. Also, they will inquire whether our decision will have taken into account questions of safety and possible harm from fallout. He said that the Queens people have been quoting David Lilienthal.

I sent my biweekly report to the President (copy attached).

Helen and I attended Dean Rusk's State Department reception, at the Pan American Union, for foreign delegates to the NAS Centennial meeting.

Wednesday, October 23, 1963 - D.C. - Wilmington, D.C.

At 9 a.m. I met with Victor Weisskopf regarding the forthcoming IAEA-sponsored meeting in Vienna on the international accelerator. He is worried that this may be premature.

From 10 a.m. to 12:15 p.m. and from 2 p.m. to 4:15 p.m. I testified, with Harold Brown in the morning, and alone in the afternoon, before the House Appropriations Committee on weapons production, testing, the test readiness program and basic research program. It was difficult to explain the importance of the latter, but I hope I succeeded.

I went to Wilmington on the 5 p.m. train. I had dinner on the train and arrived at 6:50 p.m. I was met by Bill Jenkins, who drove me to the DuPont Country Club where I addressed the Delaware ACS Section on "The Transuranium Elements." John T. Maynard, Chairman of the Delaware Section presided. My talk was preceded by remarks by Arthur C. Cope on "American Chemical Society Publications." I returned on the 10:09 p.m. train and arrived in Washington at 11:50 p.m.

Thursday, October 24, 1963 - Germantown

At 11:40 a.m. I presided over Information Meeting 317 (notes attached).

The Commission met with representatives of the Public Service Company of Colorado to explore with them their interest in nuclear power. They have some interest for the future but no immediate need.

I received the report of the 86th Meeting of the General Advisory Committee which was held in Washington, October 20- 22, 1963 (copy attached).

Helen and I attended the Atoms for Peace Award reception and dinner at the Mayflower Hotel. Ed McMillan and Vladimir Veksler received the 1963 Award. I sat with Arne Tiselius, who invited me and my family to spend some time in Sweden as guests of the Nobel Foundation. Commissioner Bob Wilson had a slight coronary attack and was taken to George Washington Hospital directly from the dinner.

Friday, October 25, 1963 - D.C.

At 9:45 a.m. I presided over Information Meeting 318 (notes attached). We discussed letters to North Dakota Senator Quentin Burdick and Pennsylvania Congressman John Saylor on the Coal Association statements and the Civilian Power

OFFICE DIARY
GLENN T. SEABORG
Chr USAEC, 1961-72
FOLDER-PAGE 34154

OCT 22 1963

Dear Mr. President:

UNCL. BY DOE
NOV 86

I have the pleasure of submitting to you the regular bi-weekly report on significant developments in the atomic energy program.

1. Executive Session - Joint Committee on Atomic Energy (Official Use Only)

This morning, the Commissioners and I met in Informal Executive Session with the Joint Committee on Atomic Energy to discuss a number of topics of interest to the Committee.

The Committee had previously proposed to hold a series of public hearings on the safety of nuclear power reactors. As a result of the discussion this morning, the Committee has now decided to defer these hearings. I think that this is a wise decision inasmuch as such hearings might have had the effect of prejudging the results of two scheduled public hearings under the Commission's regulatory program on two central station civilian power reactors proposed by Pacific Gas & Electric Company at Bodega Bay, California, and by Consolidated Edison in New York City (Ravenswood). The sites proposed by the two companies are being contested by local groups. The Commission has not acted on requests for construction permits.

During the session, the Commission was advised that the Joint Committee plans to meet in Executive Session next Wednesday, October 30th, to consider the Department of Defense policy toward nuclear propulsion in naval vessels. Representatives from both DoD and AEC will be invited to testify.

CLASSIFICATION CANCELLED
WITH DELETIONS
BY AUTHORITY OF DOE/OC
6/12/86
REVIEWED BY DATE 6/14/86

OFFICE DIARY
GLENN T. SEABORG
Chr USAEC, 1961-72
FOLDER-PAGE 34155

2. Weapons Test Results

DELETED You may recall that we requested your approval to test a [redacted] device known as Clearwater. This device was detonated on October 16th at the bottom of an 1810-foot drilled hole. Preliminary seismic yield determination indicated [redacted] DELETED. DELETED No seismic shocks were felt in Las Vegas. No radiation has been detected on or off site.

3. Plowshare (Unclassified)

Yesterday, the Commission announced locally in Las Vegas, for release to the Idaho newspapers, the decision to defer Project Schooner - "... for the time being in favor of concentrating on the development of cleaner nuclear explosives, small-scale experiments in excavation, and experiments in scientific and other engineering applications."

The Commission anticipated that this announcement might have elicited questions from the local press concerning the possible effect of the Limited Test Ban Treaty on the decision. So far, such questions have not been raised.

Respectfully submitted,

(Signed) Glenn T. Seaborg

Glenn T. Seaborg

The President
The White House

HCB:gl Orig. and Cy 2A - Attn: Timothy Reardon
Cy 3A - Mr. Bundy

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

UNCL. BY DOE
NOV 86

COPY NO. 15
October 24, 1963

INFORMATION MEETING 317

11:40 a.m., Thursday, October 24, 1963 - Chairman's Conference Room A-457

1. Proposed Letter to Dr. Jerome Wiesner re Interdepartmental Energy Study

Commissioner Wilson will review the letter and discuss with Commissioner Ramey. The Commissioners thought it could be signed by Mr. Ramey and transmitted by the Chairman. (Brown)

2. FY 65 Funding for PLUTO Program

The General Manager discussed briefly the DOD's (Harold Brown) letters of August 29 and October 11 and the Bureau's present position on the program. The Commissioners agreed staff should attempt to obtain the required additional $8 million in 65 funding. (Abbadessa)

3. NTS Community Bill

Mr. Ink discussed briefly Congressman Aspinall's objections to the present draft. A proposed amendment will be discussed with the BOB for review with the Commissioners tomorrow or Monday. (Ink)

4. FY 65 Funding for the PLOWSHARE Program

The General Manager and Mr. Kelly discussed briefly the problem of the BOB's desire to cut 65 funds for the program. The Commissioners agreed staff should attempt to retain the same funding level with appropriate reprogramming or re-direction within that level. (Abbadessa/Kelly)

5. Michigan State Plant Laboratory and BioMed Laboratory at LRL

The General Manager discussed briefly the status of these two items as a result of the Commission's meeting with the Joint Committee on Tuesday. It seems clear that staff should proceed with the Michigan State project,

but the discussions were apparently not mutually conclusive with respect to the lab at LRL. Mr. John Conway is reviewing the record and will discuss this item further with Senator Pastore. Mr. Ink said AEC staff will also review the record for purposes of early clarification. (Ink)

PRESENT

Dr. Seaborg
Dr. Wilson
Mr. Palfrey
Dr. Tape
General Luedecke
Mr. Ink
Mr. Brown
Mr. Kelly*
Mr. McCool

DISTRIBUTION

Commissioners
General Manager
General Counsel
Secretary

W. B. McCool
Secretary

*Attendance for Item 4 only.

GENERAL ADVISORY COMMITTEE
TO THE
U.S. ATOMIC ENERGY COMMISSION
P.O. BOX 3528
WASHINGTON 7, D.C.

BY DOE
NOV 86

October 23, 1963

Dr. Glenn T. Seaborg, Chairman
U. S. Atomic Energy Commission
Washington 25, D. C.

AGS 10/25/63

Dear Glenn:

The 86th Meeting of the General Advisory Committee was held at the Washington, D. C., H Street Office of the Atomic Energy Commission on October 20, 21 and 22, 1963. All members of the GAC were present for all sessions of this Meeting except P. H. Abelson who was not able to attend the afternoon session of October 21 and E. P. Wigner who was not able to attend the morning session of October 22. The present members of the Committee are Philip H. Abelson, L. R. Hafstad, K. S. Pitzer, Norman F. Ramsey, J. C. Warner, William Webster, Eugene P. Wigner, John H. Williams, and Manson Benedict, as Chairman. Also present at the Meeting were Duane C. Sewell, Scientific Officer, and A. A. Tomei, Secretary.

The Committee transmits the following comments on the subjects discussed at this Meeting:

(1) Fissile Material Production Cutback

The Committee received a clear and informative briefing from Mr. Baranowski regarding the study of production cutback alternatives faced by the Commission in meeting the reduced requirements for fissile material. We believe that the bases used for the study are reasonable and that the pertinent factors are being considered. We are glad to note that the Commission is considering some alternatives which would produce a respectable reserve of reactor products over military requirements as presently specified. The Committee does not feel able to make a specific recommendation regarding how production of reactors and gaseous diffusion plants should be cut back, as the choice depends more on policy judgments than on technical considerations.

As surplus production reactor capacity becomes available, we would suggest that from 300 to 500 kg of U-233 be produced to be available as fuel in a reactor which would investigate breeding with thorium.

In any cutback of diffusion plant capacity, the Committee recommends that the charge for separative work, if changed, be set at a level which can be maintained for a substantial future period.

(2) Report of the Reactors Subcommittee on Seed-and-Blanket and Heavy Water Reactor Concepts

The Reactors Subcommittee of the General Advisory Committee met in Washington on August 15 with members of the Commission and AEC staff to hear briefings on converter reactor concepts with improved neutron economy, notably the thorium-fueled seed-and-blanket reactor and the heavy-water moderated reactor. L. R. Hafstad and M. Benedict represented the Subcommittee; K. S. Pitzer and W. Webster from the GAC also were present.

The principal conclusions and recommendations drawn by the Subcommittee from the briefings and reports on these concepts and from subsequent discussions, and approved by the full Committee, at its October meeting, are as follows:

(a) Reactor Development Policy

As understood by the GAC, it is neither the policy nor the function of the Commission to build a very large reactor with its own funds. Rather, the Commission's intent is to make a serious effort to interest utility companies and equipment manufacturers in participating in such a project and in providing a substantial part of the funds needed for it. If the effort were unsuccessful, this would of itself indicate that the situation was not ripe for construction of the reactor in question.

It has long been the function of the Commission's laboratories to explore new reactor concepts, to carry out early research and development, to perfect essential components and to build experimental prototype reactors. The GAC is seriously concerned lest Commission support for the final engineering and construction of large operating reactors divert funds and effort better invested on advanced reactor concepts.

(b) Forms of AEC Support

In providing financial support for desirable advanced reactor projects which are not yet economically competitive, some alternative mechanism should be devised which is intermediate between the two extremes now used, of either very limited support in the form of R&D or design assistance and waiver-of-use-charges on the one hand, or full government financing of the nuclear steam system

on the other (which has properly been little used in recent years). A direct capital subsidy for the difference between the full cost of a nuclear power system and the cost of a conventional plant of the same capacity is one alternative that has merit, especially for publicly-owned units.

(c) Thorium Utilization

The Subcommittee regards the efficient utilization of thorium as a form of nuclear fuel conservation of importance comparable to fast breeding. Development of reactors using thorium efficiently and economically should be pushed, with emphasis on their breeding potential.

(d) Heavy Water Reactors

The Subcommittee believes that reactors moderated by heavy water are potentially capable of making more efficient utilization of thorium than any other type and feels that they should be given emphasis in the Commission's development program. Because of this potential, support for R&D and component development for this reactor should be continued or even increased. Before a decision is made to build a heavy-water prototype reactor with 100% government financing, a serious effort should be made to interest utility companies and equipment manufacturers in participating in such a project and in providing a substantial part of the funds needed for it. Heavy water reactor technology is sufficiently advanced and the potential advantages of heavy water reactors are by now sufficiently clear, that with partial government subsidy it might well be possible to get a prototype heavy water reactor built without the AEC's having to pay the full cost.

A large-scale heavy-water reactor development program is being conducted in Canada, but this is not aimed at thorium utilization. Continued cooperation with Canada should be mutually beneficial.

(e) Organic Coolant

If the development problems associated with using organic coolant in a heavy-water moderated reactor can be solved at an acceptable cost, the reduction in nuclear power cost would be so substantial that the Commission should carry to completion an experimental program aimed at determining whether these problems can be solved, and, if so, how best to solve them. Adaptation of the otherwise unused EOCR to such a program appears to be an attractive possibility.

(f) Seed-and-Blanket Concept

Use of thorium fuel in a seed-and-blanket reactor gives this reactor concept much more appeal than use of uranium fuel. Both alternative modes of operating a thorium-fueled seed-and-blanket reactor, to obtain ten-year life without refueling, or to come close to or actually breed on the thorium cycle, should be of great interest to utility companies and ought to be saleable to them. We recommend that the AEC complete the development of essential new components and insofar as possible demonstrate the conversion and breeding capabilities of a thorium fueled seed-and-blanket core in the Shippingport pressure vessel and leave the subsequent exploitation of this concept to equipment manufacturers and utility companies. We are convinced that an adequate early demonstration of this concept at moderate cost can be made at Shippingport. We recommend strongly against full AEC funding of a 500 Mwe thorium-fueled seed-and-blanket reactor since most of the technology can by the above recommended procedure be sufficiently proven to justify support by either private or publicly-owned operating utility organizations.

(g) Spectral Shift Reactor

Although not the subject of a specific briefing at this meeting of the Subcommittee, some discussions were held on this reactor concept. It seems clear that while there has been no change in the technical facts which led to its selection for construction a year ago, progress on competitive types of reactors has made the spectral shift concept a less outstanding candidate for an AEC-funded prototype. In fact we are informed that a spectral shift reactor is being seriously considered for adoption by one of the utility groups at the present time. If this utility interest is sufficiently stimulated and encouraged, the funding for the proposed prototype or a large part thereof might be more effectively applied to the demonstration of still more advanced types of reactors.

(3) Saline Water Reactor Program

Mr. Ritzmann described the studies of dual-purpose plants to provide fresh water from the sea while generating byproduct electric power which had been carried out by the interagency Task Group of the Office of Science and Technology. The results are useful and plausible. The credit taken for by-product power seems reasonably conservative.

The Committee recommends that additional studies be made of the cost of water produced in plants optimized to make water only at lowest cost.

Information on such single-purpose plants would present a much clearer picture of the merits of the proposed use of large reactors to provide energy for sea-water distillation. We would anticipate that the cost of water in single-purpose plants would be only a few per cent greater than in the dual-temperature plants already studied, as the credit for electric power in the dual-purpose plants was only about 35% of the net cost of water. Moreover, a single-purpose water-distillation plant might meet with more general acceptance than a plant which also produced large blocks of electric power.

Through the development and investigation of alternative reactors suitable as heat sources for sea-water distillation and the estimation of costs of providing this heat, we believe that the Commission is fulfilling its proper role in the nuclear water-distillation study. We would like to reaffirm the position taken in our letter of April 27, 1963, that the Commission should not go further in becoming an active party in promoting a full-scale nuclear water-distillation project. We believe that this should be left to the agencies concerned with developing water resources and to those groups needing greatly increased water supplies.

(4) Weapons Program

General Betts and his associates described weapons testing and development plans since the ratification of the partial test-ban treaty. The Committee was pleased to learn of plans for an increased pace of underground testing. This testing program appears to the Committee to be well-designed and to constitute a fairly vigorous effort.

The Committee was interested in the consideration being given to earth shock from underground tests and the degree to which its magnitude is influenced by the material in which the explosion occurs. It appears to this Committee that ground shock will be a limiting factor on maximum size of allowable underground tests. Since repeated shocks of substantial magnitude at populated areas will have an adverse effect on continued acceptance of the program, the Committee believes that considerable attention should be given to various means of reduction in the magnitude of earth shock including choice of media and decoupling arrangements so that larger yield tests can be performed, thus giving the greatest flexibility to the U.S. underground testing program. Similarly, all reasonable precautions should be taken to prevent appreciable escape of fission products.

Also, the Committee was pleased to learn certain aspects of the readiness program for atmospheric testing. The Committee believes that the atmospheric readiness program should include the development and testing of drop vehicles capable of holding very large weapon devices (possibly 100 MT).

The Committee encourages the development of a continuous program designed to test and exercise our nuclear weapons systems (minus the nuclear materials); this program, among other things, should include shooting anti-ballistic missiles at incoming ballistic missiles at a location that can be used for full-scale nuclear tests if atmospheric testing is resumed.

At an early meeting the GAC would like to learn about the plans for development and test readiness in the antimissile missile area as well as to receive briefings concerning progress in the weapons effects area.

The Committee was pleased to receive an invitation from General Betts to attend a Weapons Symposium at Los Alamos on November 7 and 8, 1963. Dr. Ramsey will represent the GAC at this Symposium.

The report on the visit of the Weapons Subcommittee Chairman to the Lawrence Radiation Laboratory at Livermore on August 6, 1963 was approved by the GAC and is appended to this letter.

(5) Harbor Study on Civil Defense

The Committee received a briefing from Dr. Eugene Wigner about the Harbor Study on civil defense which was conducted at Woods Hole, Mass., for six weeks during the summer of 1963. Dr. Wigner stated that the final summary report is in preparation, and will be ready shortly. He said the report will contain a brief summary of the group's findings, as well as discussion of the following points: why the U.S. should have a civil defense program; survival during and immediately following a nuclear attack; and social and economic recovery following a nuclear war. The Study established the point that the cost of constructing a sensible civil defense protection system over a seven-year period is well within the economic means of the U.S.

The Committee believes that the Harbor Study was timely (indeed overdue), valuable and most constructive for the U.S. civil defense program. The Committee wishes to state that the Study has reinforced the earlier feeling of the GAC that a permanent and highly competent group of people should be established at a single location to work on civil defense problems. The Committee is confident that such a group would make a major contribution to a well-balanced civil defense program.

(6) 87th GAC Meeting

The next meeting of the General Advisory Committee will be held in Washington, D.C., on January 13, 14 and 15, 1964. Agenda topics proposed for the meeting include the following:

(a) Informal annual meeting with the Assistant General Manager for Research & Development and his Division Directors.

(b) Meeting with Dr. Poor to discuss the results of the survey of educational programs conducted by AEC contractors and future plans for education programs at the AEC laboratories.

(c) Briefing by the Production Division on the status of the gas centrifuge development program.

(d) Selection of candidates to be recommended by the GAC for the 1964 Lawrence Award.

(e) Briefing by the DOD concerning the status of antiballistic missile systems and the readiness program for testing them, to be arranged by the AEC.

(f) Report from Dr. Ramsey on the Weapons Symposium to be held at LASL on November 7 and 8, 1963.

(g) Other topics which the Commission may wish to have the Committee consider.

(7) 88th GAC Meeting

This meeting has been tentatively scheduled for April 2, 3 and 4, 1964 at LASL and Sandia, Albuquerque. A major topic for discussion will be the status of the weapons effects program.

Sincerely,

Manson

Manson Benedict
Chairman

Attachment

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

UNCL. BY DOE
NOV 86

COPY NO. 15
October 25, 1963

INFORMATION MEETING 318
9:45 a.m., Friday, October 25, Chairman's Conference Room, D. C. Office

1. Commissioners' October 29 Meeting with Queens County, New York Congressional Delegation

The Chairman noted the scheduled meeting to discuss the Ravenswood project. Mr. Price is to invite members of the JCAE and staff to attend and Mr. Palfrey requested circulation of the recently issued pamphlet on AEC regulatory procedures. (GM-DR)

2. Commissioners' Meeting with Representatives of the General Public Utilities Corp., GE and Westinghouse This Morning

Mr. Hennessey reported the group does desire legislative clarification of the Price-Anderson indemnity matter. The Commissioners discussed briefly the position they would express in the meeting and Mr. Ramey suggested early review of the legislative executive session records of the indemnity provisions. (Ink)

3. AEC 971/9 - Status of SEFOR Negotiations

The General Manager discussed briefly the status of the negotiations as reported in the staff paper and suggested, and the Commissioners agreed, the matter should now be taken to the GAO; response to Congressman Holifield's letter of October 10 is to be prepared and discussion of the matter with the Joint Committee next Wednesday is to be requested. The subject will be discussed further at the Information Meeting later today. (Henderson-Ink-Secy)

4. Outstanding Matters for Further Executive Discussion with JCAE

The Chairman noted the following matters remain to be discussed: SEFOR project, NWK reactor, BioMed Laboratory at LRL, Price-Anderson indemnity, Executive Pay Bill and Congressman Hosmer's recent letter to the President. On the latter subject, the Chairman requested discussion with White House staff and if agreeable to them appropriate discussion with members of the JCAE. The Chairman will call Senator Pastore if this is to be done. (Ink-Henderson)

5. JCAE October 30 Hearings on Navy Nuclear Propulsion

The Chairman's testimony will be circulated. (Ink)

6. Authorizations Hearings Tentatively Scheduled for Thursday, October 31

7. Invitations to Members of Appropriations Committee to Attend November 4 Oak Ridge Ceremonies

The Commissioners agreed invitations should be extended to Chairman Cannon and others. (Ink-Henderson)

√ 8. Letters to Senator Burdick and Congressman Saylor re Coal Association Statements

The Chairman will sign the letter to Senator Burdick. The proposed letter to Congressman Saylor is to be reviewed for consistency with the Commissions' report to the JCAE. (GM)

√ 9. Proposed Letter to Dr. Jerome Wiesner re Interdepartmental Energy Study

The Chairman suggested Mr. Ramey obtain Dr. Wilson's comments and sign the letter for transmittal by a note from the Chairman.

√ 10. October 22 Letter from Senator Bartlett

The Chairman requested preparation of an early response in anticipation of the November 13 meeting with the Senator. (Henderson)

11. Letter to DOD re Military Compact Reactor Project

The Chairman signed the letter to Dr. Harold Brown requesting DOD justification by November 1.

12. Request for Open House at NTS-NRDS During 1964 Nevada Centennial

The Chairman noted the Governor's telegram to the President. A suggested reply for the President's signature is to be sent to the White House today. (Henderson-Ink)

13. Senator Bible's October 22 Letter re SHOAL Event

Noted.

14. October 18 Letter From Senator Kuchel re Controlled Thermonuclear Reactor Program

The Chairman said he would reassure the Senator of his familiarity with the program and point out the funding problem. (Henderson)

15. Request for Chairman to Testify at Senate Labor Committee Subcommittee on Manpower

The Chairman noted the Hearing would conflict with his tour with the U.S.S.R. delegation and requested discussions with staff. (Henderson)

PRESENT		DISTRIBUTION
Dr. Seaborg	General Luedecke	Commissioners
Mr. Palfrey	Mr. Price*	General Manager
Mr. Ramey	Dr. Beck*	General Counsel
Dr. Tape	Mr. Ink	Secretary
	Mr. Henderson	
	Mr. McCool	

W. B. McCool
Secretary

*Attendance for Items 1 and 2.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

OCT 2 6 1963

UNCL. BY DOE
NOV 86

Dear Senator Burdick:

In response to your request of September 5, 1963, I am pleased to comment on the letter to you of August 30, 1963, from Mr. Joseph E. Moody, President of National Coal Policy Conference, Inc. Mr. Moody expresses the opposition of the Conference to continued Federal Government subsidy of full-scale, commercial nuclear power plants.

I shall first make some general observations regarding the development of peacetime uses of atomic power, and then comment on specific points raised in Mr. Moody's letter.

The preambles to the Atomic Energy Acts of 1946 and 1954, as amended, state in general that the development, use and control of atomic energy shall be directed so as to make maximum contribution to the general welfare (subject at all times to the paramount objective of making the maximum contribution to the common defense and security), that funds of the United States may be provided for such development and use, and that a purpose of the Acts is to effectuate this policy by providing for a program to encourage widespread participation in the development and utilization of atomic energy for peaceful purposes.

In accordance with the authority and mandate of the Acts of 1946 and 1954 the Commission has undertaken a vigorous, continuing program, both on its own and in cooperation with industry, for the development of peaceful uses of atomic energy. Principal emphasis in the program has been directed to the development of nuclear-generated electricity in recognition of the probability of this application becoming of major significance. Concurrent with Commission efforts, private industry has undertaken additional research, development, engineering, construction and operation without Government aid.

A logical sequence of steps culminating in the establishment of nuclear power in the national economy consists of laboratory investigations, physics explorations through the conduct of simple reactor experiments, the construction and operation of experimental reactors to prove out technical developments, the construction and operation of power-producing reactors of sufficient size to serve as prototypes for large-scale plants, and finally the construction and operation of large-scale

commercial plants, employing reactors of proven concept, to demonstrate actual power costs and performance. Industry and the Atomic Energy Commission, both separately and cooperatively, have progressed in varying degrees through these stages for a number of potentially promising reactor concepts. The Joint Committee on Atomic Energy has been of great help through its participation in the initiation and subsequent strong support of these programs.

By early 1962 the Commission had concluded that the development of water-cooled and moderated reactors had reached the point where the final step - demonstration of large-scale plants - was necessary and desirable. Recognizing that for these first-of-a-kind installations there would be extra expense and some uncertainties involved which would probably delay industry decision to proceed, we sought and obtained Congressional authorization to offer assistance toward design costs for these plants in addition to the research and development assistance and fuel inventory charge waivers offered previously for prototype plants. The results have been satisfactory. We received acceptable proposals from two utility organizations and are in the process of negotiating definitive contracts with them. One of these is a publicly-owned utility of California and the other a private utility of Connecticut.

It is this final step, Government assistance in the installation of large-scale, proven reactor concept plants. to which Mr. Moody indicates National Coal Policy Conference opposition.

Commission views with respect to the need for continued development of economically-feasible nuclear power have been quite thoroughly documented. In November 1962, we submitted to the President a report on civilian nuclear power, and I enclose a copy for your use. As you will note, the report includes a discussion of the desirability of, and a proposed program for, assistance toward the installation of a limited number of large-scale units. I should also like to refer you to the April 5, 1963, testimony of former Commissioner Haworth before the Joint Committee on Atomic Energy in the course of its hearings on the development, growth, and state of the atomic energy industry. Beginning on Page 814 of the report on the hearings you will find Dr. Haworth's explanation as to why the Government is in the nuclear power development program.

Atomic Energy Commission authorization legislation for FY 1963 authorized assistance for large-scale commercial nuclear power plants, and it is in accordance with this legislation that we are negotiating with the California and Connecticut utilities mentioned earlier in this letter. However, the Commission has no plans to issue in FY 1964 a second invitation for proposals for Government assistance to large-scale, proven reactor concept plants.

I would like to comment on certain statements included in Mr. Moody's letter. He remarks that "the chief and almost exclusive emphasis is now upon building large-scale, identical installations in the 400 to 500 megawatt range." I assume he is referring to the program described earlier in this letter which has resulted in assistance agreements with Connecticut and California utilities. The maximum amount of Government assistance agreed upon for these two projects totals $14,050,000 for engineering design (about 8 to 9 per cent of the costs to the utilities for plant construction) and $15,345,000 in the form of waiver of the normal AEC charges for the inventory of special nuclear material in the possession of the utilities through five years of plant operation. This inventory charge is frequently referred to by the AEC and others as a use charge, but it is important to note that all material used up, or consumed, in the operation is paid for in full by the utility. The inventory charge waiver for a limited period is granted only upon authorization by Congress and on the basis that the Government would obtain valuable information from the licensed activity in terms of research and development data and operating experience. Such information is, of course, made generally available to the public. However, after five years the reactor owner begins to pay the lease charge for this material in inventory. As mentioned above, there are no plans to expand this program in FY 1964. In contrast, Commission expenditures on all facets of the development of civilian nuclear power average about $200,000,000 per year. A major portion of this annual expenditure has been, and continues to be, devoted to research and development during the successive stages up to and including the design, construction and operation of prototype nuclear power plants. The relatively small incremental assistance to first, large-scale commercial plants is considered as the last step in the chain of development for the specific reactor type concerned.

With respect to Mr. Moody's remarks on the availability of coal reserves to meet future growth in power demands, may I refer you to the discussion on this subject beginning on Page 16 of the enclosed Commission Report to the President on Civilian Nuclear Power. On the basis of data obtained from several authoritative sources, the report concludes that if no supplemental forms of energy are utilized, we will exhaust our readily available, low-cost supplies of fossil fuels in from 75 to 100 years, and total supplies in from 150 to 200 years. However, long before the point of exhaustion of the fossil fuels, we would be obliged to taper off their use.

There are additional significant factors affecting the future use of fossil fuels. For example, as the report points out, fossil hydrocarbons are essential in the iron and steel industry and, furthermore, they represent a priceless heritage of complex molecular substances, the possible uses for which are only beginning to be realized. There is no presently known practical substitute for fossil fuels to power automobiles and aircraft, which will no doubt continue to increase in

numbers. The conclusion is that reasonably prompt efforts should be made to supplement the use of fossil fuels in those applications for which technically satisfactory and reasonably economic substitutes can be utilized on a significant scale.

Mr. Moody mentions a total Government subsidy to Connecticut Yankee Atomic Power Company of $45,600,000. The maximum Commission assistance agreed upon is actually $13,195,000, of which $6,050,000 is for design and the balance for waiver of inventory charges. Perhaps the higher figure used by Mr. Moody includes an assumption of the difference between what it would cost the utility, over the plant lifetime, to maintain an inventory of special nuclear material under private ownership and the cost under the present system of lease from the Government at an annual inventory charge of 4-3/4 per cent. (The value assigned by the Commission to special nuclear material, and the level of inventory charge, are based on full recovery of costs by the Government.) Lease is presently necessary since the Atomic Energy Act requires Government ownership, but there is legislation recommended by the Commission and now under Congressional consideration which would make private ownership permissible immediately, and mandatory after a transition period. Incidentally, inventory charges represent only a small portion of the over-all nuclear fuel cycle cost. Other items of cost to the utility include fabrication of fuel elements, burnup of fissionable material, reprocessing of spent fuel, and transportation.

With respect to Mr. Moody's comments on the safety of nuclear power plants the Atomic Energy Commission, as you know, is responsible under the law for regulation of the use of atomic energy, including consideration of applications for nuclear power plant construction permits and operating licenses. Processing of applications involves review by up to as many as three different and independent groups: the AEC's hazards staff, the Advisory Committee on Reactor Safeguards, and a Safety and Licensing Board which conducts public hearings and is made up of three members, two of whom are technically qualified and one of whom is experienced in administrative proceedings. No such plants may be built or operated until we are convinced by all the evidence on plant design, site and environs, method of operation, etc., that such construction and operation would not endanger public health and safety. The subject of safety was discussed in considerable detail by Commissioner Haworth in testimony before the Joint Committee on Atomic Energy on April 5, 1963, in the course of its hearings on the development, state and growth of the atomic energy industry. I respectfully refer you to Dr. Haworth's testimony, beginning on Page 827 of the record of the hearings.

In the process of preparing its Report to the President on Civilian Nuclear Power, the Commission performed a detailed analysis of the projected impact of nuclear power on the potential production and consumption of fossil fuels. The results of the analysis are contained in an appendix to the report, enclosed for your information. The conclusion reached is that, "---the projected growth of nuclear power will merely supplement and not supplant coal and other fossil fuels for many decades. The fossil fuel industries and particularly the coal industry can expect a period of continuously expanding production." This forecast is illustrated by the table on Page 7 of the report which shows a rise in energy supplied by coal from the equivalent of 416 million tons in 1960 to 3,343 million tons in the year 2000. During the same period the energy obtained from nuclear sources, expressed in equivalent tons of coal, is estimated to be 15 million in 1970, 100 million in 1980, 410 million in 1990 and 1,260 million in 2000. As a matter of interest, it should be noted that the AEC purchases very substantial quantities of coal and in fact is the coal industry's best single customer.

I am sure you will agree with me that the best interests of the American people are served by a continual search for reliable and economical ways to harness energy. The utility industry obviously believes that nuclear energy has the potential to meet these criteria, since it has spent over half a billion dollars on development and nuclear plant construction, and has committed future outlays of several hundred million dollars more.

I trust the above comments will be of assistance to you. We would be pleased to furnish any additional information you may require.

The enclosure to your letter is returned herewith.

Sincerely yours,

Chairman

Honorable Quentin N. Burdick
United States Senate

Enclosures

...RY M. JACKSON, WASH., CHAIRMAN
...ERSON, N. MEX. THOMAS H. KUCHEL, CALIF.
...EV. GORDON ALLOTT, COLO.
...CH, IDAHO LEN B. JORDAN, IDAHO
...UENING, ALASKA MILWARD L. SIMPSON, WYO.
... MOSS, UTAH E. L. MECHEM, N. MEX.
...N N. BURDICK, N. DAK. PETER H. DOMINICK, COLO.
...METCALF, MONT.
...L HAYDEN, ARIZ.
GEORGE MCGOVERN, S. DAK.
GAYLORD NELSON, WIS.

JERRY T. VERKLER, STAFF DIRECTOR

United States Senate

COMMITTEE ON
INTERIOR AND INSULAR AFFAIRS

September 5, 1963

UNCL. BY DOE
NOV 86

ISS 9/16/63

Dr. Glenn T. Seaborg, Chairman
United States Atomic Energy Commission
Washington 25, D. C.

Dear Dr. Seaborg:

Enclosed is a letter from the President of the National Coal Policy Conference, Inc., concerning the civilian nuclear power program presently being conducted by the Atomic Energy Commission.

I will appreciate any comments you may care to make in the matter, returning the enclosure with your reply. Thank you.

With kind regards, I am

Sincerely,

Quentin N. Burdick

Quentin N. Burdick

QNB:er

Enclosure

NCPC

NATIONAL COAL POLICY CONFERENCE, INC.

1000 SIXTEENTH STREET, N. W. WASHINGTON 6, D. C.

P. ROUTH, CHAIRMAN
M E. MOODY, PRESIDENT

VICE CHAIRMEN
A. BOYLE
MES A. DRAIN
STILLMAN ELFRED
UART T. SAUNDERS
ILIP SPORN

August 30, 1963

UNCL. BY DOE
NOV 86

Honorable Quentin Burdick
Senate Office Building
Washington 25, D. C.

Dear Senator Burdick:

The National Coal Policy Conference speaks for the great industrial federation built around bituminous coal -- the coal producing companies, the United Mine Workers of America, the coal hauling railroads, coal consuming electric utilities and manufacturers of coal mining machines and equipment. Members of this organization have invested more than $32 billion in plants and facilities, and provide a livelihood for more than 2.5 million Americans.

We, as an organization speaking for this vital force in our economy, are deeply concerned over the civilian nuclear power program as it is presently being conducted by the Atomic Energy Commission.

The private electric utility industry is now by far the largest single market for bituminous coal. The AEC program, the heart of which is massive subsidies, is directed toward replacing coal with nuclear power as the major source of the Nation's electric power supply. If all charges of a nuclear plant are fully applied we have reason to believe that the cost of making electricity would still be higher than making it with the basic fuels in spite of government subsidization.

Therefore, we must speak out in opposition to the expenditure of taxpayers' funds on a program which cannot be justified and which, if not checked, could very well have the ultimate effect of wiping out this great American industry to the detriment of the national security.

For some reason, this massive subsidy program has not received the attention it rightfully deserves. We respectfully ask that you keep these following considerations in mind in connection with legislation which will authorize and appropriate funds for this program:

1) The AEC program no longer is concentrated on research and development work in connection with reactor prototypes. Rather, the chief and almost exclusive emphasis is now upon building large scale, identical installations in

the 400 to 500 megawatt range. The AEC has made clear that without massive Government subsidies for both construction and operations these plants would not be built nor would the electricity they produce come anywhere near being competitive with coal-produced electricity even in the so-called high fuel-cost areas.

2) There is no present or impending shortage of electric power to justify such massive Government participation in the civilian nuclear power program. True, the consumption of electric power is expected to quadruple by the year 2000, but all evidence proves that there will be sufficient fossil fuels -- particularly coal -- to meet this vastly expanded need. The Geological Survey has reported that present known reserves of coal, recoverable with present techniques and at approximately present prices, equals more than 200 billion tons, or 500 times current annual consumption. With continued improvement in the technology of coal transportation and even lower costs of production, there is every reason to anticipate that coal will be available to utilities at even lower costs in the years ahead, thus making it an even more attractive fuel. The conclusion is inescapable that what the civilian nuclear power program amounts to is the forced feeding of a new industry to use up the excess capacity developed by AEC over the years and to justify present appropriations and levels of operations.

3) To date, the Government has spent about $1.275 billion on the civilian power program. Its current budget is $216 million annually to further and expand the program of subsidy. Over the assumed life of one large nuclear plant (Connecticut Yankee Atomic) the total Government subsidy will amount to $45.6 million. Obviously, a nuclear plant with a subsidy of this magnitude will enjoy a tremendous advantage over privately built and privately financed coal-fired electric utility plants.

4) There is a matter of safety involved in the construction of nuclear power plants, particularly in or near centers of population, which has not been settled. The proposals to build nuclear plants in the Borough of Queens in New York; near Atlantic City, New Jersey; and in the San Francisco and Los Angeles areas of California have created deep concern for the welfare of the residents of the areas. To quote an eminent scientist, "what is involved in atomic plants is the fact that accidents of one kind or another are an absolute certainty. They are inevitable. The difference here is that an accident associated with atomic power is of an altogether different magnitude than an accident associated with coal fired generation plants."

The law requires private insurance of up to $60 million must be carried on atomic energy power plants, depending on the installed capacity. In addition each atomic plant must be indemnified in the amount of $500 million against accidents. The $60 million is the maximum amount that private insurance companies will write. Thus, since it is impossible (for the first time in the history of America) to obtain the enormous amount of insurance considered necessary for an atomic plant the Government supplies the $500 million indemnity at a nominal insurance premium of only $30 per year per thermal megawatt of installed capacity. For a plant of 140,000 electric kilowatts of capacity, this would come to about $12 or $13 thousand dollars per year. This insurance alone proves the colossal danger of an atomic energy plant, particularly one close to centers of habitation.

Thus, it seems to us, in carefully reviewing the nuclear power program, that the massive Government subsidies which have been, and are continuing to be spent, on the building of large non-experimental commercial plants cannot be justified.

The umbilical cord between the Government and the civilian nuclear power industry must be severed and this new industry must be made to stand on its own feet in the rough competitive power battle. Under such conditions, if nuclear power plants are needed and are feasible, they will be built, and without Government subsidy. But it is our belief, based upon a careful study of all relevant economic data, that without Government subsidy these plants would not be built nearly as rapidly and in as great numbers as they will be under the present AEC subsidy program.

We sincerely believe that it is unfair, and in contradiction of our free enterprise system, for the Government to spend the taxpayers' money -- including taxes collected from coal and other fuels industries -- to encourage through subsidy the construction of plants that threaten to undermine the future growth of -- and perhaps eventually to destroy -- coal and associated industries upon which so many people depend for a livelihood and which play such a vital role in our economy, and in addition endanger their lives and property.

Sincerely,

President

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

OCT 30 1963

UNCL. BY DOE
NOV 86

Dear Mr. Saylor:

Reference is made to your letter of September 23, requesting information on the Civilian Power Program and the Cooperative Power Reactor Demonstration Program. For purposes of clarity in answering your letter, the questions will be restated along with the appropriate answers.

Since some of the questions and answers make reference to waiver of fuel "use charge" it may be helpful at this time to define the term. The term "use charge" refers to the lease rate that is charged to those who borrow the Government-owned special nuclear material from the Commission. As you may know, the Commission maintains an inventory of special nuclear material; and therefore, the use charge may be considered equivalent to an inventory charge. The cost of any amount of material that is actually consumed (burned up or lost) by the lessee is, however, fully charged to the lessee. For cooperative arrangements in the Power Reactor Demonstration Program, the Commission obtains legislative authorization to waive the use (inventory) charge; and such authorization is expressed in the dollar value of total use charge for the period of lease involved. There is no specific appropriation associated with such authorization. In the case of cooperative arrangements involving waiver of use (inventory) charge, the lessees must, as mentioned above, pay the full cost of any material actually consumed.

Question 1 - How much of the budget of $2,472,800,000 as requested of the Congress by the President for the Atomic Energy Commission for the 1964 Fiscal Year will be allocated to the Civilian Nuclear Power Program?

Answer - On page 691 of the President's Fiscal Year 1964 Budget, the amount of $178,155,000 is shown as costs for "Development and support related primarily to civilian nuclear power". (It should be noted that the referenced amounts of $2,472,800,000 and $178,155,000 are related to the operating expense appropriation and do not include construction activities.)

Question - In the report to the President made last November by AEC, the statement is made that the present annual rate of expenditures for this purpose is about $200 million. The report points out that this is somewhat indefinite since it includes a rather arbitrary assignment of the costs of research and development programs contributing

technical results to other programs as well. With this limitation in mind, I would appreciate your giving me the best information available as to what the total for the Fiscal Year 1964 would be assuming that the President's Budget is approved as presented to the Congress.

Answer - $244,000,000 (reference page 69 of the President's Budget Message). It should be noted that this amount includes funding for both the operating expense and construction appropriations. The difference of $65.8 million between the $244 million and $178.1 million (Answer 1) is related to the construction activities. The FY 1964 budgeted cost of the civilian program, excluding assignment of the costs of research and development programs contributing technical results to other programs as well, total $153,763,000 (including construction).

Question 2 - How much has been committed and what part of this has been spent to date by AEC on the Cooperative Power Reactor Program?

Answer - $185,054,470 has been committed for funding the various cooperative reactor projects. Costs amounting to $116,999,568 have been accrued as of June 30, 1963. In addition, commitments have been made for waiver of use (inventory) charge valued at $36,447,490. Use (inventory) charge values amounting to $7,148,448 have been accrued against this commitment as of June 30, 1963. Schedules are attached detailing the amounts references above.

Question 3 - How much of the proposed 1964 Budget would be allocated for this program? (Cooperative Power Reactor Program)

Answer

Operating Expense Appropriation - $17,559,000, which includes $15,000,000 to fund new projects and $2,559,000 for projects committed in prior years.

Construction Appropriation - $30,000,000 is included to provide funding for the Spectral Shift Control Reactor.

Waiver of use (inventory) charges - The Congress authorized waiver of use (inventory) charges valued at $20,000,000, which would provide $10,000,000 waiver for the Spectral Shift Control Reactor, and $10,000,000 for new proposals.

Question 4 - How much has been spent to date by AEC on waiver of fuel use charges for nuclear plants built by private utilities under the program?

Answer - For the period through June 30, 1963, the Commission has committed waiver of use (inventory) charges valued at $36,447,490. An amount of $7,148,448 in charges has been accrued against this commitment, as of June 30, 1963.

Question 5 - How much of the proposed budget is allocated for waiver of use charges?

Answer - The Congress authorized an additional waiver of use (inventory) charges valued at $20,000,000 for Fiscal Year 1964.

Question 6 - How much has AEC spent to date on supplying design assistance to privately owned nuclear plants?

Answer - None. Although two proposals have been accepted involving this type of assistance, the contracts have not as yet been signed. The two referenced proposals are the City of Los Angeles and Connecticut Yankee arrangements. The amount budgeted for the two contracts is $14,050,000.

Question 7 - How much of the proposed budget is allocated for this purpose?

Answer - The Commission requested $15,000,000 in Fiscal Year 1964 Budget to fund new proposals. The specific allocation of this amount between design assistance and research and development assistance will depend upon the types of proposals submitted by the utility industry and accepted by the Commission.

Question 8 - How much remains from previous appropriations for use in the above categories?

Answer - An amount of $24,853,000 in obligational authority was carried over from Fiscal Year 1963. This amount will be used to fund arrangements previously committed which were not placed under contract prior to June 30, 1963.

Question 9 - Are the funds covered in Questions 3, 5 and 7 to come from the $15 million which the budget requested for the Cooperative Power Reactor Demonstration Program?

Answer - As previously explained, funds are not included in the budget for waiver of use (inventory) charges (Question 5). The amount of $15 million for the Cooperative Power Reactor Demonstration Program will fund for new proposals that may be submitted by the utility industry and accepted by the Commission. Proposals from the utility industry may include arrangements for design assistance (Questions 3 and 7).

Question 10 - Will the three demonstration plants announced during calendar year 1963 as approved for construction with AEC assistance (Connecticut Yankee Atomic, City of Los Angeles and Southern California Edison) be financed from the 1964 Budget? If so, will there be remaining unexpended funds which can be applied to additional plants? If not, what funds will be used to provide assistance to these three plants?

Answer - The three assistance proposals referred to will be financed from funds appropriated prior to Fiscal Year 1964. The $15 million requested in the Fiscal Year 1964 appropriations, previously referred to, would be available for new projects.

"In addition to these specific questions concerning the Fiscal Year 1964 Budget, I would also like to have answers to the following questions."

Question 1 - How many plants do you contemplate being built under the Modified Third Round such as the three plants mentioned above?

Answer - The Modified Third Round concept is currently limited to proven type reactors. It is not contemplated that additional proven light water plants similar to type and size of the three mentioned above, will be provided assistance under the Modified Third Round arrangement.

There are a number of other reactor concepts, such as the Gas Cooled Reactor, Sodium Graphite, Spectral Shift, Nuclear Superheat, Seed and Blanket, Heavy Water, and Fast Breeder Concept, that will in the future become proven types of reactors and could be recommended for Modified Third Round type assistance. I think it would be inappropriate to attempt to define a number of plants at this time that would be provided Modified Third Round assistance. Many factors will control the answer to this question, such as the advancement of technology and economic competitiveness of the various reactor concepts, the desires of the utility industry to construct a specific type of nuclear plant, and the desires of the Congress, in approving authorizations and appropriations for Cooperative Assistance for the development and construction of nuclear power plants. The recommendations of the Commission will be made on a year-to-year basis that will best serve the national interest.

Question 2 - When does the Atomic Energy Commission consider a reactor as proven? How many plants and of what size must be built before AEC believes the plants can be privately built without any assistance from AEC?

Answer - A reactor concept is considered proven when it has been developed to the stage where engineering feasibility has been established or where reactor experiment or prototype experience has demonstrated confidence in reactor reliability for the general size contemplated.

The pressurized and boiling water reactors are examples of proven concepts, although there could be design variations which might fall outside of the proven category.

The number and size of plants that must be built, before AEC believes the plants can be built without any assistance from AEC, will vary with the type of reactor and status of technology for a specific reactor concept.

It is not possible to provide a specific answer to this question that would be applicable to all reactor concepts now under development. It is not known at this time whether all reactor concepts, now under development, will actually prove out technically and economically and will be generally accepted and constructed by the utility industry. As a general rule, for a given concept, one or more experimental plants will be built to prove out the concept, and a small prototype will be constructed. Subsequently, prototypes in larger sizes will be constructed; the size will be dependent upon the requirements of the utility industry. Technical advances and actual operating economics will determine the decision of the utility industry to proceed to construct nuclear plants with or without AEC assistance. It is the general policy of the Commission to encourage and require the utility industry and reactor manufacturers to participate in the financial risk in the advancement of the nuclear power industry.

Question 3 - Is it the intention of AEC to proceed during the 1964 Fiscal Year with the construction of the Spectral Shift Control Reactor, assuming that funds are approved as requested? If so, will there be sufficient funds to grant waiver of fuel use charges?

Answer - The Commission requested authorization and appropriation of $30 million in the Fiscal Year 1964 Construction Budget to proceed with construction of the facility on a cooperative basis. It is the intent of the Commission to proceed with this project if a proposal is received, and mutually acceptable arrangements can be worked out with the utility industry and the reactor manufacturer. In regard to the waiver of use (inventory) charges, the Congress has authorized waiver valued at ten million dollars for the Spectral Shift Control Reactor Project.

I can certainly appreciate the problem you have in completely understanding the complexities of the Civilian Power Program, the Cooperative Power Reactor Demonstration Program and the various aspects of the budget procedures including the authorizations, appropriations, obligations and cost terminology. I am hopeful that the answers that are provided in this letter will be helpful to you.

I want to assure you that the Commission will continue to give long and serious thought to the policy considerations, and Government assistance to the nuclear power industry. The recommended budgets will certainly represent our best judgment of the national interest in the advancement of nuclear power technology.

If there is any additional information you desire, please let me know.

Sincerely yours,

(Signed) Glenn T. Seaborg

Chairman

Honorable John P. Saylor
House of Representatives

Enclosures:
1. SCHEDULE "A", Summary of Estimated Project Costs
2. SCHEDULE "B", Summary of Estimated Waiver Costs

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NOV 86

SCHEDULE "A"

Summary of Estimated Project Costs for Cooperative Power Reactor Demonstration Projects

		Estimated Project Cost 1/	Accrued Cost 6-30-63 1/
First Round			
Consumers Public Power District (Hallam)		$ 63,212,000	$ 50,757,494
Fast Breeder Research and Development Program for Fermi Reactor		4,309,000	2,379,142
Second Round			
Elk River (Rural Cooperative Power Reactor)		16,009,000	10,677,682
City of Piqua		22,864,000	13,387,925
Dairyland Power Coop. - La Crosse		12,325,000	1,284,777
Third Round			
Northern States Power		8,500,000	7,235,737
Carolina Virginia		12,317,000	9,213,000
East Central Florida West Coast		1,752,000	1,752,000
Philadelphia Electric		14,500,000	12,250,000
Consumers of Michigan		4,582,000	2,863,811
Southern California Edison	2/	6,436,470	-0-
Connecticut Yankee	2/	6,050,000	-0-
City of Los Angeles	2/	8,000,000	-0-
Canceled Projects			
Intermediate Size Organic	3/	2,456,000	2,456,000
Small Pressurized Water Prototype	3/	442,000	442,000
ADA-Chugach Electric Association	3/	2,300,000	2,300,000
Total		$185,054,470	$116,999,568

1/ Does not include waiver of use (inventory) charges. See Schedule "B" for waiver of use (inventory) charges; also does not include fuel burnup.

2/ Contracts not consummated.

3/ Projects canceled.

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NOV 86

SCHEDULE "B"

Summary of Estimated Waiver Values
Cooperative Power Reactor Demonstration Projects

		Estimated Waiver Values	Accrued Charges 6/30/63
Yankee		$ 3,669,000	$ 2,565,500
Consumers of Michigan		1,675,000	258,556
Power Reactor Development Corp. (Fermi)		3,702,000	3,260,615
Carolina Virginia		1,170,000	111,042
Northern States Power		1,800,000	732,442
Philadelphia Electric		2,500,000	220,293
Southern California Edison	1/	6,586,490	-0-
Connecticut Yankee	1/	7,145,000	-0-
City of Los Angeles	1/	8,200,000	-0-
		$36,447,490	$7,148,448

1/ Contracts not consummated.

P. SAYLOR
SECOND DISTRICT, PENNSYLVANIA

COMMITTEES:
INTERIOR AND INSULAR AFFAIRS
VETERANS' AFFAIRS

Congress of the United States
House of Representatives
Washington, D.C. 20515

SUBCOMMITTEES:
TERRITORIAL AND INSULAR AFFAIRS
IRRIGATION AND RECLAMATION
PUBLIC LANDS
INDIAN AFFAIRS
MINES AND MINING
NATIONAL PARKS

ADMINISTRATION
HOSPITALS

September 23, 1963

DOE
NOV 86

Doctor Glenn T. Seaborg,
Chairman,
Atomic Energy Commission,
Washington 25, D. C.

SSS 10/1/63

Dear Doctor Seaborg:

In reviewing the budget request of the Atomic Energy Commission for fiscal year 1964, several questions have been raised in my mind which I am hopeful you and members of your staff can answer.

I am sure you will agree that it is difficult for a Member of Congress who does not enjoy the advantage of serving on either the Joint Committee on Atomic Energy, or the Appropriations Committee, to understand fully all details of the budget, particularly as it applies to the civilian nuclear power program. Your help in this instance will be appreciated.

1. How much of the budget of $2,473,800.000 as requested of the Congress by the President for the Atomic Energy Commission for the 1964 fiscal year will be allocated to the civilian nuclear power program?

In the report to the President made last November by AEC, the statement is made that the present annual rate of expenditures for this purpose is about $200 million. The report points out that this is somewhat indefinite since it

includes a rather arbitrary assignment of the costs of research and development programs contributing technical results to other programs as well. With this limitation in mind, I would appreciate your giving me the best information available as to what the total for the fiscal year 1964 would be, assuming that the President 's budget is approved as presented to the Congress?

2. How much has been committed and what part of that has been spent to date by AEC on the Cooperative Power Reactor Program?

3. How much of the proposed 1964 budget would be allocated for this program?

4. How much has been spent to date by AEC on waiver of fuel use charges for nuclear plants built by private utilities under the program?

5. How much of the proposed budget is allocated for waiver of fuel use charges?

6. How much has AEC spent to date on supplying design assistance to privately owned nuclear plants?

7. How much of the proposed budget is allocated for this purpose?

8. How much remains from previous appropriations for use in each of the above categories?

9. Are the funds covered in Questions 3, 5 and 7 to come from the $ 15 million which the budget requested for the Power Demonstration Reactor Program?

10. Will the three demonstration plants announced during calendar year 1963 as approved for construction with AEC assistance (Connecticut Yankee Atomic, City of Los Angeles and Southern California Edison) be financed from the 1964 budget? If so, will there be remaining unexpended funds which can be applied to additional plants? If not, what funds will be used to provide assistance to these three plants?

In additiona to these specific questions concerning fiscal 1964 budget, I would also like to have answers to the following questions:

1. How many plants do you contemplate being built under the modified Third Round, such as the three plants mentioned above?

2. When does the Atomic Energy Commission consider a reactor as proven? How many such plants, and of what size, must be built before AEC believes the plants can be privately built without any assistance from AEC?

3. Is it the intention of AEC to proceed during the 1964 fiscal year with the construction of the spectral shift control reactor, assuming that funds are approved as requested? If so, will there be sufficient funds to grant waiver of fuel use charges?

I apologize for the number of questions I have raised. However, this information would be most helpful to me in connection with consideration of the 1964 Civil Works Appropriations Committee and I would appreciate your expediting your answer as much as possible.

Sincerely,

John C. Stennis

Member of Congress

Program (copies attached), the October 22nd letter (attached) from Alaska Senator E. L. Bartlett about contamination in the Arctic, and a letter to Jerry Wiesner on the Interdepartmental Energy Study (copy attached).

At 10:30 a.m. the Commission met with representatives of General Public Utilities Corporation--Albert F. Tegen (President, General Public Utilities Corporation), William H. McElwain (President, Jersey Central Power & Light Company), James B. Liberman (Counsel, Jersey Central), George F. Trowbridge (Counsel, Jersey Central), Francis K. McCune (Vice President, General Electric), William F. Kennedy (Counsel, General Electric), John W. Simpson (Vice President, Westinghouse) and Albert W. Pitcher (Counsel, Westinghouse). We discussed their worry that Price-Anderson indemnity would not apply to their proposed reactor if the construction license, but not the operating license, is issued before the August 1, 1967, expiration date for the Act. We will explore with the Joint Committee the possibility of clarifying the legislation.

At 12 noon I attended a National Science Foundation colloquium given by Dr. Veksler of the USSR. This was followed by a luncheon hosted by Haworth.

At 3:40 p.m. I presided over Information Meeting 319 (notes attached).

I called Congressman Clarence Cannon's office and spoke with his secretary, Norma Halley. I said that the Congressman might be interested in going with me and Commissioner Palfrey to Oak Ridge on November 4th for the celebration of the 20th anniversary of the Oak Ridge reactor. I also said that some of the other members of the Appropriations Committee might be interested in attending.

McNamara made the final decision today that he won't change the authorized aircraft carrier from conventional to nuclear power.

Saturday, October 26, 1963 - D.C.

I worked in the office until noon and then I had a swim at the University Club pool.

Helen and I attended a cocktail party in Bethesda at the Horace Josephson home. Among the guests were Mr. and Mrs. Henry Vaux and George Mehren of Berkeley.

Sunday, October 27, 1963 - D.C. - New York, New York

I flew to New York on the Eastern shuttle at noon to participate in a TV taping of the first of Minneapolis-Honeywell's shows, "Science All Stars," at the ABC Studio, which will be shown on January 12th.

It featured youngsters who have built science projects and who have appeared in Science Fairs, and concluded with a one and one-half minute statement by me on the importance of science education for our youth. The Executive Producer is Steven R. Carlin of Solar Enterprises. I met Minneapolis-Honeywell President James H. Binger, who was present for the TV taping of this first show in the series. The show, sponsored by Science Service, MGM-TV and Solar Enterprises, will be aired on January 12th.

I stayed overnight at the Park Sheraton Hotel.

Monday, October 28, 1963 - New York - D.C.

I had breakfast at the New York University Club with Sheldon Fisher (President) and Joseph Allen (Executive Vice President) of McGraw-Hill, Jerry Luntz of Nucleonics and Ed Brunenkant. We discussed the serious financial troubles facing Nucleonics.

DO FILE

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United States Senate

COMMITTEE ON APPROPRIATIONS

UNCL. BY DOE
NOV 86

October 22, 1963

Hon. Gerald F. Tape
Acting Chairman
Atomic Energy Commission
Washington, D. C.
20545

Dear Mr. Tape:

This is to acknowledge your letter of October 18 informing me the Atomic Energy Commission intends to spend some money on a bird project. This is no doubt heartwarming news to ornithologists.

It appears to have little relevance, however, to the increasing contamination of the Arctic food chain and of the Arctic Eskimo.

Your letter itemizes the work now being done in the Arctic by the Commission. Whole body counts of some natives in some villages have been taken twice in the last two years. These apparently indicate that body budens are increasing by 50 percent a year. Soil studies are being done but you don't say where. The botanical studies in the Cape Thompson region are still underway: these, of course, relate to Project Chariot and not to the contamination of the inland rather than coastal food chain. Neither do the studies of "marine estuary phenomena", which you also mention, relate to this contamination.

You say you are "exploring" the "possibility of initiating ecological studies of somewhat broader scope". I have no idea what this is intended to mean. It seems to me the AEC has been "exploring posibilities" now for several years while contamination levels continue

Received In Office of G. F. Tape

to climb and we still have only the random analysis of a rag, a bone or a hank of hair on which to base our estimates of the Arctic contamination levels.

It is true the AHRC proposal was concerned with field collections and analysis of teeth, caribou, moose and edible plants. This proposal was to be a joint undertaking on a subject which should be of joint interest and for which responsibility is held by the Public Health Service and the AEC.

The Secretary of HEW, in a recent letter to me, spoke of this joint responsibility and told me the proposed project was now in the hands of the AEC. You now state these "or very similar proposals" were discussed with the Public Health Service at an earlier date. Were the similar proposals misplaced? Does the announcement of the bird study mean total rejection of the rest of the application? Does the statement "As time goes on and competence ... is developed" mean that we must wait until such competence becomes self generating? Is the AEC aware that the caribou sampling program of today is both confused and inadequate. Does your disclaimer of responsibility mean that AEC is willing to stand by and have no one do the requisite research work on the Arctic food chain?

In view of all the above questions, and many more, I have decided to hold a meeting in my office on Wednesday, November 13. I would be pleased if Dr. Dunham and and Dr. Wolfe can be present. I am also asking Dr. Chadwick of the Radiological Health Division, Dr. Colyar, of the Arctic Health Research Center, and Mr. Arnold, of the Public Health Service, to be in attendance. At that time I would appreciate having a coherent report on what is necessary to obtain adequate information on the food chain contamination and how the necessary can be achieved.

Sincerely yours,

E. L. Bartlett

FILE

October 30, 1963

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NOV 86

Dear Jerry:

With reference to your memorandum of September 25, 1963, I am enclosing the Commission's comments on the first draft of the Interdepartmental Energy Study as prepared under the direction of Dr. A. B. Cambel.

While the enclosed letter has been signed by Commissioner Ramey as the AEC representative to the Study, the full Commission has reviewed these comments and has approved their transmittal to you at this time. In addition, Commissioner Ramey wanted me to mention to you that Commissioner Tape actively participated in the preparation of these comments.

Sincerely,

(Signed) Glenn T. Seaborg
Glenn T. Seaborg

Honorable Jerome B. Wiesner
Director
Office of Science and Technology
Washington, D. C.

Enclosure

CLH:hg

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

OCT 30 1963

CNCL. BY DOE
NOV 96

Dear Dr. Wiesner:

This is to inform you of our comments on the September draft of the Interdepartmental Energy Study. These comments expand on and make more specific the points listed in our October 10th letter as well as including some further remarks. In addition to the matters covered here, our Staff has a number of comments of a detailed nature which they will furnish Dr. Cambel.

Our overall reaction to the report is favorable and Dr. Cambel and Mr. Perry have done a good job in bringing it to this stage in such a short time. It does, however, reflect the diverse authorship and rapid manner in which it was produced. An integrated revision would improve it considerably. Such a revision should make a special effort to clearly identify the Study's conclusions and recommendations as distinct from those of the individual authors.

In terms of content, the state-of-the-art material is generally good, although some important matters are omitted or inadequately treated. We are particularly concerned with the resource evaluations, the economic analysis, and the lack of weight given to other than strictly economic factors.

Our main comments are given below. We will be glad to discuss them with you or the Study staff.

1. Benefit-Cost Analysis

We find the benefit-cost analysis to be an interesting approach in providing guidance to identifying promising areas of R&D. However, the technique must be used cautiously as this method is subject to many pitfalls. In particular, we hope you do not encourage the use of benefit-cost analyses as a sole criterion to identifying worthwhile R&D. While the economics are important, there are a number of other considerations which are difficult to translate into economics which also serve to determine the merit of R&D. We recognize that benefit-cost analysis has been used with respect to power and public works projects although we understand that there have been significant differences in the estimation procedures used by various Agencies. There is considerable doubt whether it is an established and appropriate method for evaluating research and development projects.

The practical difficulties involved in providing meaningful and reliable input data to the mathematical model representing the R&D project under consideration are, to say the least, very formidable. These difficulties are frequently expressed in terms of the risk or probability of success inherent in the project. The problem of estimating the probability of a given degree of success is very serious in the evaluation of R&D projects.

In summary, we are generally skeptical about the applicability and reliability of the benefit-cost analysis for R&D evaluations.

2. Discount Rate

The Study proposes using a 12% discount rate in evaluating the costs and benefits of Government R&D. This discount rate is based on the theory that Government R&D should be evaluated at the marginal rate of return used by the private sector of the economy. The appropriate marginal rate of the private sector is assumed to be 6% after income taxes and 12% before income taxes.

Even in the very limited areas where the proposed benefit-cost analysis may be valid for R&D projects, the use of the 12% figure does not appear to be justified. In setting the 12% figure, the Study has made certain assumptions, which we question. These are set forth and discussed below:

a) The Government discount rate should be equal to the pre-tax marginal rate of return of the private sector.

A basic function of Government is to do things in the public interest which private citizens and firms cannot do for themselves. Many such projects have an inherently low rate of return and yet have general public support. It seems particularly inappropriate to compare those projects which private firms cannot do, for various reasons including their inability to capture the full social benefits as discussed in the Study, with the rate of return on projects which the private sector can undertake.

Government projects also often have other than strict economic objectives such as promotion of economic growth, full utilization of resources, alleviation of unemployment, conservation, promotion of competition, and national defense. The economic analysis in the Study considers these either as separate problems which should not affect the allocation of R&D or as minor objectives. Yet the fact remains that many of these things are established Government responsibilities and that there is often a considerable savings to the Government by achieving several objectives in a single project. The principle of multiple benefits is clearly established in the case of hydroelectric projects.

b) The after tax figure for the marginal rate of return of the private sector has been set at 6%.

It appears that whole sectors of the private economy have not been achieving an average pre-tax rate of return of 12%. This strongly implies that whatever their rate of return standards may be, they are not, in fact, achieving a 12% rate of return on marginal investment. If this is true, then the logic used in the Study to justify the 12% rate for Government is not correct. The calculation of the social rate of return on the marginal investment of various sectors of the economy involves a number of economic problems which we will not discuss here. We recommend that the Study present data showing the social rate of return on marginal investment achieved by various sectors of the economy, particularly the low rate of return sectors, in recent years, say 1950 to 1960. In addition, the Study should also show the average social rate of return on total assets for the same sectors and periods.

c) Tax savings to industry as a result of the deductibility of R&D costs for tax purposes are not taken into account.

The statement that the social rate of return is twice the private rate of return, in the case of marginal R&D projects, appears to be based on the assumption that there are no tax savings to industry as a result of the deductibility of R&D costs for tax purposes. The discussion on page 9-50 indicated that under the conditions leading to the establishment of the 12% figure, as per page 9-43, that a considerable portion of R&D costs would be expensed, thus, effectively reducing the private firm's investment in the project. If this is true, the private firm's investment base is less than the social investment base and this would change the rate of return relationships. We urge that an example of a marginal R&D project be presented in the Study to clarify the relationships between the firm's and society's investment and rates of return.

The Atomic Energy Commission and probably many other Government agencies do not normally do economic analysis in the areas discussed above. We therefore believe that the Study should give more discussion and examples on these points, since this is one of the most important points in the proposed analysis and is treated in less than two pages. Furthermore, the Energy Study seems to us a somewhat inappropriate place to attempt to establish a discount rate for Government projects. Although the intention may be only to establish a figure for Government energy R&D, the logic of the Study seems to indicate that the figure would also be applicable to all Government projects subject to benefit-cost analysis. It would be helpful if Dr. Heller would discuss these matters at the next Steering Committee meeting.

3. Ultimate Energy Resource

While fossil fuel R&D will serve to extend the availability and utility of fossil fuel resources, fission R&D will represent the development of a source of energy which will be available for the indefinite future.

If Government were to limit its R&D efforts to the achievement of a high ratio of benefits to costs at a 12% discount rate, it would eliminate from its programs those efforts that do not show immediate or short-range economic promise. Presumably, in the case of nuclear power, such an approach could lead to discounted benefits essentially similar to those shown in Table 10-4 of the Energy Study Report, whereas, the discounted R&D costs would be significantly less. This would result in a much higher ratio of benefits to costs or a much higher effective rate of return on the fission R&D. However, by doing this we would only accomplish a modest increase in our overall energy availability and leave undeveloped the much larger resources available to us. Even though a good economic case can be made for this approach using the 12% benefit-cost criterion, we do not think it to be a sound one. At a lower discount rate, more emphasis would be placed on long-range R&D.

As you are aware, the 1962 Report to the President on "Civilian Nuclear Power" emphasized the long-range availability aspects rather than short-range economics.

4. Interfuel Competition

Competition between several primary fuels for the electric utility market is highly beneficial to society. In some areas, interfuel competition is presently very limited, particularly when air pollution regulations restrict the use of certain fuels. The Energy Study indicates potential shortages of naturally occurring oil and gaseous fuels in the next few decades. These shortages will further limit competition between the various fossil fuels. The development of nuclear power will bring a new competitive fuel into those areas where interfuel competition is presently weak and will assure the existence of two major primary fuels (coal and nuclear) for the important electric utility market.

Being regional in nature, competition within the coal industry, in the absence of an alternate fuel, cannot be relied upon to provide the full benefits of competition. Competition in the coal industry is hampered by the high cost of transporting coal to market. Developments in coal transportation and high voltage transmission may somewhat reduce the locational disadvantage of some mines. However, in many cases the effective competition for any one coal market will still be limited to a few major suppliers.

5. Fossil Fuel Resources and Costs

The treatment of fossil fuel resources and costs is inadequate. Only one set of resource estimates is presented. Other authoritative estimates are not considered. For example, the recent Report to the National Academy of Sciences is not considered although the published analysis supporting it is more extensive than the data supporting the figures in the Interdepartmental Energy Study. The fact that the Study uses coal resource figures based on a 1913 estimate is particularly troublesome. Other resource estimates should be presented and discussed instead of using one extreme without justification. If there is no clear basis for distinguishing between estimates, a range should be used.

Various parts of the Study imply that bituminous coal prices at the mine are in a long-term downtrend. There is no basis in the Study for believing that a long-term decline in coal prices is to be expected. In the last few years coal prices have dropped from the high established at the time of the Suez crisis, but they are still not particularly below the 1954-1955 pre-Suez levels. Furthermore, the limited statistics available indicate that although coal prices may have been decreasing for the last few years, that the cost of producing coal has actually been increasing. The short-term decline in coal prices has been possible only because of declining profit margins.

The projections which the Federal Power Commission provided to the Atomic Energy Commission in 1962 indicated about a 10% increase in the delivered cost of fossil fuels to steam-electric plants by 1980. Also, we do not believe that the 1962 "Report of the National Fuels and Energy Study Group" to the Committee on Interior and Insular Affairs, United States Senate, supports declining fossil fuel prices (Senate Document #159).

If the Study is to imply that coal costs are in a long-term downtrend, this needs to be supported by a detailed historical treatment of coal industry costs and by projections of future costs under whatever R&D levels may be judged appropriate. This implied downtrend is particularly troublesome when it is made explicit in Chapter 10 (page 10-78) by assuming a 1% per year decrease in the cost of fossil fuels to electric utilities in evaluating an alternate case on nuclear power. It may be that this case was intended only as an illustration. If so, in view of the available evidence on fossil fuel costs, it would appear appropriate to also calculate a case with rising fossil fuel costs.

A more detailed discussion of the various resource estimates and possible costs than contained in the subject draft is given in Appendix I of our 1962 Civilian Nuclear Power report. One would expect an even more comprehensive treatment of resource estimates and costs in the Interdepartmental Energy Study.

Statements in the Summary Section (pages 1-69 and 1-70) of Chapter 1 dealing with costs are apparently based on Table 1-25 which contains no cost figures. As a specific illustration, consider the following conclusions in the summary:

> "1. Even with no further technological progress, ..., the energy needs of the economy should be met with no increase in energy source prices through the end of this century.
>
> "2. Even the most extreme levels of demand for coal should be met at no cost increase."

These conclusions are apparently based mainly on the magnitude of resources. Even if resources are very large as claimed, this does not justify any conclusions concerning future costs. At best, very large resources imply that there is considerable opportunity for research and development and technology to prevent large cost increases. The point is historically clear. Coal resources in 1910 were larger than they are today, yet coal prices have increased.

As far as oil and gas are concerned, statement 1. above appears incorrect in the light of other sections of the report which seem to show a need for research and development on the conversion of coal and oil shale to fluid fuels and for further work on secondary methods of oil recovery. Such research and development would constitute further technological progress contrary to the "no further technological progress" in statement 1.

6. Nuclear Fuel Resource Estimates

We recommend that official AEC estimates of uranium and thorium resources be included in the report. Presently, the report primarily makes use of Department of Interior estimates. In addition, the presentation is confusing since the cost ranges are quoted in terms of oxide weight whereas the quantities are apparently in terms of metal weight. Note that AEC resource estimates usually use short tons of U_3O_8 or ThO_2.

7. Economics of Producing Energy

The draft report goes into considerable detail in many aspects of the economics of fuel preparation, starting with exploration and ending with transportation to the point of use of the fuel. There is very little economic information, however, on the subsequent costs of producing energy. While the fuel cost is an important part of the final energy cost, the costs associated with converting the latent energy of the fuel into a useful form of energy for end use and delivering the energy to its final point of consumption are substantially larger than the fuel cost. Hence, we suggest additional coverage on the economics of electricity generation in both fossil and fissile fueled steam-electric plants and on the distribution of electric energy after its transmission to load centers. We note that you do give a fair amount of coverage to the economics of transmission of electricity.

8. Nuclear Fission Section of the Report

A number of favorable statements are made in the report concerning nuclear power. We do not believe that the technology section of the report adequately supports the favorable general statements. The nuclear write-up of Chapter 6 (page 6-113) is lacking in specificity and there is no information in that section on nuclear economics. Earlier we submitted about forty pages of subject matter for the nuclear technology section of the report, including a recapitulation of the economic data we had previously used in the 1962 Civilian Nuclear Power Study. We believe the nuclear fission section of the report can be improved if you incorporate some of our previously furnished material into your present write-up.

9. Power Demonstration Program

The statement on page 10-102 about discontinuing the AEC Power Demonstration Program is subject to misinterpretation. We understand that you refer to proven reactor concepts in this context and therefore the statement should be made more explicit. A suggested wording was provided in our interim response of October 10 and is repeated below for your convenience:

> "Therefore it is suggested that consideration be given to the gradual discontinuation of the Power Demonstration Program for reactors of well-proven concepts such as the light water saturated steam systems."

10. Additional Subject Matter on Nuclear Power

a) Fuel Technology

Earlier we provided your staff with a lengthy report on the technology of nuclear fuels. This is an important aspect of nuclear power and it would be appropriate to incorporate some of that subject matter in the report.

b) Merchant Ship Applications of Nuclear Power

Your staff previously requested a write-up on our maritime reactor program which has not yet been supplied.

c) Nuclear Heat for Sea Water Distillation

As you are aware, this special application of nuclear power is currently being closely examined. Since the draft report covers the conversion processes for sea water purification, we believe that a few pages on a nuclear heat source would be useful to the report.

d) Power Demonstration Program

In view of the statements made in the report on the AEC power demonstration program, we suggest that you include a few pages describing this program.

The material mentioned in b), c), and d) above is being sent directly to Dr. Cambel.

11. Conclusions and Recommendations

Conclusions and recommendations appear throughout the contents of the report. It is our impression that a number of the conclusions and recommendations reflect the opinion of individual contributors. It would be useful if these statements now appearing throughout the text were integrated into a single summary section of Chapter 10. In doing this, the individual conclusions should be scrutinized from an overall viewpoint and each individual statement placed in the proper perspective, such that the study conclusions and recommendations are clearly identified.

Although our comments have turned out to be rather lengthy, the Study covers a great deal of material of interest to us thereby leading to a substantial discussion of some points.

We will be happy to discuss these comments with you and Dr. Cambel at your convenience.

Sincerely yours,

(Signed) James T. Ramey

James T. Ramey
Commissioner

Honorable Jerome B. Wiesner
Director
Office of Science and Technology
Washington, D. C.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

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NOV 86

COPY NO. 15
October 25, 1963

INFORMATION MEETING 319
3:40 p.m., Friday, October 25, 1963 - Chairman's Conference Room, D. C.

1. Chairman's November 7 Speech at Norfolk

The Chairman said he will speak on the subject of "Reactor Safety". The Commissioners discussed briefly the desirability of appropriate statements and perhaps some research on Mr. Lilienthal's recent book "Change, Hope, and the Bomb". (Ink)

2. Euratom-State Department Discussions re Fast Reactor Program

The Chairman discussed briefly the current negotiations regarding deferred payment of enriched uranium and plutonium under the agreement and the possibility of a 10-year exchange period instead of 5.

3. Power Line for Stanford Linear Accelerator

The General Manager reported on the Woodside Community's refusal of clearance for the overhead line. PG&E has been requested to consider the matter and discuss further with staff.

4. AEC 971/9 - Status of SEFOR Negotiations

The staff discussed briefly with the Commissioners the proposal for AEC support of operating personnel under the AEC ceiling and within the detailed scope of the project and the provision for definition of "technical impossibility". The General Manager's recommendations were approved. (Vinciguerra/Fittman)

5. Production Planning Studies

Mr. Ramey discussed his questions regarding the staff analysis and the Commissioners requested further review prior to Commission consideration. The LRL and LMA studies are to be transmitted to the DOD for comment. (Ink/Baranowski/Betts)

(Mr. Palfrey left the meeting)

6. SL-1 Claim

Mr. Hennessey recommended authorization to discuss settlement of the claim. The Commissioners requested he review the matter with Mr. Palfrey. (GC)

7. Proposed Bill for Relief for Mr. Beasley

Mr. Ink reported the Bureau cannot support the bill.

8. Proposed Letter to the Joint Committee re Legal Opinion on Contractual Arrangements for Hallam

The Commissioners approved transmittal of the letter. (GC)

9. Agenda for the Week of October 23

Approved, as revised. I will check with your offices for consent reports on:

AEC 89/16 - Visit of British National
AEC 25/282 - Proposed Navy Safety Rules
AEC 25/283 - Proposed Navy Safety Rules
AEC 25/284 - Weapon System Safety Rules (Secy)

10. Authorization Hearings, Thursday, October 31

The Commissioners discussed briefly various arrangements for testimony.

11. Price-Anderson Indemnity

Mr. Ramey suggested, and the Commissioners agreed, it would be desirable to attempt to obtain clarifying legislation through amendment of the authorization bill. The Chairman will telephone Mr. Tegen to inform him of the Commission's consideration of the matter.(GC/Brown)

PRESENT

Dr. Seaborg
Mr. Ramey
Mr. Palfrey*
Dr. Tape
General Luedecke
Mr. Ink
Mr. Hennessey
Mr. Brown
Dr. Pittman**
Mr. Arrotta**
Mr. Reich**
Mr. McCool

*Partial Attendance
**Attendance for Items 1, 2, 3 and 4

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General Counsel
Secretary

W. B. McCool
Secretary

I said that the AEC hopes it can continue publication.

I participated in a kick-off press conference at the Park Sheraton Hotel for "Science All Stars" with the Minneapolis-Honeywell people, the kids on the show, etc.

I returned to Washington on the 11 a.m. Eastern shuttle.

I attended a luncheon at the Carlton Hotel with the other Commissioners and AEC Staff, the Committee on Commercial Uses of Atomic Energy, and the U.S. Chamber of Commerce. I gave a talk, and the other Commissioners and I answered questions on such topics as private ownership of nuclear fuel, impact of possible AEC production cutbacks, etc.

Albert F. Tegen (President, General Public Utilities Corporation) called at 3 p.m. to see if we have done anything about attempting to obtain clarifying legislation as discussed in our meeting the other day. I said we haven't started yet but would do so shortly. He said the coal people have been breathing down their necks. The coal people have made them a proposal of 26¢ per million btu at Oyster Creek, whereas originally it was 34¢. Now they are fighting to keep Oyster Creek off the map. To give me a figure, he said they have used 25¢ for the price of coal at Oyster Creek and at that price a nuclear plant must be built for $90 million to be competitive. He said this was the prime reason they did not open the bids; they do not want the coal companies to do a one-shot thing and then wipe them off the books. He said, if there was any doubt about their sincerity, he would be glad to reveal this information to anyone I choose or give me more information to show anyone. I told him I didn't think that would be necessary. I told Tegen we would keep in touch with him and let him know the outcome.

At 3:30 p.m. George Beadle called and said he had just come from the MURA meeting which was open to the whole membership, with about 25 or 30 people attending. (Beadle called earlier this morning and told Howard Brown that there would be a MURA Board meeting today in connection with the accelerators in the Mid-West.) Immediately following this meeting, the Board met. All members were invited to attend the Board meeting, but Beadle since he is not a Board member, did not attend. However, Roger Hildebrand is a Board member and did stay for the meeting.

At the general meeting Roger reviewed the matter of the proposed accelerator for the Mid-West scientifically, and in an open way, saying that the proposed machine was a good one for what it was designed to do, but probably not the most interesting machine from the standpoint of total development. He then reviewed what he knew about the Berkeley proposal.

During the meeting, the point was made that the MURA machine could, without modification, essentially be used as an injector for a high energy machine. I said this was particularly true if it is built for 10 BeV rather than 12.5 BeV. Beadle said this changed his reaction a bit. I said it had been my view that it should be built as a 10 BeV machine. Beadle said that Roger and Marty Bond (Northwestern) said this would make it more essentially scientific. Beadle said they wanted something in the Mid-West, but they didn't want something that didn't make maximum sense scientifically. He said he thought, if it were built without necessarily any commitment that it would be an injector, but left open, that we would get unanimous agreement among the scientists of the Mid-West. Beadle said he raised the question of location in this light, and they said they didn't want to raise this question as it would be weaker than the question of the site per se. I told him that the Ramsey Panel is being reconvened and they will look into the matter to see whether it can be a 10 BeV machine.

I asked if they would mind if the machine were erected in Wisconsin and he said no; they have said, if it were a good machine that made sense scientifically, they don't care. I mentioned that he had said their people liked the Berkeley design and told him I thought it would be inadvisable to move the Berkeley machine to the Mid-West at this time as it still has two years of designing to go. He said that Roger says the Berkeley machine is a high energy one that can do almost as much as the FFAG. I said that is right and it still has all the other potential. He said the argument by MURA people was that they would be working on the high intensity frontier and Berkeley would be working on high energy and high intensity; however, the machine designed by MURA, by itself, doesn't look very exciting. He said, if the MURA machine could be used ultimately as an injector, it would be fine. I told Beadle that I have a letter from Fred Seitz commenting on the Policy Advisory Board meeting at Argonne which said that they apparently discussed my thesis that there were some people in the Mid-West who weren't completely behind the MURA machine, and Fred went on to say so far as he could tell this wasn't true. I said now he (Beadle) was saying this is true. He said it certainly is true; that Edwin Goldwasser today agreed if they could think of two steps (as an injector for a later high energy machine) it would be exciting and he would be more enthusiastic if the second step eventually could be kept open. I asked if the main group outside of Argonne who have doubts about the overall value of the MURA machine, aside from the idea of using it as an injector, wasn't the Northwestern group. He said this was true as far as he knew. Beadle thinks things are all mixed up with the scientific aspects and the political aspects. I asked if they took cognizance of the fact that the Ramsey Panel was going to reconvene. He said they did, but he wanted to be sure the Ramsey Panel would consider this other matter.

I called Hobart Taylor (Executive Vice President of the President's Committee on Equal Employment Opportunity) at 4 p.m. and asked him if he were familiar with the Brigham Young University situation with respect to equal employment opportunity with respect to creed. I said that we have the provision in all our contracts that all employment must be without regard to race, creed, color or origin. I said we have some contracts with Brigham Young to conduct basic research which is similar to contracts we have with many, many universities. However, Brigham Young is selective with regard to creed, and they have sent our contract back with a disclaimer that they wish us to sign.

I said that Tom Powers (General Counsel of the EEO Committee) advised us that we should go back to Brigham Young and ask them to send the contract without the disclaimer, saying we don't think there will be any trouble. Now, Brigham Young has come back saying they don't wish to do this, and they have written Utah Senator Wallace Bennett who is bringing up the question of universities connected with the President's creed where this problem may arise. I asked Taylor what he would think of our taking the following course: accept the contract with the disclaimer and then report it to the Committee. He said he doubted if this would be in conformity with the President's Order. He said what we would be doing is agreeing to do something that is contradictory to the President's Order, and the only way around it would be an exemption. I said his Committee didn't want to give us an exemption. He said they couldn't assume this would not come to the public's attention and that he would be glad to talk with the Vice President or Labor Secretary Willard Wirtz. I pointed out that this was not an abuse of any kind. He said he thought I was going to have a hard time figuring out how to do anything within the framework of the President's directive. He said he would let me know the result of his call to either the Vice President or Secretary Wirtz.

Tuesday, October 29, 1963 - D.C.

I attended an all morning briefing on nuclear power in the space program at NASA.

I had lunch at the Roger Smith Hotel with Brown, Henderson, Fritsch and King; it was a farewell luncheon for King who is moving from my office to the General Manager's office on Monday.

At 3 p.m. I presided over Information Meeting 320 (notes attached).

Commissioners Tape, Ramey and I met with the Queens County (New York) Congressmen--James Delaney, Joseph Addabbo, Seymour Halpern and Benjamin Rosenthal--to discuss Consolidated Edison's proposed reactor for Ravenswood.

I attended a reception, hosted by Frank Jewett, President of Vitro Corporation, at the Army-Navy Club.

Wednesday, October 30, 1963 - D.C.

I testified before the JCAE on nuclear power for naval surface ships. This was part of an all day executive session with the JCAE. Others attending were Korth, Navy Chief of Staff Admiral McDonald, Harold Brown, Admiral Hayward, De Poix (Skipper of the Enterprise), Wilkinson (Skipper of the Long Beach), and Rickover.

My problem, and Brown's, was to make the testimony consistent with the Administration's position in view of McNamara's decision last Friday not to convert the conventional carrier to nuclear. I emphasized the value of a 1963 nuclear carrier in making continuing technological progress. The Committee was very critical of McNamara's decision and his manner of making it.

I had lunch with Senator Bennett of Utah and General Luedecke to discuss the problem with Brigham Young University's research contracts. We have no solution yet other than to not renew the contracts which seems to be a miscarriage of intent of the President's Executive Order.

Thursday, October 31, 1963 - D.C.

At 10 a.m. I testified in executive session before the Joint Committee on Atomic Energy on the supplemental FY 1964 authorization for weapons laboratory buildings. I also covered the budget for underground testing and atmospheric testing readiness. The laboratory directors, as well as Betts and Luedecke, also appeared.

I had lunch at the Roger Smith Hotel with Bradbury, Foster, Schwartz, Tape and Ramey.

I visited with the Assistant Area Managers and Personnel Officers who are in town for a meeting.

I visited Bob Wilson at the George Washington University Hospital; he seems to be doing fine and recovering from his heart attack.

The President announced today in a press conference that he is backing McNamara's decision against nuclear power for the aircraft carrier.

I went "trick or treating" with Dianne, Eric and Joe Canary in our Harrison Street neighborhood.

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INFORMATION MEETING 320
3:00 p.m., Tuesday, October 29, Chairman's Conference Room, D.C. Office

1. Commissioners' Meeting with Queens County, New York Congressional Delegation Today

The Commissioners discussed briefly the plans for the meeting and suggested the proposed press release be mentioned to the Congressmen and agreed the Chairman's letter to the New York City Council and copies of the pamphlet on licensing of power reactors should be made available. Mr. Ramey suggested it would be helpful to have copies of a reactor safeguards report available.

2. Letter to Dr. Jerome Wiesner re Interdepartmental Energy Study

In response to the Chairman's request, Mr. Ramey said the letter is now in final preparation. (Brown)

3. Proposed ALVA Event at NTS (See General Betts' Memo of October 23)

The Chairman commented on his concern re the possibility of venting and Dr. Tape noted the Event has now been delayed until February and will be carefully reviewed. (Betts)

4. Photographs of Bodega Head Excavations

The Chairman suggested obtaining some film footage for possible use in a later film on regulatory procedures. (GM-DR)

5. Chairman's Breakfast Meeting Yesterday with Representatives of McGraw-Hill-Nucleonics

The Chairman commented that at the breakfast meeting yesterday in New York, Messrs. Fisher and Lunts had discussed the financial problems of Nucleonics. The Chairman said he had expressed concern at the possibility of the magazine closing.

6. Chairman's Telephone Conversation with Mr. Tegen, General Public Utilities Corp., re Price-Anderson Indemnity

The Chairman said he had discussed the Commission's desire to move forward with clarifying legislation and Mr. Tegen expressed the hope that this can be accomplished.

7. Chairman's Telephone Conversation with President Beadle, University of Chicago, re MURA Project

The Chairman said Mr. Beadle had discussed briefly with him the MURA group discussion of the project.

8. Subcabinet Meeting November 5

The Chairman invited Mr. Ramey to attend with him and said possibly Mr. Palfrey would also wish to attend.

9. October 30 Hearing on Nuclear Navy

The Chairman thought the Commissioners should be prepared to discuss with the JCAE the remaining items of outstanding business at tomorrow's hearing or at Thursday's hearing on the Authorization Bill. Mr. Ramey requested a check on the status of clarifying legislation on the Price-Anderson indemnity problem. (GM)

10. Contract Negotiations with Brigham Young University

The Chairman said Mr. Hobart, Committee on Equal Opportunity, had been unwilling to grant an exception to the non-discriminatory clause and that University officials subsequently discussed this matter with Senator Bennett. The Chairman and the General Manager will review the matter with Senator Bennett at luncheon tomorrow.

PRESENT

Dr. Seaborg
Mr. Ramey
Dr. Tape
Mr. Price*
Dr. Beck*
Mr. Shapar*
Mr. Hollingsworth
Mr. Brown
Mr. McCool

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Secretary

*Attendance for Item 1

Friday, November 1, 1963 - D.C. - Schenectady - D.C.

I flew to Schenectady on a G.E. Gulfstream with John Barnard (G.E. Washington Representative) and Arnie Fritsch. Our flight left National Airport at 8:15 a.m. and arrived at 9:30 a.m. We were met by Guy Suits, Hyman Rickover, I. H. Mandel and Kenneth A. Kesselring (manager KAPL).

I visited KAPL where I saw fuel element work, numerous critical assemblies, etc., under the guidance of Rickover, Mandel, Kesselring, B. H. Wemple (Experimental Engineering), W. M. Caskin (Manager, Materials Development Operation), W. S. Kieczek (Manager Experimental Engineering), Stanley W. Nitzman (Manager, Schenectady Naval Reactors Office, AEC), and others.

I then visited Guy Suits at the G.E. Research Laboratory. He said that G.E. would like me to replace him as Director of the G.E. Research Laboratory when he retires in April 1965, and also take over direction of the Technology Laboratory when the present director George Haller retires in three or four years. He said his present take-home compensation consisting of a salary of $90,000, incentive compensation of $90,000 of which one-half is delayed until retirement with tax advantages, and returns from a stock option plan, grosses over $200,000 per year after taxes.

I had lunch at the Guest House with a group which included Suits, G. L. Haller, D. E. Craig, C. W. Elston, Vance Cooper, Barnard, Fritsch and others. I then heard a discussion of fuel cells by A. M. Bueche, W. R. Hibbard, and L. W. Niedrach; corona breakdown of coal by Cooper; and coal gasification with combined gas-stream cycle by Elston.

I then flew in the Gulfstream to New York with Suits, Haller, Fritsch and Barnard. I was in conference here with Gerald L. Phillippe (incoming Chairman of the Board, G.E.), Fred J. Borch (incoming President and Chief Executive Officer, G.E.), Ralph J. Cordiner (retiring Chairman of the Board, G.E.) and Suits, regarding my possibly taking a position with G.E. as replacement for Suits. I told them I had only borderline interest in this but I would give it serious consideration.

I flew back to Washington on the Gulfstream with Fritsch and Barnard. We departed at 5 p.m. and arrived at 8:15 p.m. There were weather delays at both ends of the trip.

Saturday, November 2, 1963 - D.C.

I worked in the office until early afternoon.

I helped at Dianne's birthday party which was attended by eight girls and one boy.

I read AEC papers and worked on my speech, "Why Nuclear Power?" I will give this talk in Norfolk on November 7th.

Sunday, November 3, 1963 - D.C. - Oak Ridge, Tennessee

I worked on AEC papers at home.

At 7 p.m. I flew to Knoxville, Tennessee, on American flight 375. I was accompanied by John Palfrey and Arnie Fritsch. We arrived at 8:45 p.m. and were met by Sam Sapirie (Manager, Oak Ridge Operations, AEC) who drove us to the Holiday Inn in Oak Ridge where we spent the night.

Dianne's birthday party in the living room of the 3825 Harrison Street home, November 2, 1963

L to R (Back Row): Brendan Canary, Amy Ballou, Sarah Luria, Andrea Canary, Dianne Seaborg, and Abbe Kaufman

L to R: (Front Row): Anne Dodd, Charlie Schwartz, Margaret Snider, Priscilla Cobb

Monday, November 4, 1963 - Oak Ridge, Tennessee

I visited with Ralph Overman to discuss a script for the TV show that I will do for his AEC series. I also visited his training division of ORSORT.

I met with the people in biology, who described their program and made a pitch for new buildings. I also visited EGCR and HFIR and saw the start of a building for the TRU facility.

I had lunch at K-25 with a group which included Alvin Weinberg, Clarence Larson and Vice President Kenneth Rush.

I participated in the 20th anniversary retirement ceremony for the Oak Ridge graphite reactor. Weinberg presided. R. L. Doan spoke on "Twenty Years Ago Today."

I attended talks by Weinberg on "The X-10 Graphite Reactor" and Eugene Wigner on "Prospects in Nuclear Science" in the X-10 Central Auditorium.

Palfrey and I held a press conference with newspaper reporters at the Holiday Inn.

I had dinner at the Oak Ridge Country Club. Thirty or so people, who were here 20 years ago, attended.

I spoke to about 1500 people (the largest crowd ever) in the Oak Ridge High School auditorium on "The New Elements - Plutonium and Beyond." I was introduced by Larson.

Twentieth Anniversary Celebration to retire the Oak Ridge National Laboratory Graphite Reactor, November 4, 1963

Doan, Weinberg and Seaborg

Tuesday, November 5, 1963 - Oak Ridge - D.C.

At breakfast in the Holiday Inn, I had the pleasure of informing Wigner that he is sharing the 1963 Nobel Prize in Physics. I had just heard this on the television show, "Today."

Accompanied by Wigner, Palfrey, English and Fritsch, I flew back to Washington on United flight 318 which left at 9:20 a.m. and arrived at 11 a.m. Wigner and I participated in an informal press interview at National Airport.

At 3 p.m. I met with T. F. Nagey (Allison Division, General Motors) to hear the latest on their work on the fuel cycle and applicability of MCR, for which he, and two associates (Mallon of G.M. and Howard Schwartz of United Nuclear), gave a strong pitch.

I hosted a Tightrope Meeting at the Metropolitan Club. Palfrey and Ramey were present as special guests and other attendees included Najeeb Halaby (FAA), Alan Boyd (CAB), John Macy (CSC), Joe Swidler (FPC), William Cary (SEC), Paul Dixon (FTC), Laurence Walrath (ICC), Kermit Gordon (BOB) and Dan Fenn (Tariff Commission). Among other things, we discussed the AEC regulatory program and the progress of the Savannah.

Wednesday, November 6, 1963 - Germantown

At 10:15 a.m. the Commissioners met Jack (William J.) Howard who will be Jerry Johnson's replacement as MLC Chairman.

At 10:30 a.m. I presided over Information Meeting 321 (notes attached). We discussed our letter on dispersal to the Secretary of Defense (copy attached). We also noted a letter from Edward A. McDermott (OEP) regarding readiness posture, a letter from Attorney R. Morton Adams regarding an application of Basic Science Foundation, Inc., offering terms for settling their claim for patent compensation, and a letter from McDermott regarding emergency evacuation (copies attached).

At 11:40 a.m. I presided over Commission Meeting 1970 (action summary attached).

At 2:30 p.m. I met with Dr. Francis Poor to learn of his visits, with John Vinciguerra, to officials at Harvard, Yale, Princeton, Columbia, M.I.T., etc. to discuss their objections to AEC contracting and consultants practices (on reporting outside income, etc.). These university representatives have a point and I shall continue to try to make AEC practices in such matters more acceptable to universities.

Wells called me to ask whether some of our Division Directors should go to specific places during the USSR delegation visits, i.e.: Dr. English, to BNL and Princeton; Dr. McDaniel, to Berkeley, and Dr. Pittman, to Idaho Falls, Ames, Dresden and Argonne. I told Algie to go ahead and make the arrangements for it would provide an excellent opportunity for exchange.

Thursday, November 7, 1963 - D.C. - Norfolk - D.C.

Accompanied by Arnie Fritsch, I flew to Norfolk on National flight 283, which left at 10:30 a.m. and arrived at 11:20 a.m. Due to severe weather conditions our plane actually landed at Newport News.

I spoke at the National Convention luncheon of Sigma Delta Chi (a professional journalistic society) at the Golden Triangle Hotel in Norfolk. After being introduced by an old friend National President Walter Burroughs, Newport Beach

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COPY NO. 2
November 6, 1963

INFORMATION MEETING 321

10:30 a.m., Wednesday, November 6, 1963, Room A-457, Germantown, Md.

1. U.S.S.R. Delegation Visit in November

The Commissioners discussed possible changes in their respective participation and the General Manager suggested the JCAE be given the itinerary and invited to join the group. It was also suggested that Messrs. Wiesner, Rollefson, and Benedict and perhaps others be invited to accompany the visitors. (Brown-Henderson)

2. NSAM 269

Noted.

3. Transmittal of LRL Study to the JCAE

The letter to the JCAE will say this matter is in joint study and Mr. Palfrey said he would discuss the matter with Harold Brown, DOD.

4. Proposed Letter to Secretary of Defense re Dispersal

The Commissioners requested further staff review and discussion with Commissioners Ramey and Palfrey. (Betts)

5. MURA Accelerator Project

The Chairman will sign the letter to the Bureau and the proposed letter to Dr. Ramsey is to be circulated for the Commissioners' review. Mr. Ramey commented briefly on the possible alternative of requesting a detailed design study instead of project authorization. The General Manager noted the request for funds for the model magnet and the Chairman requested deferral of the authorization until early December. (McDaniel)

6. Appointment of Maritime Administrator

The Chairman suggested the Commissioners consider this matter,

7. Visit to Australia

The Chairman noted Mr. Ramey may visit Australia during his trip to India in January.

✓ 8. October 30 Letter From Edward A. McDermott, OEP, re Readiness Posture

Noted.

9. November 13 Hearing - House Select Committee on Small Business

In response to the Chairman's query, the General Manager said staff will testify.

10. Senate Labor Subcommittee Hearing on Manpower (November 25)

The Chairman suggested Mr. Ramey may be able to testify.

11. Possible Senate Appropriations Hearings, November 25 or 26

✓ 12. October 24 Letter From R. Morton Adams re Application of Basic Science Foundation, Inc.

The Chairman suggested the Commissioners consider this matter.

13. Govenor Egan's October 29 Letter re Radiation Laboratory in Alaska

Noted.

14. SNAPSHOT Program

The Chairman noted the DOD request for AEC to assume complete responsibility. The General Manager is discussing the matter with the BOB and has requested DOD to transfer $9.3 million to AEC.

15. FY-1965 Budget Discussions at BOB

In response to the Chairman's query, the General Manager reported briefly on the status of the discussions.

16. House Markup of FY-1964 Budget

The General Manager said he had no information on the status.

✓ 17. Edward A. McDermott's November 4 Letter re Emergency Evacuation

The Chairman noted space available for Mr. Palfrey.

18. Stuart Pittman's Response to Oak Ridge Proposal re Civil Defense Program

Noted.

19. Interdepartmental Meeting, November 7, to Discuss Saline Water Study

Mr. Ramey discussed briefly the policy questions raised in the draft report and the Commissioners agreed it should be circulated for review by them, staff and Dr. Weinberg.

20. Consent Items

Approved.

a. AEC 25/282 - Proposed Navy Safety Rules. (Betts)

b. AEC 25/283 - Proposed Navy Safety Rules. (Betts)

c. AEC 89/16 - Visit of British National. (Smith)

21. Pending Contractual Matters

To be scheduled for Friday, November 8. In response to Mr. Ramey's query, the General Manager said he would look at the proposed contract with the Martin Company - AT(30-1)2871 (October 17 Report). (Secy)

22. Commissioners Planning Calendar (See Secretary's October 16 Memo)

Approved. (Secy)

23. Transmittal of Information to Italy (General Manager's November 6 Memo to the Commissioners)

The General Manager requested review of the analysis. (Henderson-Secy)

24. Assistance to Universities re Transportation of Research Reactor Fuels for Reprocessing

The Commissioners had no objection to the General Manager's recommendation. (Poor)

25. Proposed Letter to Dr. Eklund re Saline Water Studies

For circulation and discussion on Friday. (Henderson-Secy)

26. Proposed Personnel Action

The Commissioners requested further consideration. (GM)

27. Proposed Letter to Secretary of Defense re Dispersal

The Chairman requested early review and dispatch.

PRESENT		DISTRIBUTION
Dr. Seaborg	General Luedecke	Commissioners
Mr. Palfrey	Mr. Hollingsworth	General Manager
Mr. Ramey	Mr. Ferguson	General Counsel
	Mr. Brown	Secretary
	Mr. Henderson	
	Mr. McCool	

W. B. McCool
Secretary

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

OFFICE DIARY
GLENN T. SEABORG
Chr USAEC, 1961-72
FOLDER-PAGE 35017

NOV 6 1963

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Dear Ros:

This is in response to your letter of October 4, 1963, requesting the Commission's view, as required by National Security Action Memorandum (NSAM) 197, on a program involving MK 30, MK 45, and MK 54 warheads to provide Atomic Demolition Munition support to non-US NATO Forces.

The Commission, in reviewing the proposed program, has no objection to the proposed action and concurs in the Memorandum for the President on the basis of the understanding noted below, and understands that you will provide these considerations to the President.

This dispersal contemplates the need for training [redacted] forces to achieve an ADM capability including the communication of certain weapon design information [redacted] and involves, therefore, the need for a statutory determination at an appropriate time in the future. The Commission understands, based upon discussions with the Department of State, that neither the Test Ban Treaty nor anything in its legislative history, including Secretary Rusk's letter of August 17, 1963, to Senator Fulbright, is intended to affect our program within NATO for developing the capacity of the Alliance to defend itself, nor does it affect the Agreements for Cooperation for Mutual Defense Purposes with member nations entered into under the Atomic Energy Act to carry out this program. The Commission would, therefore, be guided by the same considerations as it has in the past in joining in any determinations with respect to [redacted] to carry out this program; namely, the information, including weapons design information, that may be communicated will be limited to that which will not contribute significantly to the French weapons design capability.

The Commission will be prepared to consider promptly joining in any necessary determinations on this basis and upon your recommendation after the proposed program is approved by the President.

CLASSIFICATION CANCELLED
WITH DELETIONS
BY AUTHORITY OF DOE/OC
REVIEWED BY 6/17/86
DATE 6/17/86

The Commission also understands that the weapons dispersed under this program will remain in existing storage sites until release is granted by the President. After the non-US units, which will be trained to use these weapons, become operational; the Commission plans to join with the Department of Defense in a survey of the security measures in effect to protect the Restricted Data involved.

Sincerely,

(Signed) Glenn T. Seaborg

Chairman

Honorable Roswell L. Gilpatric
Deputy Secretary of Defense

cc: The Honorable Dean Rusk
The Secretary of State

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF EMERGENCY PLANNING
WASHINGTON, D.C. 20504

OFFICE OF THE DIRECTOR

OCT 30 1963

DNCL. BY DOE
NOV 86

Honorable Glenn T. Seaborg
Chairman, Atomic Energy Commission
Washington, D. C. 20545

9:55 10/31/63

Dear Mr. Chairman:

It would be inappropriate to permit this anniversary of the Cuban crisis to pass without recalling the important emergency preparedness experiences we shared during those days of tension.

Within those few days the readiness posture of the Federal agencies improved tremendously. This improvement resulted principally from the executive-level attention focused on the problem. Such attention must be continuously present. The President has admonished us to maintain our vigilance; he reached the heart of the matter when he said, "...leadership is particularly needed during quiet periods when little public enthusiasm can be expected for such activities."

I strongly urge you to personally assure that the deficiencies identified during that crisis have been corrected to the maximum extent and that the readiness posture of your agency has continued to improve. Please comment on your findings and actions in your next semiannual report under the provisions of OEP Circular 7400.1.

If we can be of assistance to you, do not hesitate to call on us.

Sincerely yours,

Edward A. McDermott
Director

PENNIE, EDMONDS, MORTON, TAYLOR AND ADAMS

...DS
...RTON
...LOR, JR.
...ADAMS
...OUNG
...LAIST
...ELD, JR.
...N MORTON, JR.
...SEAGRAVES
...AS E. REDDY, JR.
...TON T. LAWRENCE, JR.
...TON S. NEILL
...OLD A. THAYER
...HILIP ANDEREGG
...ERT G. MOORE, JR.
...NK F. SCHUCK
...OE C. METZGER
...ERT MCKAY

COUNSELLORS AT LAW

247 PARK AVENUE

NEW YORK, N. Y. 10017

WASHINGTON OFFICE
PENNSYLVANIA BUILDING
WASHINGTON, D.C. 20004

ASSOCIATES

RAYMOND B. CANFIELD
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LESLIE MISFOCK
CHARLES J. BROWN, JR.
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KEITH E. MULLENGER
DAVID WEILD, III
CHARLES E. MCKENNEY
JAMES G. FOLEY
PETER W. KIEHBIEL
DONALD J. GOODELL
HARRY C. JONES, III
KENNETH R. SCHAEFER

October 24, 1963

United States Atomic Energy Commission
1717 H Street
Washington 25, D. C.

UNCL. BY DOE
NOV 86

Attention: Dr. Glenn T. Seaborg, Chairman

Re: Application of Basic Science Foundation, Inc., John R. Dunning and Eugene T. Booth, Patent Compensation Board Docket No. 24

Honorable Commissioners:

I am authorized by Basic Science Foundation, Inc. and by the individual applicants in the above-identified Application, to propose to the Commission that the Commission and the applicants attempt to negotiate a mutually satisfactory settlement of the claims and applications stated in the Application. Inasmuch as this proposal is intended to include claims that Dr. Aristid von Grosse and Dr. Alfred O. Nier as individuals may have in addition to those of Dr. Dunning and Dr. Booth, it is suggested that it may be desirable to add Dr. von Grosse and Dr. Nier as parties.

Re Basic Science Foundation Claim

The claim of the Basic Science Foundation, Inc. is made under the provisions of Section 183 of the Patent Act of 1952. The following brief statement is, I believe, supported by the record made to date before your Patent Compensation Board.

The Foundation is the assignee of the entire right, title and interest in and to United States patent application of John R. Dunning and Eugene T. Booth, Serial No. 316,892, which discloses and claims a gas diffusion process for production of uranium enriched in the isotope U-235. Said patent application has been held allowable by the United States Patent Office with eight claims. The Foundation bases its claim for compensation upon the use by the Government of the invention claimed in this allowable patent application.

The Foundation is informed that the Government has used the gas diffusion process described and claimed in said application in its plants at Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio. The Foundation has been advised that substantially all uranium enriched in the isotope U-235 which has been produced by the Government has been produced by the use of this process. The Foundation is not informed as to the actual extent of use of the process by the Government or as to the quantity of enriched U-235 produced. Lacking such information, the Foundation is unable to compute the compensation which would be due on the basis of a reasonable rate of royalty. However, on the basis of published statements by the Commission and certain assumptions, what is believed to be a minimum figure can be computed. Statements published by the Commission have indicated that the production equivalent of 140,000 Kilograms of highly enriched U-235 have been set aside for sale. Assuming that the total production, including production for military purposes, is at least twice* this amount and that its fair value is $12.00 per gram, which is approximately the Commission's published price for U-235 of 90% concentration, and assuming a low royalty rate of one-tenth of one percent, the amount due claimant would be approximately $3,400,000. It is believed that a royalty rate of one-tenth of one percent is an extremely low rate. A rate of one percent is generally regarded as a low rate and at this rate the compensation due the Foundation would be ten times as much, or approximately $34,000,000.

The extensive proceedings to date and the prospect of even more extensive proceedings in the future have forced the Foundation to the conclusion that the prosecution of its claim to meet all the contentions raised by Government counsel is far beyond its resources, both in time and money. The present offer to settle is based on the reluctant realization of this fact.

For this reason, and in spite of its belief that a full exposition of the facts would completely support its position and overcome all contentions by Government counsel, the Foundation offers to settle on the basis of payment to it of $1,700,000. This amount is approximately half the compensation which would be due the Foundation based on the assumptions set out above at the very low royalty rate of one-tenth of one percent. The result of a settlement of the Foundation's claim

*The Patent Stature under which the Foundation is claiming, namely, 35 U.S.C. 183, provides that the period for which compensation is to be made begins with the first use of the patented process, even though that date precedes the holding by the Patent Office that a patent is allowable.

on this basis would be not only to make this settlement on the basis of a very low rate, but also, in effect, to apply it to the use of the method for non-military purposes (namely, the 140,000 Kg of U-235 for sale), and thus make the use of the method for defense purposes entirely free of royalty.

The Foundation is also willing to consider releasing all claims against the Government, not only under application Serial No. 316,892, but also under all other patents and applications held by it. Also, it is willing to consider transferring to the Government the actual title to application Serial No. 316,892, and to all other relevant patents and patent applications owned by it. These other patents and applications are identified in a list annexed hereto as Schedule A.

The Foundation would like to note that although the individuals, Dunning, Booth, von Grosse and Nier, have a part interest in any amount that may be received by the Foundation as compensation under the Patent Act, the Foundation has no participation in any award that may be made to the individuals.

It is believed pertinent to direct attention to the circumstances which brought the patent application Serial No. 316,892 and other patents and patent applications into existence. In the early stages of the development of the gaseous diffusion method by Drs. Dunning and Booth and their associates, and before the Government had begun to participate in any way in the effort, Dr. Dunning and his colleagues recognized that the isotope separation method (as well as others of their inventions) would probably have great technical and economic value for ordinary commercial purposes as well as for military purposes. They anticipated that the income to be derived from licensing the use of their inventions might be very large and decided that such income should be utilized for the advancement of science and technology. To this end they filed patent applications on their work and transferred them to a non-profit corporation under a formal agreement which provided for a certain portion of the income to go to the individual inventors and for the major portion of the anticipated income to be used to promote scientific research. This original purpose of the inventors was frustrated because of the Government's determination in 1946 that the exploitation of atomic energy both for commercial purposes and for military purposes would be conducted entirely by the Government and that the production of fissionable materials such as U-235 would be performed solely by the Government. Thus, this anticipated normal private commercial use was eliminated. The entire use of the inventions was concentrated in the Atomic Energy Commission and compensation of any kind to be obtained

by the inventors from the use of the inventions was to be obtained from the Government.

The original non-profit corporation which was formed to hold the patent rights according to the plan of the inventors was known as Atomic Pioneers, Inc. Basic Science Foundation, Inc. is a non-profit corporation subsequently formed to take over all the patent rights from Atomic Pioneers, Inc., and to administer them in carrying out the purpose of collecting compensation for their use and of making certain payments to individuals and using the remaining monies in the interest of scientific research.

Re Application for Awards to Dunning, Booth, von Grosse and Nier

The contributions of the individual applicants upon which the application for an award is based are partially set out in the testimony of Drs. Dunning, Booth and von Grosse, which has already been adduced before the Patent Compensation Board. Briefly, they are as follows:

1. In January, 1939, immediately following the first reports of the discovery of nuclear fission by Hahn and Strassmann, Drs. Dunning and Booth independently demonstrated the fission of uranium nuclei by neutrons. This is credited as the first such demonstration of fission in the United States.

2. Drs. Dunning, Booth and von Grosse then undertook to determine whether the fission of uranium nuclei by thermal neutrons occurred in the isotope U-235 or in the isotope U-238. To this end, they enlisted the cooperation of Alfred O. Nier of the University of Minnesota. By the application of unusual skill and repeated effort, Nier finally succeeded in separating sufficiently pure samples of the two isotopes in quantities large enough to test. It is believed that this was the first separation of these uranium isotopes in substantial, usable quantities by anybody. These samples enabled Drs. Dunning, Booth and von Grosse to perform the fission experiments necessary to determine the part played by U-235. In addition to this vital contribution to the development of the initial concepts that led to the production of the atomic bomb as well as to many forms of nuclear reactors for peaceful applications, Dr. Nier continued to render unique and invaluable services to the development of the gaseous diffusion method of isotope separation. Dr. Nier's participation began a considerable time before the Government began to

support the work and continued for several years thereafter. Although some of Nier's achievements are referred to in the testimony of Drs. Dunning, Booth and von Grosse, the details have not been developed in full. Nier's unsurpassed knowledge and ability in mass spectroscopy was not only of incalculable value to Dunning's original investigations at Columbia; it was equally valuable to the electromagnetic separation project centered at the University of California, where Nier went to work with E. O. Lawrence. Subsequently, Nier joined Dunning's group at Columbia, and assumed the responsibility for developing analytical techniques for the project. Later he made significant contributions to the instrumentation of the gaseous diffusion plant at Oak Ridge.

3. Making use of the samples of separated isotopes prepared by Nier in March, 1940, Dunning, Booth and von Grosse confirmed their belief that fission of uranium nuclei by thermal neutrons occurred in the isotope U-235. Thus, Dunning, Booth and von Grosse finally settled by experimental demonstration a very important matter over which leading atomic physicists were divided for more than a year.

4. With this demonstration the need for industrial quantities of U-235 became certain and Dunning and Booth, assisted by the chemist, Dr. Aristid von Grosse, immediately undertook to devise a practical method for separation of uranium isotopes and concentration of U-235. Early in 1940, they considered several theoretically possible methods including electromagnetic separation, centrifugal separation and various forms of diffusive separation. To Dunning and Booth, each of these methods, except gas diffusion through solid membranes, had inherent theoretical and practical limitations which they believed made the methods unsuitable for large scale operation. Although some of the other methods were under active development by well known scientists and even though some eminent authorities contended that the Dunning and Booth concepts were unworkable, Dunning and Booth believed that a system based on diffusion of a gaseous compound through solid membranes held the greatest promise, and they proceeded to develop the essentials of the method, aided by Dr. von Grosse, who brought to the project his long experience as a chemist and his particular knowledge of uranium hexafluoride. von Grosse urged its use in spite of its corrosive properties and determined the materials which, alone or with treatment devised by him, were able to withstand its highly corrosive action. He and Booth performed extensive experiments using

those materials, thereby acquiring practical experience in handling the corrosive and reactive uranium hexafluoride, and demonstrating that continuous diffusion separation using uranium hexafluoride was practical in spite of its corrosive nature.

Dunning, Booth and von Grosse first proposed their method to the Uranium Committee in November, 1940. They requested financial assistance for their work then and on several occasions thereafter, but they were unable to obtain any help. Meanwhile, they continued to develop the method with their own funds, using the laboratory facilities available to them in the Physics Department of Columbia University. Not until July, 1941, did the Government indicate its willingness to assist the work Dunning and Booth were doing.

Before Dunning and Booth received any significant support for their work, they had established the ranges of essential operating conditions for a large scale plant. They had also investigated many types of diffusion barriers or membranes and Booth had demonstrated the capability of several types of barriers to actually separate gases. Booth had also made and tested the type of barrier which was soon used in the first successful separations of uranium isotopes by the gaseous diffusion method.

In October, 1941, Columbia University finally received a contract for $25,000. to investigate the gaseous diffusion method. Dunning was appointed the chief investigator. However, the real promise of the gaseous diffusion method was not fully appreciated by the Government's advisors until 1942. Then the resources of the Government began to be put into the development of the method on an ever increasing scale. The technical and economic success of the Dunning and Booth method in the K-25 plant at Oak Ridge, and in subsequently built plants, is eloquent testimony to their foresight and determination. It is believed that all of the concentrated U-235, or substantially all of it produced to this time, has been produced by the Dunning and Booth method.

5. In the face of strong opposition of others who did not believe that the gas diffusion process as proposed by Dunning and Booth was feasible, Dunning and Booth persisted and their view was finally adopted.

General Groves in May of 1950 wrote: (a copy of the letter is attached to Paper No. 28 of Office of General Counsel Exhibit 3)

"There was ... a great deal of adverse opinion among many scientists, and even among the group at Columbia, as to the possibility of our being able to make the gas diffusion process an operable affair.

"Despite 'the prophets of doom' among many of the scientific leaders, with respect to this phase of our work, Dr. Dunning never varied in his optimistic attitude. He was a great bulwark to me, as we were proceeding against the very positive advice of many distinguished scientists."

"He stood up against the freely expressed scientific opinion that the task at Oak Ridge was an impossible one from the scientific and technical standpoints. Particularly was this true in regard to the solution of the barrier problem and with the general operability of the entire system."

"... I feel very strongly that Dr. Dunning has not been appreciated by the country for his work on the Project, and primarily, he has not received the credit due him for his scientific anticipation or intuition and for his courage in standing up against the opinions of his fellow distinguished scientists."

The Atomic Energy Commission in its "AEC Handbook on Oak Ridge Operations" has paid tribute to Dr. Dunning and those with whom he worked, saying:

"The first gaseous diffusion plant - its structure and equipment - has been described as a monument to the ingenuity and vision of America's top scientists and development engineers, headed by Dr. Harold C. Urey and Dr. John R. Dunning, both of Columbia University; and P. C. Keith of the Kellex Corp.; and Dr. George T. Felbeck of Carbide."

The foregoing is a bare outline and does not attempt to set forth the full contributions of the individuals or cite the many published references to their work.

Claimants are unable to suggest any "formula" for an award and are reluctant to suggest an amount, feeling that the matter is one involving fundamental policy of the Government acting through the Atomic Energy Commission to reward the efforts of the Nation's scientists and thus stimulate efforts by others. Claimants also are reluctant to suggest any relative evaluation of the contributions of the several individuals. It can be stated, however, that the individuals have agreed among themselves that they prefer to share equally any amount awarded by the Commission to them as a group. Although, as stated, applicants are reluctant to suggest an amount, this is an offer by claimants to settle the matter by agreement and it is suggested that $800,000. would be an acceptable amount.

Conclusion

In summary, it is proposed that the claim of Basic Science Foundation be settled by agreement for a sum of $1,700,000. and that the award to the individuals be $800,000. -- a total of $2,500,000.

If the suggestion that the Commission and the applicants attempt to negotiate a mutually satisfactory settlement is looked upon with favor, I should appreciate your advising me as to the next steps to be taken to that end.

The foregoing suggestion of settlement and the statements made herein are made without prejudice to the parties in further proceedings.

Very truly yours,

R. Morton Adams

R. Morton Adams

Enc.

SCHEDULE A

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NOV 86

PATENTS AND APPLICATIONS OWNED

BY BASIC SCIENCE FOUNDATION, INC.

Application Serial No. 372,686, Filed December 31, 1940, by J. R. Dunning, E. T. Booth, A. V. Grosse and A. O. Nier, for "Production of Atomic Energy".

Application Serial No. 584,864, Filed May 14, 1956, by J. R. Dunning and E. T. Booth, for "Production of Atomic Energy".

Application Serial No. 316,892, Filed October 25, 1952, by J. R. Dunning and E. T. Booth, for "Uranium Isotope Diffusion System" based on Application Serial No. 533,378, Filed April 29, 1944 (now abandoned).

Application Serial No. 524,030, Filed July 25, 1955, by J. R. Dunning and E. T. Booth, for "Uranium Isotope Diffusion System".

Patent No. 2,533,315, Issued December 12, 1950, to A. V. Grosse, for "Treatment of Uranium Chlorides".

Patent No. 2,533,316, Issued December 12, 1950, to A. V. Grosse, for "Handling of Uranium Hexafluoride in Vessels of Glass and Silica".

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF EMERGENCY PLANNING
WASHINGTON 25, D.C.

OFFICE OF THE DIRECTOR

NOV 4 1963

PERSONAL

UNCL. BY DOE
NOV 86

Honorable Glenn T. Seaborg
Chairman, Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Chairman:

As part of the total effort to improve the readiness of the Federal Government to meet an emergency, we are endeavoring to improve our capabilities for transporting key Government officials under the Joint Emergency Evacuation Plan (JEEP). One objective in this undertaking is to reduce to a minimum the reaction time in the JEEP system.

We are now in the process of establishing a new and more appropriate distribution of the spaces in the helicopters assigned to the JEEP mission. In addition, other helicopter pick-up points are being established, new procedures developed, and improved instructions prepared.

Your Agency has been allocated one space. In order that the system may be upgraded to its optimum point, the person designated should be selected on the basis of his capability to represent the Commission at the policy and decision-making level and for his ability to respond with the most dispatch for arrival at the departure point (the West side of the Ellipse) within the very limited time allowed (ten minutes).

After we have received your designation, we will arrange through your Defense Coordinator to provide the necessary detailed instructions.

I wish to thank you for your assistance in this matter and will appreciate receiving notification of your JEEP designation within the next two weeks.

Sincerely,

Edward A. McDermott
Director

GSA FORM NO. 10
5-53-104

UNITED STATES GOVERNMENT

Memorandum

DECL. BY DOE
NOV 86

TO : A. R. Luedecke, General Manager

DATE: November 6, 1963

Approved _____
A. R. Luedecke

FROM : W. B. McCool, Secretary Original signed W. B. McCool

Date _____

SUBJECT: ACTION SUMMARY OF MEETING 1970, WEDNESDAY, NOVEMBER 6, 1963, 11:40 A.M ROOM A-410, GERMANTOWN, MARYLAND

SECY:GF

Commission Business

1. Minutes of Meetings 1946, 1958 and 1959

Approved, as revised.

2. AEC 353/13 - Proposed Increase of Membership for Advisory Committee on Medical Uses of Isotopes

Approved, as revised. (Lowenstein)

The Commission agreed with Dr. Tape's suggestion regarding Dr. Rossi's appointment to the Committee. (Lowenstein)

The Commission noted further consideration would be given to referring to the Committee as a panel. (Lowenstein)

3. AEC 653/100 - N. S. SAVANNAH Reactivation Plans

Discussed.

This matter is to be rescheduled after receipt of the ACRS letter on the matter. (Price/Pittman)

4. AEC 25/284 - Weapon System Safety Rules

Approved. (Betts)

5. AEC 25/285 - Joint Storage Board Report

Discussed.

I will reschedule this matter next week.

6. AEC 352/45 - Proposed Sale of Material to the United Kingdom

   Approved. (Betts)

7. AEC 20/151 - Proposed Stretch-Out Program

   Approved. (Faulkner)

8. AEC 1132/6 - Draft Authorization Bill - Fiscal Year 1965

   Deferred.

9. AEC 1095/27 - AEC Long Range Plan, 1964-1973

   Deferred.

10. AEC 132/62 - Quarterly Report by Division of Inspection

    Deferred.

cc:
Commissioners
General Counsel

California, I gave my talk, "Why Nuclear Power?" It was well received by an audience which included about 200 newspaper, television, radio and magazine reporters, about 100 college students, and about 50 faculty advisors of undergraduate chapters. William B. Arthur, Editor of Look magazine, was Chairman of the Convention and Gardner (Mike) Cowles, Head of Look magazine and National Honorary President of the Society, also participated in the program.

I then held a press conference where I was questioned by the students on the Soviet delegation return visit, nuclear power for naval surface ships, the effect of the test ban treaty on PLOWSHARE, IAEA safeguards on by-product plutonium, the planned third Geneva Peaceful Uses Conference, the future budget of the AEC, the rate of spending for civilian nuclear power, etc. All went very well.

Fritsch and I flew back to Washington on United Flight 181. We left at 5:30 p.m. and arrived at 7:40 p.m. We were delayed at both ends because of inclement weather.

Friday, November 8, 1963 - D.C.

Kermit Gordon called at 9:45 a.m. He said he had just received my letter of November 6th (copy attached) relating to the MURA accelerator and asked I fill him in on changes since my September budget position. I told him that Wiesner talked with the President and that my understanding is after he talked with the President, we should go ahead. Gordon said that Wiesner has not talked with him (Gordon) as I thought he had. I told Gordon that we would like to trim the project down a bit and put it at the Argonne site or at least look at it from that point of view, but that Wiesner thinks it should be at Madison. However, it would not be a part of the Argonne organization for historical and various other reasons; but, if that site is suitable for an accelerator that could be expandable in the distant future (say, ten years from now), we might avoid building a completely new national laboratory. I did say that I couldn't help feeling that there would be advantages for Argonne's having another laboratory next door.

He asked my feeling on what the effect of positive thinking on the schedule of MURA would have in going ahead with the higher energy accelerator; the Ramsey Panel had said they would regard this as an extra free project. I said I agreed with this philosophy, but I feared it would actually have a negative effect. He asked what I thought the Ramsey Panel would do when they reconvened--what kind of questions would be brought up. I said they would discuss such questions as location; whether they would lower the energy and decrease the cost but at the same time have more growth potential and design. They will, of course, re-examine the whole project. I told Gordon I am writing a letter to the Ramsey Panel; and I, personally, feel that before any decision is made we should have their report in hand. He asked me to send him a copy of my letter which I said I will do. He also said he will call Wiesner.

At 10:10 a.m. I presided over Information Meeting 322 (notes attached). We discussed a letter to Ramsey (copy attached) suggesting that the MURA accelerator be reduced to 10 BeV and be built at Argonne instead of Madison. These suggestions are to be used as the basis for a meeting of the Ramsey Panel on November 16th and 17th to reconsider the MURA question. The Commission also discussed a letter from attorney R. Morton Adams (copy attached on November 6th) suggesting a settlement of the Dunning-Booth patent compensation claim at a compromise figure of $2.7 million (for Basic Science Foundation) plus $800,000 for the four inventors--John Dunning, Eugene Booth, Alfred Nier and Aristid Grosse.

From 12 noon to 12:15 p.m. I met alone with President Kennedy to discuss with him a question in weapons technology and how this might affect the time scale in which the French might be able to produce and successfully test thermonuclear weapons in

NOV 6 1963

UNCL. BY DOE NOV 86

Dear Mr. Gordon:

On September 27, 1963, the Commission forwarded to you its budget estimates for Fiscal Year 1965, and noted that a specific proposal for the MURA Accelerator Project was not included. The Commission considered that further discussions were necessary especially with the Office of Science and Technology. We have had further discussions with Dr. Wiesner and we have also recommended that the GAC-PSAC (Ramsey) Panel be reconvened to review the earlier conclusions in the light of developments and discussions which have taken place since last April.

Prior to December 1, 1963, the AEC expects to forward to the Bureau of the Budget for inclusion in the Fiscal Year 1965 budget a specific proposal for construction of a high intensity accelerator in the Midwest. We are anxious that this proposal reflect the latest considerations, and will, therefore, await the deliberations of the Ramsey Panel before making our final recommendation.

I realize that this is extremely late in the budget cycle; however, it is my belief that we should provide the most constructive proposal possible for consideration by the President.

Sincerely yours,

(Signed) Glenn T. Seaborg

Chairman

Honorable Kermit Gordon
Director
Bureau of the Budget

Chairman (2)
General Manager
AGMRD

RES:DIRECTOR AGMRD AGM DGM GM

PWMCDANIEL/jh

10/29/63

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

UNCL. BY DOE
NOV 86

COPY NO. 2
November 8, 1963

INFORMATION MEETING 322

11:00 a.m., Friday, November 8, Chairman's Conference Room, D. C. Office

1. Appointment of Assistant Director of Regulation

The Commission approved Mr. Price's recommendations. (Tackman)

2. Chairman's Testimony for November 18 Hearing of the Select Committee on Government Procurement

The Chairman requested preparation of a draft. (English-Fritsch)

3. October 31 Letter From J. F. Black re Advisory Committee on Isotopes and Radiation Development

In response to the Chairman's comment, the General Manager said the letter is in staff review. (Aebersold)

4. U.S.S.R. Delegation Visit, mid-November

The Commissioners discussed their participation in the schedule and the Chairman will call Senator Pastore and Dr. Benedict.

5. Senate Appropriations Committee Hearing, Week of November 18

The Chairman suggested an attempt be made to schedule the Hearing the afternoon of November 18 and Tuesday, November 19.

6. Schedule of Speeches at AIF-ANS Joint Meetings in New York, Week of November 18.

The Chairman suggested Mr. Ramey call Chauncey Starr and Senator Anderson regarding their scheduled speeches and that Dr. Tape call Clark Williams, Deputy Director, BNL, regarding the speaking schedule.

7. Letter to Dr. Ramsey re GAC-PSAC Panel Meeting

The Commissioners approved the letter with minor revisions and the Chairman will sign today. (Brown)

8. Proposed Transmittal of Information to Italy

Deferred.

9. Special Review Committee

The Chairman noted the November 5 letter from Mr. Bundy regarding composition of the Committee. The General Manager reported early submittal of the special study requested by the Committee.

10. Letter to R. Morton Adams re Basic Science Foundation Application

The Chairman noted a staff analysis of Mr. Adams' proposal is forthcoming and the Commissioners agreed the proposed interim response to Mr. Adams should be transmitted.

11. Proposed Letter to John Conway, JCAE, Transmitting LRL Study

Discussed. (Brown)

12. Proposed Letter re Dispersal

The Chairman requested review by the Commissioners and early discussion. (Brown)

13. Saline Water Study

Mr. Ramey discussed briefly the task force meeting Wednesday and consideration of the Subcommittee report. The next draft is due for discussion at a meeting on December 6. Consideration is to be given today to the possibility of a contract for a joint AEC-Interior scoping study of dual and single purpose reactors in the 200 MW thermal to 1500 MW thermal range. (Vinciguerra-Pittman)

14. JCAE Query for Information re Supplemental Bill

The Chairman agreed the information should be prepared for early transmittal. Mr. Palfrey suggested preparation of a report describing the AEC-DOD coordinating mechanism. (Betts)

15. Proposed Letter to John Conway, JCAE, re Weapons Information

The Commissioners agreed the information may be transmitted.

16. Outstanding Tax Cases in New Mexico

The General Manager discussed briefly the proposed settlement figure for negotiation and the Commissioners requested a short memo on the matter. (GC)

17. Letter to Dr. Eklund re Proposed Study of Mexico-California Atomic Power-Desalination Plant

Approved. (Brown)

18. AEC Staff Participation in New York Briefing on Reactor Safety

The Commissioners agreed AEC staff should attend the briefing.

19. Advisory Committee on Isotopes and Radiation Development

The General Manager noted Mr. Ramey's query at Meeting 1970 and said he will review the matter.

20. House Appropriations Mark-up of FY 1964 Bill

The General Manager noted the possibility of a mid-November report.

21. Agenda for Week of November 11

Approved. (Secy)

PRESENT

Dr. Seaborg
Mr. Ramey
Mr. Palfrey
General Luedecke
Mr. Price*
Mr. Hollingsworth
Mr. Ferguson
Mr. Brown
Mr. McCool

DISTRIBUTION

Commissioners
General Manager
General Counsel
Secretary

W. B. McCool
Secretary

*Attendance for Item 1 only

NOV 8 1963.

UNCL. BY DOE
NOV 86

Dear Norman,

I am writing in response to our discussions at the last meeting of the General Advisory Committee and in accordance with the reminder contained in your letter of November 4 that a letter from us on some of the specific aspects of the NAL project would be helpful.

As I indicated to you and the other members of the GAC at your most recent meeting, there are several aspects of the present NAL proposal which the Commission believes require further consideration. We are concerned with the cost for both the initial facility and the continuing commitment for annual operations and with the need for construction of a new national laboratory. Furthermore, in the light of recent testimony before Congress, the support of additional funds for HEP will probably be increasingly difficult to obtain. Therefore, we hope that you will consider factors such as the energy of the accelerator, its location, and its future adaptability in order that the ultimate recommendation will represent the most scientifically useful facility commensurate with competition for other funds for support of high energy physics. A few specific comments may be useful:

1. Requirement for a National Laboratory

An endeavor of this size at a new site will require the establishment of a new national laboratory. We would like to minimize the number of new laboratories which must be started in the future. Because of their size the higher energy machines will undoubtedly require the establishment of new sites, and because of the character and purpose of the laboratories, these sites must become new national laboratories.

2. Usefulness to the Scientific Community

One can visualize some advantages to the users and to the AEC of a combined 200 and FFAG operation on the same site under one management (not necessarily the University of Chicago). Users would then work at one location under one laboratory management and would have access to either of the two machines, whichever is most appropriate to their immediate work.

3. Future Usefulness of the NIRA Machine

The existence of two machines of essentially the same energy in the Midwest may not satisfy the long-range needs. Considerations might be given to building now a lower energy NIRA, still meeting the objectives of the high intensity machine, with the expectation at some future date that it could be used as an injector for a higher energy machine.

The NIRA facility cost is now estimated at $160 million for construction at Madison. Estimates of annual expenditures after completion of the machine would probably average about $25 million; however, some estimates have run as high as $60 million. Significant reductions in these figures will influence a decision to go forward. However, for the present concept of a 12.5 Bev high intensity NIRA, any significant cost reduction will most certainly have to come from reduction in energy. Such a change must be weighed against the scientific benefits lost. Other reductions in cost or advantages in utility might be realized by choice of location.

I am pleased to know that the CAC-PAC Panel on High Energy Accelerator Physics will reconvene on November 16 and 17 to review its previous conclusions in the light of developments and studies which have taken place since the issuance of its report last April. As you know, the Executive Branch of the Government must soon make a firm

decision concerning the inclusion in the FY 1965 budget of an accelerator facility in the Midwest. This will be a most difficult decision to make and the Panel's guidance will continue to be valued. We are most anxious to assist in whatever manner you feel is desirable. Please let us know of your conclusions.

Sincerely,

(Signed) Glenn T. Seaborg

Glenn T. Seaborg

Professor Norman F. Ramsey
Department of Physics
Lyman Laboratory of Physics
Harvard University
Cambridge 38, Massachusetts

bcc: Dr. Jerome B. Wiesner
Mr. Kermit Gordon

the range of energy of 1/2 to 1, 2, 3 or 4-megatons. I explained to him means by which the French might be able to attain this objective sooner than most people think but I said I doubted the French have these particular methods in mind. We agreed this is something to keep in mind in connection with this general problem with the French, which includes their attitude toward the limited test ban treaty, but that no particular steps are called for at present. We also briefly discussed the matter of curtailment of fissionable materials production and possible timing with respect to such reduced production.

I had lunch at the White House Mess with Commissioner Palfrey.

At 2:30 p.m. I called Harold Brown to ask if his people are going to make an analysis of the Livermore plutonium study. He said they are, but it will take more time than they think. I said I just want to be sure they are working on it and he assured me they are.

At 3 p.m. I presided over Commission Meeting 1971 (action summary attached).

I called Senator Pastore at 5:20 p.m. to tell him I had just seen a copy of his press release on the JCAE inspection of worldwide atomic energy detection systems and that it looks good. I said my main purpose in calling was to inform him that the USSR scientific delegation return visit to the U.S. will definitely take place the last two weeks in November. We are suggesting a trip around the country for them (which they haven't yet accepted) which will include the University of California, Vallecitos, Idaho Falls, Hallam, Oak Ridge, Dresden, Indian Point, etc.

I asked Senator Pastore whether he would be interested in participating in any of this trip. He said he doubts he wants to go on any segments of the trip, but he will think about it and let me know. I said that individual members of the JCAE would probably like to join the group for visits to specific points; for example, Price to Argonne and Holifield to California, etc. He said he has no objection to any one of them joining the trip. I said we will contact the different members individually. I mentioned that he will have a chance to meet the Russian delegation when they come to Washington--specifically, at a reception and buffet supper at my home on Saturday, November 30th.

I wrote to Dr. Donald Hornig, Chairman of the Chemistry Department of Princeton University, to say how glad I am that he has been appointed to be science advisor to the President.

I attended a reception at the Mayflower Hotel honoring the Japanese Power Commission, led by Sasamori (Executive Vice President, Japan Atomic Power Company and Director Tokyo Electric Power Company) and Mita (Executive Vice President, Chubu Electric Power Company).

Saturday, November 9, 1963 - D.C.

From 9:30 a.m. to 10:10 a.m. Commissioner Palfrey and I met with Bundy in his office at the White House. We discussed the matter of possible cooperation with the French on underground testing in order that this might serve as an inducement to them to adhere to the limited test ban treaty, and induce them to refrain from testing in the atmosphere. We pointed out that it would be necessary to cooperate quite extensively with them in order to use scaled-up underground tests to go into the region of a megaton. We also pointed out that it would probably be necessary to have an agreement with France under Section 144c of the Atomic Energy Act in order to cooperate in this manner. We pointed out the relevance of Secretary Rusk's testimony before the Foreign Relations Committee last August, and I loaned him my copy of that transcript in order that he might read it.

FORM NO. 10
1010-104

UNITED STATES GOVERNMENT

Memorandum

UNCL. BY DOE
NOV 86

TO : A. R. Luedecke, General Manager

DATE: November 12, 1963

Approved _____
A. R. Luedecke

FROM : W. B. McCool, Secretary

Date _____

SUBJECT: ACTION SUMMARY OF MEETING 1971, FRIDAY, NOVEMBER 8, 1963, ROOM 1113-B, D. C. OFFICE

SECY:DT

Commission Business

1. AEC 1132/6 - Draft Authorization Bill - Fiscal Year 1965

Approved, as revised. (Abbadessa)

2. AEC 1095/27 - AEC Long Range Plan, 1964-1973

Discussed.

You said policy issues identified in AEC 1095/27 will be the subject of forthcoming staff papers.

Mr. Ramey requested future planning papers discuss more precisely AEC supported industrial laboratories. (Slaten)

Mr. Pittman noted staff has under consideration Commissioner Ramey's proposal re prior authorization for advanced reactors. (Pittman)

3. AEC 132/62 - Quarterly Report by Division of Inspection

Discussed.

The Commission noted Mr. Ramey's request that case studies be made of selected Second Round reactors. (Nelson)

Information Items

1. Dedication of ZGS - December 4

The Chairman said he had been invited to speak. An appropriate speech is to be prepared. (McDaniel/Pritsch)

2. Chairman's Testimony for November 18 House Select Committee Hearing

The Chairman briefly reported on his conversation with Congressman Elliot's assistant regarding the AEC statement. The Chairman said a statement should be prepared for possible use on the afternoon of November 18 and the possibility of a revised press conference schedule for the Russian delegation should be explored. (English/Wells)

3. U.S.S.R. Delegation Visit, Mid-November

The Chairman reviewed the Commissioners' schedule.

4. Appointment of New Member to ACRS

The Commissioners had no objection. (Secretary)

In response to the Chairman's query, you said recommendations on ACRS participation in review of aerospace projects would be forthcoming soon.

5. Overseas Detection Site Trip Report

Commissioner Tape reported on the reaction of the JCAE members to the operation of the sites and said the Committee expects to issue a statement to the press. Commissioner Tape also noted the conversation with the Spaniards re U.S. toll processing of Spanish uranium.

6. Proposed Transmittal of Information to Italy

The Commissioners said to proceed if you are satisfied.

7. Proposed Letter to the Secretary of Defense re Dispersal

To be considered on Tuesday, November 12. (Secretary)

8. Commissioner Ramey's and the General Manager's November 8 Meeting with Mr. Seamans

The General Manager briefly reported on the Meeting and noted the various alternatives for reorganization of the nuclear rocket development program. The Chairman requested consideration by Commissioners Ramey and Tape. (Secy)

9. Joint AEC-Interior Study Contract for Saline Water Project

Commissioner Ramey reported on his telephone conversation with Secretary Carr. The General Manager said a scope of work for the study would be drafted and interested companies would be invited to meet with staff to discuss the proposed study. (Pittman/Vinciguerra)

cc:
Commissioners

We discussed the matter of the Fermi Award's being given to Oppenheimer and whether it should be done by the President at the White House, or in the more regular manner, at Germantown, as had been done previously. Bundy will try to get an answer from the President on this early next week.

We also discussed Secretary McNamara's recent decision on the conventional aircraft carrier and explained why we think it is a mistake. We expressed concern regarding the President's comment at his recent press conference, backing McNamara on this decision, We pointed out the intense feelings of Senator Pastore and other members of the Joint Committee as well as all the skippers in the Navy who have been in charge of nuclear powered surface ships.

We discussed the matter of timing of the study on the 1972 stockpile of weapons. We pointed out the existence of the Livermore study on the advantages of increased use of plutonium, and he agreed that the Joint Committee's request for the staff evaluation of this study should be honored. He said that he and McNamara have discussed the timing of the 1972 stockpile study with Senator Pastore and that perhaps he (Bundy), Pastore and I should discuss this next week.

I explained to him Senator Anderson's intense concern regarding the appointment of Edward Teller as the Chairman of the School of Applied Science of the University of California, Davis, centered at the Livermore Laboratory.

I worked in the office until 2 p.m. and read AEC papers and journals at home.

Sunday, November 10, 1963

I read AEC papers and journals at home.

I took some Christmas pictures of the kids and a picture of Helen and Dianne with our dog "Butch."

Monday, November 11, 1963 - HOLIDAY

I accompanied Eric to a school benefit movie entitled, Sergeants 3.

I worked on AEC papers and took pictures of our house and another set of Christmas pictures.

3825 Harrison Street, Washington, D.C.

November 11, 1963 at the 3825 Harrison Street House

Dianne and Helen Seaborg with "Butch"

L to R: Peter, Steve, Eric, Dianne, Lynne and Dave Seaborg

Tuesday, November 12, 1963 - D.C.

At 9:55 a.m. I presided over Information Meeting 323 (notes attached).

At 11 a.m. Commissioner Ramey and I met with Bertrand D. Thomas and Sherwood L. Fawcett of Battelle Memorial Institute. We discussed the interest of Battelle in setting up a branch operation in the Richland area which would include operating the Hanford Laboratories.

Thomas, who has been Director of Battelle for five or six years, obtained his bachelor's and Ph.D. degrees from the University of Washington and is interested in the Northwest area. We explained that, in any arrangement, we would like to provide for the possibility that universities, like the University of Washington, might be involved in the operation of the biological aspect of the work at the Hanford Laboratories. We also explained that there might be difficulties with respect to the G.E. operation of Hanford in separating an operation like the Hanford Laboratories, as well as some difficulties in the retirement status of employees, etc.

Fawcett has talked to Holsted and Albaugh and will probably talk further. We also mentioned the possibility of their talking to the Evans, Chilton, Underhill, Beall Committee. We left it that we would get in touch with them if the interest of Battelle in the Hanford Laboratories would seem to deserve further exploration.

I called Manson Benedict at 12:05 p.m. to ask him whether he would care to join the USSR delegation on their trip in this country. He said it would be hard for him to do it, and therefore, he would prefer not to. However, he would be glad to give it consideration if there is a real need or if proprieties called for it. I said, under the circumstances, it would not be necessary, but if upon rereading the itinerary he should change his mind, I asked that he let me know. He said he would be in New York on November 19th - 21st for the AIF/ANS meeting. I suggested he make it a point to greet the delegation in New York at that time.

I called Ambassador Dobrynin at 12:10 p.m. to tell him that the USSR delegation will arrive at Idlewild at 6 p.m., Saturday, November 16th. I told him we have a proposed itinerary for the two-week visit which we are going to suggest to him. I said I will meet them upon their arrival in New York and will accompany them on a part of the trip. I also asked whether he would be interested in seeing a copy of the proposed itinerary, and he said he would very much like to see it. I said the American press would undoubtedly want to see the delegation and that we are setting up a press conference. He said there was no problem. I mentioned that the visit will end with a buffet supper at my home on Saturday, November 30th. I said we will send him an invitation and I hope he will be able to attend.

James Young (G.E., Palo Alto) called at 12:15 p.m. to set a date with me, and anyone else, for discussion of the Hanford planning problem. Things are moving ahead rapidly and they are thinking how they can serve the Commission and now have some suggestions. This will deal with future, diversification, production cutbacks, etc.--the total approach. We decided to meet on December 3rd.

At 2 p.m. I met with Dr. Edward Reynolds, President of the AUI.

I received a wire from the Citizens Committee Opposed to the Consolidated Edison Reactor and the Americans for Democratic Action, protesting my Norfolk speech on the basis that it prejudiced the Consolidated Edison (Ravenswood Plant) case, which, of course, is not true.

At 5:20 p.m. I called Harry Longway, Executive Director of the UCLA Alumni.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 2
November 13, 1958

UNCL. BY DOE
NOV 86

INFORMATION MEETING 323

10:55 a.m., Tuesday, November 12, Chairman's Conference Room, D.C. Office

1. Stennis Committee Declassification Request (AEC 116/51)

The Chairman signed the letter response submitted by the General Manager.

2. Proposed Transmittal of Information to Italy

The Commissioners noted that the General Manager had signed the letter to Capt. Bennett.

3. Proposed Letter to the Secretary of Defense on Dispersal

After brief discussion of possible revisions, the Commissioners agreed further review was necessary. (Betts)

4. LRL Study

The Chairman noted that the study had been dispatched to the JCAE following discussion with Mr. Bundy.

5. U.S.S.R. Delegation Visit, mid-November

The Chairman said he would plan to return to Washington Sunday evening, November 17, for the November 18 House Select Committee on Government Research hearings which suggests deferral of the press conference with the Delegation. The General Manager indicated that this could probably be arranged for Wednesday, November 20. The Chairman noted that he had called Senator Pastore regarding his participation in the visit and requested that the General Manager assure that other JCAE members are invited to participate in the parts of the visit of interest to them. The General Manager will issue today a final detailed schedule for the Delegation visit. (Wells)

6. Chairman's Testimony for November 16 Hearing on Government Research

The Chairman noted that Dr. Miller of Research Division is drafting the testimony. Mr. Ramey observed that an informal prior discussion with Congressman Price might be indicated. The Chairman said he was not expecting to testify in great detail. (McDaniel-Clark)

7. Mr. Lilienthal's Book, "Change, Hope and the Bomb"

The Commissioners noted the usefulness of the material provided by the Secretary and the Division of Public Information.

8. Telegram re Chairman's Norfolk Speech

The Chairman said he had just received a disturbing telegram from Messrs. Lyalya Herold, Si Tropp and Albert Sayer relating his Norfolk speech to the Consolidated-Edison plant. The Chairman requested that a reply be prepared promptly indicating that the response should be along the lines that there was no intention to refer to any pending case and giving reassurance that the Commission has an open mind in the matter. (Price-Clark)

9. Commissioner Ramey's Trip to Bettis, November 11

Commissioner Ramey reported briefly on his trip to Bettis with Congressman Holifield, Dr. Pittman and others for Admiral Rickover's briefing on the seed and blanket reactor. He indicated that the California State Water Board representatives, who also attended the briefi[illegible] appeared impressed and will be considering submitting a proposal to AEC. The California group was also interested in the prospects for desalination application. Mr. Ramey recommended that the other Commissioners take the opportunity to visit Bettis when possible. Dr. Seaborg said he is planning to visit Bettis in February.

10. SPERT-I Oxide Core Excursion Test

The General Manager reported on the experiment and said an analysis is being made.

11. Atomics International Contract Fee Negotiations

The General Manager reported on the status of the negotiations and said that he will present a paper for Commission consideration. (Vinciguerra)

12. Proposed Publication of General Counsel's Opinion in the Jersey Central Matter

After discussion, it was decided that the General Counsel would provide the Joint Committee a copy of the opinion and that it could be made available on request to the press. There should be no press release or publication in the Federal Register. (GC)

13. Navy Nuclear Propulsion Hearings

It was noted that the Secretary of Defense is scheduled to testify November 13.

PRESENT		DISTRIBUTION
Dr. Seaborg	General Luedecke	Commissioners
Mr. Palfrey	Mr. Hennessey	General Manager
Mr. Ramey	Mr. Ink	General Counsel
Dr. Tape	Mr. Brown	Secretary
	Mr. Hobbs	

F. T. Hobbs
Assistant Secretary

Association in Los Angeles, but he was traveling; so I spoke with his secretary. I told her that, in response to Longway's letter of November 7th, it would not be appropriate for me in my present position to participate in the nationally televised program, "Alumni Fun," sponsored by the American Cyanamid Company. I said I have to maintain an impartial broad relationship with universities everywhere. Participation in such a show could be misinterpreted. I said I would be glad to do something like this on a more appropriate occasion in the future if it should come up.

I sent my biweekly report to the President (copy attached).

Wednesday, November 13, 1963 - D.C.

I called Harold Brown at 10:30 a.m. and said we noted that Secretary McNamara is appearing before the Joint Committee this afternoon, and the Commissioners, in discussing the possibility of the new carrier's being a nuclear one, would like to suggest to the Secretary that this has great value to our technological program and we would be willing to help with the financing. Harold said he did not plan to attend the hearing with the Secretary but that he would mention this to him beforehand. I told Harold that a couple of our Commissioners plan to be at the hearing, and they probably will mention it too.

An explosion of some 13 tons of TNT, in storage at Medina Air Force Base near San Antonio, Texas, occurred at 11:35 a.m., EST. It caused quite a stir, but no one was seriously hurt, and no fissionable material was involved.

I called Ramsey at 12 noon to ask him whether we should send copies of the letter I sent him (attached on November 8th) to all the members of his Panel. He said it would be very helpful and invited me to sit in on their meeting. I said I appreciate the invitation, but I will be involved at that time with the USSR delegation and that Commissioner Tape will attend. He said, if they get into discussion on the site, they could decide that they haven't gone into it far enough and could leave it open for further discussion. I said that might be all right, unless there is a strong recommendation for the consolidation of the machine and the site. He said that whatever is done, there should be a maximum of coordination and cooperation between both the site and the machine. For them to specify the site would remove one of the pawns for negotiation.

I had lunch with Paul Aebersold at the Metropolitan Club.

At 3:30 p.m. I was interviewed by Stephen Burnstein, a Woodrow Wilson High School student, for an English class paper.

At 4:30 p.m. I met with Wiesner (in his office) and Ragnar Rollefson (State) to discuss my meeting with Secretary Rusk on Friday to discuss a program of free and unimpeded exchange with the Soviets in the field of high energy physics.

I received word that McNamara made some progress before the Joint Committee today in explaining his action in not converting a conventional carrier to nuclear.

Thursday, November 14, 1963 - Germantown

At 9:30 a.m. I called Sir Roger Makins in England to wish him well in his impending (February) retirement. He said this was something he had planned to do for many years when he became 60 years of age. He has also come to the conclusion that it is a good idea to pass the chair over to someone with a technical background. He and Lady Makins expect to take a trip after his retirement and will be traveling through Washington. As soon as his plans are fixed, he will write me. I asked him

November 12, 1963

UNCL. BY DOE
NOV 86

PERSONAL AND CONFIDENTIAL

Dear Mr. President:

I have the pleasure of submitting to you the regular bi-weekly report on significant developments in the atomic energy program.

1. JCAE Inspection of Detection Systems

At the request of the Joint Committee on Atomic Energy, several AEC representatives accompanied the Committee on their trip last week to look at some of the AFTAC nuclear weapon detection facilities located around the world. Since the trip was arranged through Defense and State Departments, it is assumed that the principal reporting will come from them. Our representatives believe the trip was very useful in that it provided an opportunity to further explain action under way within the Defense and AEC to fulfill the safeguards which you outlined at the time of the Test Ban Treaty debate in the Senate.

Upon his return, Senator Pastore stated: "We have returned from our inspection with a feeling of greater assurance in our ability to detect a violation of the Test Ban Treaty should such a violation occur. However, improvements are being -- and must continue to be -- made." We understand the Committee will write a classified report on its trip. Prior to doing so, the Committee will visit General Rodenhauser's headquarters and will study further the limitations which exist with respect to the current detection systems, a subject beyond the scope of the field personnel visited on the trip.

From incidental conversations the general reaction to our present and projected level of AEC underground testing also seemed very favorable. The only safeguards area in which significant reservations seem to still exist on the part of some of the members is in the adequacy of steps taken to insure a readiness capability to test in the atmosphere.

An incident which irritated the Committee occurred when the Indian Government refused to grant clearance for the plane to over-fly India, thus requiring a detour around the southern tip of India on the day the Committee was flying from Bangkok to Ankara. It was particularly unfortunate in view of the fact that the Tarapur reactor in India will involve $100 million of U.S. funds, a matter in which the JCAE has been directly involved.

The Committee met with Ambassador Reischauer, Tokyo; Ambassador McConaughy, Pakistan; Ambassador Hare, Turkey; and Ambassador Woodward, Madrid.

While in Spain, the Committee also met with Spanish Atomic Energy officials and the Spanish Minister of Industry. Spanish officials, with support from Ambassador Woodward, pressed for arrangements under which the U.S. would agree to process additional Spanish uranium (beyond the fifty tons to which we have agreed) for a power plant soon to be built near Madrid. Because of the precedent setting nature of such a transaction, both the AEC representatives and the JCAE were noncommittal.

2. Congressional Notes (Unclassified)

a. Supplemental Authorization for Testing and Readiness - On October 31, the Joint Committee held an executive hearing on the AEC's supplemental authorization request relating to testing and test readiness. Representative Hosmer, a vocal critic of the sufficiency of funding for these purposes, made it clear that he considered the request before the Committee as only a very small fraction of the $1 billion effort he has called for. Further public criticism by Mr. Hosmer may be anticipated. Other members of the Committee questioned whether the AEC is not riding the coattails of test readiness fervor to secure a variety of low priority items of doubtful necessity. This attitude was more than counter-balanced by questions as to whether the request is sufficient for all of our current needs and final Committee approval seems assured.

b. Future hearings - AEC will testify on November 13 before the House Select Committee on Small Business regarding small business procurement practices; on November 18 before the Select Committee on Government Research; and on November 25 before the Clark Subcommittee of the Senate Committee on Labor regarding utilization of defense industry, manpower and resources. Hearings on the AEC's 1964 appropriation bill before the Senate Appropriations Committee are presently scheduled for the week of November 18.

3. Legal Notes (Unclassified)

The Ohio Supreme Court has denied the defendant's motion for an appeal from the Ohio Court of Appeals decision in Smith v. Industrial Commission of Ohio and Goodyear Atomic Corporation (GAC). This Workmen's Compensation claim arose out of the death of a GAC employee in 1957 from acute lymphatic leukemia, an illness which the widow-claimant alleged grew out of a single exposure to process gas at the Portsmouth Gaseous Diffusion Plant. The claim was denied by the State Industrial Commission. A trial de novo in the State trial court resulted in a jury verdict for the claimant. The trial court's decision was affirmed by the Ohio Court of Appeals with two of the three judges expressing the opinion that the verdict for the claimant was not supported by the evidence (a unanimous opinion was required for reversal). The Ohio Supreme Court has now refused to exercise its discretionary review.

4. Cosmic Ray Research Project (Unclassified)

A basic research project aimed at detecting mu-mesons produced by cosmic ray neutrinos will be carried out in a South African gold mine by the Case Institute of Technology, under contract with the AEC, in collaboration with the Nuclear Physics Research Unit of the University of Witwatersrand. The experiment is being conducted as far below the earth's surface as possible to obtain shielding adequate to filter out other more numerous cosmic ray radiations. This research project does not involve in any way the use of nuclear explosives.

5. Soviet Visit

A Soviet delegation will visit U.S. atomic energy facilities for approximately two weeks during the latter part of November. The visit is in response to an invitation extended by me during my visit to the Soviet Union in May. Ten Soviet officials and scientists will accompany Mr. Andrenik M. Petrosyants, Chairman of the USSR State Committee for the Utilization of Atomic Energy. The group is expected to arrive in New York City on November 16.

The proposed itinerary for the Soviet delegation includes visits to AEC national laboratories at Argonne, Illinois; Ames, Iowa; Berkeley, California; Brookhaven, New York; Oak Ridge, Tennessee; and to the National Reactor Testing Station, Idaho Falls, Idaho. Also scheduled are short visits to Stanford and Princeton Universities, and to several reactor installations including Indian Point Nuclear Power Plant, New York; Dallon

Nuclear Power Plant, Hallam, Nebraska; Dresden Nuclear Power Plant, near Chicago; Enrico Fermi Atomic Power Plant, Detroit, Michigan; and Vallecitos Reactor Plants, Pleasanton, California.

Arrangements have been made for visits of New York City, San Francisco, Washington, D. C., and Chicago. The Soviets will also have the opportunity to witness the Stanford vs University of California football game and to spend a day at Yosemite National Park.

As previously reported, the visit will be utilized to discuss implementation of visit exchanges provided for in the Memorandum on Cooperation of May 21, 1963. It is anticipated that final arrangements will be made for an exchange of visits of a Soviet delegation on solid state physics and a U.S. delegation on controlled thermonuclear reactions to take place in December or January.

Respectfully submitted,

(Signed) Glenn T. Seaborg

Glenn T. Seaborg

The President
The White House

November 12, 1963

UNCL. BY DOE
NOV 86

Dear Mr. President:

I would like to supplement my bi-weekly report to you which was transmitted earlier today.

I noticed in this afternoon's broadtapes that you are meeting this week with Congressional representatives of Minnesota and Wisconsin on a proposal by Midwestern Universities Research Association to construct a particle accelerator at Stoughton, Wisconsin. It occurred to me that, in anticipation of your meeting, you might be interested in the attached letter which I have transmitted to Professor Norman F. Ramsey, Chairman, GAC-PSAC Panel on High Energy Accelerator Physics, setting forth the Commission's present thinking on this matter.

Respectfully yours,

Glenn T. Seaborg

The President
The White House

Enclosure:
Ltr to Ramsey, 11/8/63

HCB/mrs

to give my regards to Bill Penney (his replacement) and my wishes for good luck also.

At 10:55 a.m. I presided over Commission Meeting 1972 (action summary attached). We discussed the Savannah schedule and in principle approved trips to Europe next summer and winter without replacing the control rod drives. Ramey dissented on this.

At 12:50 p.m. McNamara called and said they are very much interested in the possibility of nuclear power, particularly for surface ships they will be building. He said it might be useful to DOD, and maybe to the AEC, if some of our people and theirs would get together--and he would join them--to explore the DOD problems and the AEC potential. He said he would like to understand our development program in terms of size, weight and cost. I said we will look for a mutually convenient time in December or January and we will take the initiative in setting this up. I mentioned that Rickover will be involved and he agreed.

Wiesner called and said the President would like to make the Fermi Award presentation himself, and it would be held at the White House. I said the date is December 2nd and it is usually held at noon. I said this will be followed by a luncheon, and we hope that he (Wiesner) and Bundy will be able to attend.

I had lunch with Dave Ridgway, who is the film director for CHEMStudy.

I received a call from William Tyler (Assistant Secretary of State for European Affairs) who suggested cancelling Petrosyants' visit in view of the fact that the Soviets arrested Professor Frederick C. Barghoorn (Chairman, Department of Soviet Studies, Yale University) in Moscow. I protested and succeeded in convincing him to change his mind. Alexis Johnson called me later and said that the President had wanted to cancel the visit of the Russians but changed his mind on the basis of my protest; however, he asks that I treat Petrosyants and his group in accordance with their treatment of Barghoorn. In a news conference today, President Kennedy demanded Barghoorn's release.

At 2:50 p.m. I presided over Commission Meeting 1973 (action summary attached).

Friday, November 15, 1963 - D.C.

At 9:45 a.m. I presided over Information Meeting 324 (notes attached).

John Conway called at 10:30 a.m. at the request of Senator Pastore to inquire whether, in view of the Barghoorn jailing incident, there may be any changes or problems in connection with the USSR delegation visit. I said we have given careful consideration to the possibility of canceling the visit but decided that would not be the thing to do. The matter of entertainment will be held in abeyance.

I said we have been in close touch with the White House on this, and I have an appointment to see Secretary Rusk this morning. He said that other members of the JCAE would be interested in the plans also. Specifically, although Senator Gore will not participate in any of the visits, his office has received calls from newspaper people in his state inquiring about the visit. I said, if nothing else happens, tomorrow we will make a very minimal statement to the press, but the itinerary will not be released. On another subject, I asked him to tell Senator Pastore that the President has made the decision to present the Fermi Award himself.

From 11 a.m. to 12 noon, I met at the State Department with Secretary Rusk, Ragnar Rollefson and John Gutherie of the State Department, and Jerry Wiesner and Irwin Tobin of the White House. Wiesner and I talked to Secretary Rusk regarding the

OPTIONAL FORM NO. 10
5010-104
UNITED STATES GOVERNMENT

Memorandum

DECL. BY DOE
NOV 86

TO : A. R. Luedecke, General Manager

DATE: November 14, 1963

Approved _____
A. R. Luedecke

FROM : W. B. McCool, Secretary

Original signed W. B. McCool

Date _____

SUBJECT: ACTION SUMMARY OF MEETING 1972, THURSDAY, NOVEMBER 14, 1963, 10:55 A.M. ROOM A-410, GERMANTOWN, MARYLAND

SECY:JCH

Commission Business

1. Minutes of Meetings 1960, 1961, 1963, 1964, 1966, 1967, 1968 and 1969

Approved, as revised, subject to comments by Commissioner Ramey on Meetings 1960, 1961, 1966, 1967, 1968 and 1969, and Commissioner Wilson on Meeting 1969.

2. AEC 653/100 - N.S. SAVANNAH Reactivation Plans

Approved as revised. (Pittman)

3. AEC 25/286 - Weapon System Safety Rules

Approved. (Betts)

4. AEC 181/109 - Contractor Selection Criteria

Approved as revised. (Vinciguerra)

The Commission's approval of a policy for the selection of contractors for other than R&D work is limited to new service-type contracts. (Vinciguerra)

Other Business

1. Department of Defense Declassification of Foster Testimony Before the Stennis Committee

Noted. (Marshall)

2. Transfer of NOXON Contract for Development of White Rock Lands

The Commission had no objection. The matter is to be discussed with Senator Anderson and Congressman Morris. (Betts)

Other Business (continued)

3. Announcement of NTS Event

The Commissioners had no objection. (Betts/Clark)

Announcement procedures will be discussed in a future Information Meeting. (Betts/Clark/Secretary)

Items of Information

1. Chairman's Conversation with Mr. Weisner re MURA

2. Senate Appropriations Hearing - November 19, 10:00 A.M.

cc:
Commissioners

OPTIONAL FORM NO. 10
5010-104
UNITED STATES GOVERNMENT

Memorandum

UNCL. BY DOE
NOV 86

TO : Robert E. Hollingsworth, Deputy General Manager

FROM : W. B. McCool, Secretary

DATE: November 15, 1963

Approved _____
R. E. Hollingsworth

Date _____

SUBJECT: ACTION SUMMARY OF MEETING 1973, THURSDAY, NOVEMBER 14, 1963, 2:30 P.M., ROOM A-410, GERMANTOWN, MARYLAND

SECY:DT

Commission Business

1. AEC 1143 - Proposal for Purchasing Sulphuric Acid for Richland Facilities

Approved, as revised. (Vinciguerra)

The Commission requested that the proposed action be discussed further with community representatives. (Vinciguerra)

2. AEC 1143/1 - Radiation Protection Functions at Richland

Approved, as revised. (Vinciguerra)

The Commission noted that further consideration would be given to retention of whole-body counting in the proposal.

3. AEC 1143/2 - Private Industry Interest in Richland Production Reactor

Discussed.

To be rescheduled at a later date. (Baranowski/Secretary)

4. Fission Products Recovery Report of Task Force

Discussed.

It was noted that an appropriate staff paper is in preparation. (Secy)

Other Business

1. Transfer of Noxon Contract for Development of White Rock Lands

The staff reported that Noxon did not accept transfer of the contract under the conditions reported at the morning Meeting. The Commission noted that the staff would proceed with the assignment of the contract. (Betts)

2. Agenda for Friday, November 15, 1963

I will schedule the following for 2:30 p.m.:

(a) Mark-up of FY 1964 Budget

(b) AEC 1000/77 - Space Power Program Reorientation

(c) AEC 1000/78 - SNAP/50 SPUR Program

cc:
Commissioners

UNCL. BY DOE
NOV 86

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 2
November 15, 1963

INFORMATION MEETING 324
9:45 a.m., Friday, November 15, Chairman's Conference Room, D. C. Office

1. Fermi Award Ceremony, December 2

The Chairman approved the first draft of the guest list and suggested the Commissioners review it and give their comments, if any, to the Secretary. The Chairman will inform Senator Pastore and will call Dr. Wilsoner regarding ceremony arrangements. Confirmation of previous press announcement procedures was requested. (Brown-Ink-Secy)

2. Department of State Cable to Ambassador Kohler re U.S.S.R. Delegation Visit

The Chairman noted the telegram to Ambassador Kohler and the discretionary authority contained therein.

3. Telegram from Mr. Petrosyants re U.S.S.R. Delegation Visit and Schedule

The Chairman noted the telegram from Mr. Petrosyants suggesting some members of the Delegation may wish to visit Oak Ridge on Monday, November 18 and Santa Susana on Wednesday, November 20. The Commissioners observed other changes in the itinerary may develop including cancellation of Mr. Palfrey's November 17 reception.

4. November 18 Meeting of Principals

5. Press Release on U.S.S.R. Delegation Visit

The Chairman requested revision. (Ink)

6. Letter to Mr. Bundy re Test Program

The Commissioners agreed the letter could be held for review by Dr. Tape.

7. Letter to Mr. Bundy

The Chairman requested early review and transmittal. (Brown)

8. Meeting with Secretary of Defense to Discuss the Nuclear Navy

The Chairman said Secretary McNamara had telephoned requesting a meeting to discuss the future of nuclear power for the U.S. Navy. The Commissioners requested a report and briefing from Admiral Rickover prior to the meeting with the Secretary. (Pittman-Secy)

9. Letter to Secretary of Defense re Dispersal

Mr. Palfrey's new draft is in circulation for review by the Commissioner and transmittal today. (Brown)

10. Procedures for Announcement of NTS Events

The Commissioners will review forthcoming test schedules on a week-to-week basis with a view toward authorizing the General Manager to make immediate post-shot announcements for those tests approved for announcement by the Commissioners. It was understood that the General Manager could redelegate this authority to the field for particular events approved in advance for announcement, in his discretion. (GM)

11. Letter from Mr. Bundy re Canadian-American Affairs

The Chairman noted receipt of the letter from Mr. Bundy and the designation of Mr. Brubeck as White House liaison. Appropriate AEC liaison is to be established. (Ink-Wells)

12. AEC 901/55 - Participation on Unclassified Research by Czech National at Yale University

Approved. (Wells)

The Commissioners agreed that proposals for alien participation in research at National laboratories should continue to be considered by the Commission through formal staff papers. Proposed research visits or assignments to off-site posts may be flagged for the Commissioners' attention at an appropriate Information Meeting. (Wells-Secy)

13. Research Material on Mr. David Lilienthal's Speeches and Statements

The Chairman suggested the Commissioners consider appropriate action. Dr. Tape said Mr. Clark Williams had informed him there will be a question and answer period following Mr. Lilienthal's November 19 luncheon speech at the ANS meeting. Mr. Ramey said he had discussed with Chauncey Starr, Mr. Starr's theme in his speech of the following day and also discussed with Senator Anderson's office the Senator's planned speech.

14. Declassification of Dr. John Foster's Testimony before the Stennis Committee

The Chairman noted he had signed the letter to Senator Pastore and requested a re-write of the letter to Dr. Manson Benedict. (Marshall)

15. Senate Appropriations Hearings on FY 1964 Budget, November 19, 10:00 a.m.

Mr. Hollingsworth reported proposed testimony will be circulated to the Commissioners Monday morning, November 18.

16. Chairman's Testimony for House Committee on Government Research Hearings, November 18

The Chairman noted his testimony has been circulated and Mr. Ramey requested confirmation of the R&D research figure. (Brown)

17. Chairman's Meeting with Mr. James Young, GE, 2:30 p.m., December 3

The Chairman said Mr. Young had requested a meeting to discuss Hanford diversification. He invited the Commissioners to attend the meeting as their schedules permit.

18. AFL-CIO Delegation Visit to Brookhaven, November 16

The Chairman suggested cooperation in arrangements and Mr. Ramey said he had discussed the visit with Mr. Leo Goodman and will call Mr. Biemiller.

19. Report on Texas Explosion

Mr. Hollingsworth reported briefly on the possible cause of the explosion.

20. John Conway, JCAE, Telephone Call re U.S.S.R. Delegation Visit

Mr. Conway telephoned the Chairman during the meeting to request information on developments and the Chairman said he had informed him of the current situation. Senator Gore and other interested Congressmen are to be kept informed of the changes, if any, as they develop. (Ink-Brown)

PRESENT		DISTRIBUTION
	Mr. HENNESSEY	
Dr. Seaborg	Mr. Hollingsworth	Commissioners
Mr. Palfrey	Mr. Ink	General Manager
Mr. Ramey	Mr. Brown	General Counsel
Dr. Tape	Mr. Wells*	Secretary
	Mr. McCool	

W. B. McCool
Secretary

*Attendance for Items 1 and 2.

Petrosyants visit, and he is willing to be quite relaxed and not insist on treatment in retaliation for the Barghoorn arrest.

I called Bundy at 12:20 p.m. and told him that Wiesner and I discussed the Petrosyants delegation visit with Rusk this morning. Bundy said we probably should go through with it and we should be very sure that nothing classified is involved--and they shouldn't get private academic hospitality. I said that Palfrey's reception in New York was scheduled for Sunday but that we could get out of that because Petrosyants would like to go to Oak Ridge on Sunday night. Bundy said we should do that. I also mentioned the reception at my home on November 30th and Bundy said to hold the invitation. I said there were one or two other lunches along the way, but we would just watch those to see how things go, and Bundy agreed. Regarding the proposed press conferences, I said we might just eliminate them.

I had lunch with Jim and Alice Robinson at the University Club.

Ambassador Dobrynin called at 2:35 p.m. to say he had a telegram from Petrosyants thanking me for all the arrangements and suggesting some minor changes in the itinerary. The Ambassador offered to send a copy of the telegram to me, but I said I had already received one. The Ambassador said that the program is a very good one.

At 3:10 p.m. I presided over Commission Meeting 1974 (action summary attached). We received the mark-up of the FY 1964 budget from the House Appropriations Committee. They cut $115 million from operating and $28 million from construction funds. We will appeal $91 million of the $115 million and all of the $28 million.

Phil Abelson came to see me to say he is resigning from the GAC due to the pressure of other duties.

Harlan Cleveland called at 3:50 p.m. regarding Adlai Stevenson's talking to the Russian delegation. Cleveland realizes that whether Stevenson talks to them and what he says is only a small part of the big problem; but, because Stevenson and Cleveland were inclined to think it would be good for him to talk to the Russians, Cleveland has just spoken to Rusk about the policy. His judgment is less negative than that of the staff people on the Soviet desk. As a result of the conversation with Rusk, Cleveland's instructions now are to tell Stevenson that it is O.K. for him to talk to the Russians and it is O.K. for him to express some concern, as well as to draw the contrast rather specifically of our treatment of them and their treatment of our scholars.

Cleveland said that Stevenson would meet with the group on Monday in the course of their U.N. visit. I said that we now have a request from Petrosyants for half the group to go to Oak Ridge on Sunday night, which means that probably only half of them will be at the U.N. on Monday, and I don't know in which group Petrosyants will be. I said we will look into this and let him know. Cleveland said he would appreciate knowing as soon as possible because he has not yet notified Stevenson that Rusk has cleared the way for his meeting with the Russians. I then mentioned the matter of meeting the delegation upon their arrival in New York at 6 p.m. tomorrow. I said I was sure the press will be there and that pictures will be taken. I said I want this flagged for Secretary Rusk's attention, just to be sure that neither he nor the President has any problems with this.

I called Cleveland later in the afternoon at 5:35 p.m. and said that we are going to take the Russians to Oak Ridge on Monday and that we are going to insist that they all go since we don't want to divide the group. Maybe Stevenson's talk to them could take place Wednesday afternoon (November 20th). This will also give us

OPTIONAL FORM NO. 10
5010-104
UNITED STATES GOVERNMENT

Memorandum

UNCL. BY DOE
NOV 86

TO : R. E. Hollingsworth, Acting General Manager DATE: November 10, 1969
Approved _____
R.E.Hollingsworth

FROM : W. D. McCool, Secretary Original signed W. D. McCool Date _____

SUBJECT: ACTION SUMMARY OF MEETING 1974, FRIDAY, NOVEMBER 15, 1969, 9:10 A.M., ROOM 1113-B, D. C. OFFICE

SECY:GF

Commission Business

1. AEC 1095/28 - House Appropriations Committee Mark-Up of FY 64 Budget

The Commission approved the following appeals:

Operating Expenses

Program	Amount of Appeal (In millions)
Raw materials	$ -0-
Special nuclear materials	-0-
Weapons	-0-
Reactor development	28.5
Physical research	24.0
Biology and medicine	7.0
Training, education, & information	2.4
Isotopes development	.70
Civilian applications of nuclear explosives	4.1
Community	-0-
Program direction & administration	1.355
Security investigation	-0-
Cost of work for others	-0-
Change in selected resources	23.0
Total	$ 91.055

Plant & Capital Equipment

Total	$ 46.145

2. AEC 1000/77 - Space Power Program Reorientation

Approved, as revised. (Pittman)

The Commission requested appropriate revisions in the draft letter to Mr. Brown. The letters to the BOB, NASA, DOD, and the JCAE are to be circulated for review by the Commissioners. (Pittman)

3. AEC 1000/78 - SNAP/50 SPUR Program

Approved. (Pittman)

Other Business

1. Proposed DOD Declassification of Stockpile Information

Approved. (Marshall)

The Commission requested discussions with the DOD regarding the procedures for declassification of RD. (Marshall)

The Joint Committee is to be informed. (Marshall)

2. Visit by U.S.S.R. Delegation - Mid-November

The Chairman requested appropriate field offices be informed of the possibility of local press conferences. (Wells/Clark)

The Commission had no objection to Mr. Wells' proposed response to queries re the visit. (Wells/Clark)

cc:
Commissioners

a little more time to decide what is best. Cleveland said he will call Stevenson and tell him that the schedule has changed and that the deadline now is not quite so urgent. I said we would not let the delegation know until Tuesday afternoon or Wednesday morning that they would do this.

Saturday, November 16, 1963 - D.C. - New York City

At 8 a.m. Tyler of the State Department called me to give me the news of Barghoorn's release. This will be a great help in connection with the visit of the Russian delegation.

I worked in the office until 1:30 p.m. I called Congresman John Anderson at 12:15 p.m. with regard to his letter (copy attached) on the forthcoming visit of the Soviet scientists. He said he had just heard on the radio that Professor Barghoorn has been released. He said he is very pleased at this and he really feels this is one of the instances that maybe individually and collectively the attitude of the U.S. changed the minds of the Soviets.

He said he certainly had not said what he did to embarrass me, but he felt we had to make the Soviets understand we do not accept these things. I told him, as far as I know, the visiting scientists will be arriving in New York this evening, and he said he has no objection to their visit. I said I don't plan to give any further answer to his letter and he said it wasn't necessary.

I wrote to my mother and sent photographs and brought her up to date on our activities.

In the afternoon I helped with Eric's birthday party. He had about 12 to 15 guests. I took pictures.

I flew to New York on the 6 p.m. Eastern shuttle. I went to Idlewild where Palfrey, Fritsch, Wells, Abrahams, and I met the Petrosyants group. Chairman Petrosyants was accompanied by the following: Igor Ivanovich Afrikantov (Scientific Consultant, USSR State Committee on Atomic Energy--Power Reactors), Lev Andreyevich Artsimovich (Section Head, Kurchatov Atomic energy Institute--Controlled Thermonuclear Reactions), Anatoliy Ivanovich Belov (Reviewer, USSR State Committee on Atomic Energy--interpreter and translator), Nikolay Nikolayevich Bogolyubov (Laboratory Director, Joint Institute of Nuclear Research Dubna--high energy physics and mathematics), Oleg Dmitriyevich Kazachkovsky (Deputy Director, Physical Technical Institute, Obninsk--breeder reactors), Nikolay Nikolayevich Ponomarev-Stepnoy (Deputy Section Head, Kurchatov Atomic Energy Institute--power reactors), Nikolay Timofeyevich Ratnikov (Section Head, USSR State Committee on Atomic Energy--administrative planning), Nikolay Mikhaylovich Sinev (Deputy Chairman, USSR State Committee on Atomic Energy--administration), and Grigoriy Nikolayevich Yakovlev (Section Head, Scientific Research Institute of Atomic Reactors, New Melekess--reactors, radiochemist).

They arrived on SAS flight 911 at 9 p.m. We all went to the Waldorf Astoria by chartered bus, where we checked in and met for refreshments in the Pillement Room (fourth floor). We took a walk down to Times Square, Broadway, etc.

Sunday, November 17, 1963 - New York - Washington

After breakfast at the Waldorf Astoria Hotel we had a formal meeting with the Russian delegation to check and agree on the itinerary. Petrosyants gave us many gifts, such as a Kurchatov medallion, books, reprints, etc.

JOHN B. ANDERSON
16TH DISTRICT, ILLINOIS

MEMBER
JOINT COMMITTEE ON
ATOMIC ENERGY

COMMITTEE ON GOVERNMENT
OPERATIONS

JUDICIAL COMMITTEE
TO INVESTIGATE
NARCOTICS PROGRAMS

Congress of the United States
House of Representatives
Washington, D.C. 20515

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401 W. STATE STREET
ROCKFORD, ILLINOIS 61101

November 15, 1960

DECL. BY DOE
NOV 86

Chairman Glenn T. Seaborg
U. S. Atomic Energy Commission
Washington 25, D. C.

Dear Chairman Seaborg:

It has come to my attention that a group of Soviet officials and scientists are to be escorted on a tour of a number of atomic energy facilities throughout the United States during the remainder of the month of November and a part of December.

It is indeed ironic that the Atomic Energy Commission would open up some of our atomic facilities to the probing eyes and ears of Soviet atomic experts and scientists, including a top ranking nuclear official in the Soviet Union; namely, Mr. A. M. Petrosyants, Chairman of the Soviet State Committee on the Utilization of Atomic Energy, while an American professor has been arrested by the Russians on a trumped up spying charge and continues to languish in a Communist prison.

It is my own personal viewpoint as a member of the Joint Committee on Atomic Energy, as a Representative in the United States Congress, and as an American citizen that common sense dictates that the Atomic Energy Commission disassociate itself from whatever arrangements that have been made for this inspection tour by officials of the Soviet regime.

Very truly yours,

John B. Anderson

John B. Anderson
Member of Congress

After visiting the Empire State Building, we took a cruise on a Coast Guard cutter up the Hudson River where a buffet luncheon was served on board. Upon our return we went to the hotel for a short stay and then went to LaGuardia Airport where the group, accompanied by Fritsch, Wells and Abrahams, flew to Knoxville on a MATS Super Constellation (Columbine). I returned to Washington on American flight 475, which left at 5:30 p.m. and arrived at 6:30 p.m. Palfrey returned to Washington later. I later learned that the Columbine had engine trouble and landed at Andrews Air Force Base. After a short delay it proceeded to Knoxville.

Monday, November 18, 1963 - D.C.

At 10 a.m. I testified before Carl Elliott's Select House Committee on Government Research, following Haworth and Seitz. It went very well. Committee members present included Elliott (Chairman), George Miller, Melvin Price, Phil Landrum, John Anderson, James Cleveland and Patrick Martin. I made a plea for insuring the academic freedom and overall health of universities.

At 5 p.m. I attended an executive session of the Committee of Principals with Rusk, Foster, Fisher, Wilson, Mac Bundy, Wiesner, Taylor, Carter, William Bundy and Tyler in attendance. We discussed cooperation with France on underground testing if they will adhere to the limited test ban treaty. We decided this would not be feasible.

I called Bundy at 6:10 p.m. and in his absence asked his secretary Alice Boyce, to tell him that John Finney called about the Fermi Award and that, in answer to his questions, one of my assistants told him that the ceremony will be held on December 2nd at the White House. Finney also asked who will make the presentation. We haven't given him an answer but said we will call him back. I asked her to tell Bundy that I don't think we can hold off any longer; furthermore, I see no object in being coy about it. It looks as though Finney will be the one to break the story.

At 6:15 p.m. Jim Webb called regarding the question of management of the space nuclear program. He said there are many developments since we last discussed it. Seamans and Luedecke looked at several alternatives. Webb said tht Finger will not be completely happy with some of them; and, while he (Webb) is anxious not to disrupt the management, he does want to move ahead.

I said that what Luedecke and Seamans are doing is O.K. with me. He asked whether I, personally, have an opinion about this question beyond the transfer of the actual management of the NERVA contract to the Lewis Laboratory. He said his own feeling is that they should do in NASA whatever AEC wants done. Whatever part AEC wants to manage, he wants to cooperate in turning over to AEC. Regarding SNAP, etc., Webb would not feel bad if it were taken from Finger, although Finger would mind. I said it is a balance between that and Finger's feelings and his value to us. I said our present tendency is to go along with what Seamans suggested. Webb said that Seamans felt at one point that some of the other Commissioners and I want to meet with him on this matter. He said that a meeting has been held with Ramey and Luedecke. I said that this is fine because it is at my suggestion that Ramey and Luedecke met with Seamans.

I told Webb that General Luedecke has completed five years service with the AEC and that he does not plan to stay on. Webb said he will be interested in talking to Luedecke if he is interested in working full time and might consider NASA. He asked that I mention this to Luedecke. If there is an interest, he asked that I ascertain when Luedecke would be able to come to see him and that my office call Webb's office to set a time for the meeting.

The visiting Soviet Delegation (Petrosyants group) visited the Oak Ridge National Laboratory today.

Visit to Oak Ridge Isochronous Cyclotron, ORNL, November 18, 1963

First Row (L to R): H. Roth (Director of Research and Development, Oak Ridge Operations Office, USAEC), N. N. Ponomarev-Stepnoy, O. D. Kazachkovsky, A. M. Petrosyants, A. Weinberg, N. N. Bogolyubov, I. I. Afrikantov, L. A. Artsimovich, N. M. Sinev, J. Lewin (scientist at ORNL), J. A. Swarthout (Deputy Director, ORNL), N. Brand

Back Row (L to R): A. I. Belov, N. T. Ratnikov, S. Sapirie (Area Manager, OROO), A. Fritsch, G. F. Tape, G. N. Yakovlev, V. Revin (Soviet Embassy, Washington), R. Livingston (ORNL scientist), C. E. Larson (ORNL scientist), W. Krimer (State Department interpreter).

Tuesday, November 19, 1963 - D.C.

Bundy's secretary called with a message from Bundy which was that nobody should tell John Finney anything more about the presentation of the Fermi Award to Oppenheimer until Bundy has a chance to talk to me.

At 10 a.m. I testified before the Senate Appropriations Committee on the FY 1964 AEC budget, emphasizing appeals resulting from House cuts. It went well. The House Appropriations Committee FY 1964 AEC budget passed the House today with the cuts.

I had lunch with Luedecke and mentioned to him that Webb has expressed an interest in hiring him if he wants to leave the AEC at the end of his five-year stint (which comes in December).

Lilienthal gave a luncheon talk to the American Nuclear Society in New York today which included a charge that I have already made up my mind on the Consolidated Edison (Ravenswood) reactor in New York, and, hence, my fellow Commissioners and I aren't fit to sit as members of a regulatory commission on this case.

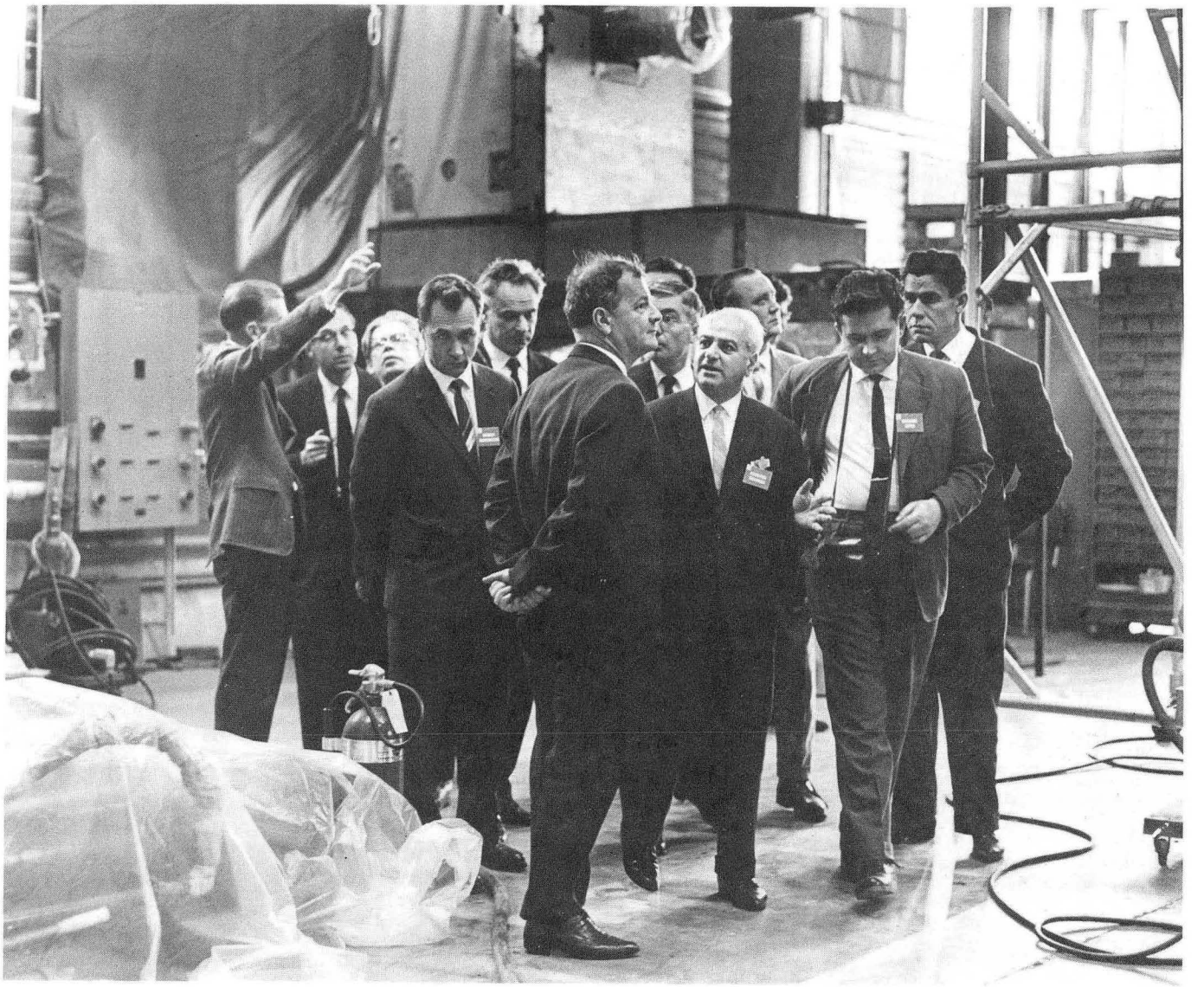
At 3:45 p.m. I called Hobart Taylor and, in his absence, talked to his secretary Miss Westcott. I said that Taylor had agreed to talk to Secretary Wirtz or the Vice President about the contracts Brigham Young University is negotiating with the AEC, and I would appreciate his letting us know the outcome of his conversations. She said she will bring this to his attention when he returns to Washington.

At 4 p.m. I called Bundy again regarding the request from Finney as to whom will make the the Fermi Award presentation to Oppenheimer. Bundy replied that the ceremony is all set and the President expects to do it, but he asked that we play it in the lowest possible key. In answer to Finney, we should say that the President plans to do it as that is the usual way of handling the Award. For my own information, Bundy did mention that, although the President is sure of doing it, there is still a vague possibility that a certain political matter might come up which will call him out of town. We agreed this could be easily handled.

At 4:45 p.m. Harold Price called to report that the people on the NS Savannah want to go forward with a low-key dockside operation in which the nuclear reactor will go critical on Monday, November 25th. Harold said the Commission is familiar with this and that this is the plan which the ACRS reviewed and approved with several conditions. There have been a few changes in some of the technical specifications. He said for this low-powered dockside operation they meet the stationary site criteria and would be relieved from the necessity of having tugs. He said he will inform the other Commissioners.

I met with John Foster, Chester Van Atta and Richard Post who told me about a recent breakthrough on controlled thermonuclear reactions in way of a minimum -B approach.

The Petrosyants group visited Brookhaven National Laboratory today.



Visit to Brookhaven National Laboratory, at the 80-Inch Bubble Chamber Building, November 19, 1963.

L to R: R. L. Cool (Physics Department), M. Goldhaber (BNL Director), N. N. Bogolyubov, N. N. Ponomarev-Stepnoy, I. I. Afrikantov, L. A. Artsimovich, A. M. Petrosyants, A. I. Belov, W. B. Fowler (Physics Department, behind Petrosyants), G. N. Yakovelev, and N. T. Ratnikov

Wednesday, November 20, 1963 - D.C. - New York City

I flew to New York on the 10 a.m. Eastern shuttle. Howard Brown accompanied me.

This morning part of the Soviet delegation visited the Plasma Physics Laboratory at Princeton University and part of the Indian Point Reactor (Consolidated Edison Company) at Indian Point, New York.

I attended an AIF luncheon in the Georgian B Suite at the Americana Hotel where Clint Anderson spoke on congressional views of national science programs under the title, "Congress and the Endless Frontier." Following this, I held a press conference; the questions were largely about the AEC attitude on the Ravenswood nuclear power plant.

I addressed the Youth Conference on the Atom (in connection with the AIF/ANS Meeting) in the Georgian A Suite at the Americana Hotel and gave a talk on transuranium elements illustrated by slides. Following my remarks on, "The New Territories of the Mind," I then presented the first Boy Scout Atomic Energy Merit Badges to the winners. Irving Feist of Newark, New Jersey, International Commissioner of the Boy Scouts of America, presented the 34 Scouts being recognized. I then introduced Petrosyants who spoke on the nuclear power program in the USSR.

Along with the Petrosyants group I attended the Atom Fair in Albert Hall and following, I attended the AIF-ANS banquet. Commissioner Tape served as banquet chairman and before he introduced New York Governor Nelson A. Rockefeller for his address, there were remarks by Louis H. Roddis, Jr., President, Atomic Industrial Forum, and Clarke Williams, President, American Nuclear Society. Governor Rockefeller advocated a stronger U.S. nuclear power program.

We spent the night at the Waldorf Astoria Hotel.

Thursday, November 21, 1963 - New York - San Francisco

Along with the Russian delegation I flew in the MATS Columbine plane to Oakland, California. We left at 7:30 a.m. and arrived at 3:30 p.m. We were met by Ed McMillan, Harold Fidler and others.

We toured the Bevatron with Ed Lofgren, the bubble chambers with Luis Alvarez, the data processing equipment with Howard White and James Baker, and the 88-Inch Cyclotron with Elmer Kelly, Bernard Harvey and Hermann Grunder.

Chancellor Strong, Edwin M. McMillan (Director, Lawrence Radiation Laboratory) and Mrs. Edwin McMillan hosted a reception and dinner for the group at University House. I made some brief remarks. The following scientists and professors were present: Stanley G. Thompson (Chemist, Lawrence Radiation Laboratory), Earl K. Hyde (Chemist, Lawrence Radiation Laboratory), Raymond G. Bressler, Jr. (Vice-Chancellor and Professor Agricultural Economics), William B. Fretter, (Dean, College of Letters and Science and Professor of Physics), Sanford S. Elberg (Dean, Graduate Division and Professor of Bacteriology), Lincoln Constance (Vice-Chancellor and Professor of Botany), Frank C. Newman (Dean, School of Law), Robert E. Connick (Dean, College of Chemistry), Burton J. Moyer (Chairman, Department of Physics), Adrian Kragen (Vice-Chancellor and Professor of Law), Robert A. Scalapino (Chairman, Department of Political Science), Melvin Calvin (Professor of Chemistry and Director, Laboratory of Chemical Biodynamics), Isadore Perlman (Associate Director, Lawrence Radiation Laboratory), Gleb Struve (Professor of Slavic Languages and Literature), Francis J. Whitfield (Professor Slavic Languages and Literature), Oleg A. Maslenikov (Professor of Slavic Languages and

Visit to Plasma Physics Laboratory, Princeton University, November 20, 1963. L to R: Milton White (Director, Princeton-Pennsylvania Accelerator), G. N. Yakovlev, G. Tape, H. D. Smyth (Chairman of Princeton University Research Board), N. N. Bogolyubov, Lyman Spitzer, Jr. (Chairman of Executive Committee of Plasma Physics Laboratory), and L. A. Artsimovich

Viewing exhibit at meeting of Atomic Industrial Forum, New York City, November 20, 1963.

Foreground L to R: A. Fritsch, Seaborg, I. I. Afrikantov, L. A. Artsimovich, A. M. Petrosyants, W. Krimer, N. N. Pnomarev-Stepnoy;

Background L to R: E. Brown, O. D. Kazachkovsky, C. Yulish, J. Hill (AEC, Washington), N. T. Ratnikov, P. McDaniel (Division of Research, USAEC), and G. N. Yakovlev

In front of the Bevatron, Lawrence Berkeley Laboratory, Berkeley, November 21, 1963.

L to R: N. Brand, M. Abrahams, E. C. Shute (Manager, San Francisco Operations Office, USAEC), A. R. Fritsch, N. M. Sinev, G. N. Yakovlev, A. A. Wells, I. I. Afrikantov, N. N. Ponomarev-Stepnoy, E. M. McMillan, Seaborg, A. Ghiorso, P. McDaniel, A. M. Petrosyants, O. D. Kazachkovsky, N. N. Bogolyubov, V. Revin, L. A. Artsimovich, A. I. Belov, N. T. Ratnikov, W. Krimer, and J. Lewin

Upon arrival at the University of California Lawrence Radiation Laboratory, on November 21, 1963, E. M. McMillan, Director (right) greets Seaborg (left) and Chairman A. M. Petrosyants, leader of the U.S.S.R. delegation

Literature), and Albert Ghiorso (Physicist, Lawrence Radiation Laboratory).

We went by bus to San Francisco where we spent the night at the Fairmont Hotel.

Friday, November 22, 1963 - San Francisco - Washington

The group returned to the Radiation Laboratory where we visited the Nuclear Chemistry Division. We viewed fission work (Thompson), ultra microchemistry (Burris Cunningham), the hot lab, etc.

While at the HILAC, I received the news over the radio that President Kennedy (and Governor Connally) had been shot in Dallas at 10:30 a.m. Harold Fidler called me aside to give me the sad news. Ironically, it was during a visit to the Hilac building while I was Chancellor at Berkeley, that I received the telephone call from President-elect John F. Kennedy inviting me to come to Washington to serve as his chairman of the Atomic Energy Commission.

President Kennedy died at 11 a.m. (PST). After informing the Russian delegation and making alternate plans for them to go directly to Yosemite, I flew back to Washington on United flight 868 which left at 3:30 p.m. and arrived at Friendship Airport at 11 p.m.

The personal shock of President Kennedy's death is tremendous. How unnecessary it is! This raises some questions in my mind as to how much longer I want to stay on as Chairman.

(Attached are the notes for Information Meeting 325 held in my absence as a result of President Kennedy's death.)

At the Heavy Ion Linear Accelerator, Lawrence Radiation Laboratory
November 22, 1963
A. Ghiorso explains his research to I. Perlman, A. I. Belov, A. M. Petrosyants, Seaborg and G. N. Yakovlev

OFFICIAL USE ONLY

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON 25, D.C.

COPY NO. 12
November 22, 1963

UNCL. BY DC NOV 06

INFORMATION MEETING 325

10:00 a.m., Friday, November 22, Chairman's Conference Room, D.C. Office

1. Commission Resolution on the Death of President Kennedy

The Commissioners requested preparation of an appropriate resolution. (Secy)

2. Dismissal of AEC Staff Today

The Commissioners agreed AEC staff should be dismissed for the balance of today out of respect to the late President. The General Manager will inform the Field Offices to take appropriate action in this regard in their discretion.

3. Telegram of Condolence to Mrs. Kennedy

The Commissioners requested preparation of an appropriate telegram. (Brown-Secy)

4. Telegram to President Johnson

The Commissioners requested preparation of an appropriate telegram to the President from the Commission to be transmitted after he assumes office. (Brown-Secy)

5. U.S.S.R. Delegation Visit

The itinerary is to be suspended for 24 hours pending a decision.

6. Possible Commission Meeting, Saturday, November 23

The Chairman is returning to Washington and a meeting may be held on call.

7. Fermi Award Ceremony

The Commissioners suggested possible alternative arrangements be discussed on Monday.

PRESENT

Mr. Ramey
Mr. Pulley
Mr. Brown
Mr. McCool

W. B. McCool
Secretary

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Commissioners
General Manager
General Counsel
Secretary

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