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UNIVERSITY OF CALIFORNIA

Radiation Laboratory  
Berkeley, California

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LIST OF UNCLASSIFIED REPORTS RECEIVED AND ISSUED BY THE UCRL  
INFORMATION DIVISION DURING THE PERIOD OF APRIL 15 - 30, 1958

May 2, 1958

LIST OF UNCLASSIFIED REPORTS RECEIVED AND ISSUED BY THE UCRL  
INFORMATION DIVISION DURING THE PERIOD OF APRIL 15-30, 1958

Radiation Laboratory  
University of California  
Berkeley, California

May 2, 1958

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| AERE-MED/R-2455     | The Performance of a Pulse Amplitude Analyser Type 1414A<br>for Routine Urine Analysis                                                                           | W. P. Hutchinson,<br>Same                                                                                                        | 11-57       |
| BNL-3496            | The Role of Salt in the Fall of Blood Pressure Accompanying<br>Obesity-Reduction                                                                                 | L. K. Dahl,<br>L. Silver,<br>R. W. Christie                                                                                      | [12-23-57]  |
| IOS-R/R-3           | A Summary of the Biological Investigations of the Discharges<br>of Aqueous Radioactive Waste to the Sea from Windscale<br>Works, Sellafield, Cumberland          | H. J. Dunster,<br>F. R. Farmer,<br>United Kingdom Atomic<br>Energy Authority.<br>Industrial Group H. Q.,<br>Risley, Lances, Eng. | 1-58        |
| KAPL-1804           | Health Problems Associated with the Civilian Reactor Program                                                                                                     | J. J. Fitzgerald,<br>J. L. Flynn,<br>Knolls Atomic Power Lab.<br>(Schenectady, N. Y.)                                            | 4-30-57     |
| SM-4400 (Del.)      | Report of and Papers Presented at the 3rd Meeting of the Stack<br>Gas Decontamination Working Group Held January 12, 1949 at the<br>Academy of Sciences Building | Stack Gas Problem<br>Working Group, AEC                                                                                          |             |

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| MISC-1958-78   | Radioactive Fallout. A Summary of Remarks Prepared for Delivery Before the Swiss Academy of Medical Sciences Symposium on Radioactive Fallout, Lausanne, Switzerland, March 27, 1958 | W. F. Libby,<br>Atomic Energy<br>Commission<br>(Washington, D. C.)                     | 3-27-58  |
| MIT-RLE-TR-323 | Neurophysiological Representation of Complex Auditory Stimuli. (Thesis)                                                                                                              | M. H. Goldstein, Jr.<br>Mass. Inst. of Tech.<br>Cambridge, Res. Lab.<br>of Electronics | 2-19-57  |
| OR NS-22       | Problems in the Establishment of a Colony of Specific-Pathogen-Free Rats                                                                                                             | E. A. Cress,<br>G. C. Kyker,<br>Oak Ridge Inst. of<br>Nuclear Studies Inc., Tenn.      | 12-57    |
| ORNL-2475      | Laboratory Studies on the Ground Disposal of ORNL Intermediate-Level. Liquid Radioactive Wastes                                                                                      | R. L. Blanchard,<br>B. Kahn,<br>G. G. Robeck                                           | 4-11-58  |
| ORNL-3513      | Isotopes in Biochemistry and Biosynthesis of Labeled Compounds. A Selected List of References                                                                                        | J. A. McCormick, Comp.                                                                 | 3-58     |
| ORNL-10081     | AEC Meteorological Information Meeting February 1-2, 1951                                                                                                                            | H. Newton,<br>H. P. Munger,<br>M. E. Smith, et al.                                     | 8-8-51   |
| UCLA-195(Del.) | Quarterly Progress Report for Period Ending March 31, 1952                                                                                                                           | California Univ.,<br>Los Angeles. Atomic<br>Energy Project                             | 4-1-52   |
| OR-512         | On the Mechanism of Skeletal Fixation of Strontium                                                                                                                                   | J. Boyd,<br>W. F. Neuman,<br>H. C. Hodge                                               | 3-14-58  |
| USNRDL-TR-120  | Suggested Techniques for Testing the Effectiveness of Radiological Reclamation Methods                                                                                               | E. Shapiro,<br>E. T. Sheffield,<br>Naval Radiological<br>Defense Lab., S. F.           | 11-23-56 |

\*USNRDL-TR-191 Radiac Dosage Alarm

E. J. Wesley, 10-10-57  
R. L. Hopton,  
F. A. Rhoads,  
Naval Radiological  
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\*WADC-TR-57-142 Health-Physics Procedures for an Aeromedical Radioisotopes Laboratory

T. J. McGuire, 3-29-57  
Wright Air Development  
Center, Aero Medical Lab.,  
Wright-Patterson AFB, Ohio

### CHEMISTRY

AECU-3618 Preparation of Radiation Sources from Fission Products by the  
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J. E. Schoolmeester, 8-57  
J. J. Martin,  
Michigan Univ.,  
Ann Arbor. Eng.  
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AERE-C/M-336 The Determination of Plutonium as a Minor Constituent in Alloys  
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K. W. Brooke, 12-57  
D. H. F. Atkins,  
E. N. Jenkins,  
Gt. Brit. Atomic  
Energy Res. Est.  
Harwell, Berks, Eng.

AERE-C/R-2307 The Analysis of Thorium-Boron and Uranium-Boron Alloys

G. A. Barnett,  
G. W. C. Milner,  
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AERE-C/R-2308 Developments in the Determination of Carbon in Metals by a  
Low Pressure Method

E. Both, 12-57  
A. Parker,  
United Kingdom Atomic  
Energy Authority. Res.  
Group. [Chemistry Div.]  
Woolwich Outstation, Eng.

AERE-C/R-2376 The Determination of Oxygen in Beryllium by the Micro Vacuum  
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E. Booth, 10-57  
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| AERE-C/R-2410         | Oxidation Potential of the PuIII-PuIV Couple in 8M Ammonium Nitrate - 0.5N Nitric Acid Solution                                                                                                               | J. L. Bunce,<br>J. D. Nye,<br>Gt. Brit. Atomic<br>Energy Res. Est.<br>Harwell, Berks, Eng.                      | 3-50    |
| AERE-GP/R-2430        | Calculations of Solid-State Data of Neon, and the Vapour Pressure Ratio of Its Isotopes                                                                                                                       | T. F. Johns,<br>Same                                                                                            | 10-57   |
| AERE-I/M-47           | A Palladium Column for Concentrating Tritium from 2-Litre Mixtures of Tritium and Hydrogen                                                                                                                    | J. Chadwick<br>Same                                                                                             | 10-57   |
| AERE-Inf/Bib-116      | Molecular Sieves. A Literature Survey                                                                                                                                                                         | B. J. Wilson,<br>Same                                                                                           | 12-57   |
| CF-58-3-67            | Proposed Development Program for Treatment of Radioactive Wastes from Merchant Ship Reactors                                                                                                                  | I. R. Higgins,<br>W. J. Neill,<br>Oak Ridge National Lab.                                                       | 3-19-58 |
| IA-OO-U-<br>3 055 670 | Secondary Nuclear Reactions During Bombardment of Tin by Fast Protons. Trans. of a report issued by Ob"edinennyi Institut Iadernykh Issledovanii. Laboratoriia Iadernykh Problem, Moscow, 1957, p. 1-14. 12p. | M. Ia. Kuznetsova,<br>V. N. Mekhedov,<br>V. A. Khalkin                                                          |         |
| NY-54994              | Irradiation of the Biphenyl, Ortho-, Meta-Terphenyl Eutectic                                                                                                                                                  | D. R. de Hales                                                                                                  | 2-17-58 |
| ICRL-T/C-67           | An Apparatus for Determining the Thermal Conductivity of Refractories. Trans. from Zavodskaya Laboratoriia 22, 869-71 (1956)                                                                                  | D. M. Shakhtin,<br>United Kingdom Atomic<br>Energy Authority.<br>Industrial Group H. Q.,<br>Risley, Lancs, Eng. |         |
| KAPL-1740             | Thermal Stability of Hydrated Aluminum Oxides                                                                                                                                                                 | F. J. Shipko,<br>R. M. Haag,<br>Knolls Atomic Power Lab.                                                        | 7-10-57 |
| *M-333 (Pt. II)       | Construction, Process, and Operation Report. Step I.                                                                                                                                                          | Linde Air Products<br>Co. Tonawanda Lab.,<br>Tonawanda, N. Y.                                                   | 10-1-46 |

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| *M-1408  | Self-Wetting Stedman Packing                                                                                                               | W. Kilpatrick,<br>Columbia Univ.,<br>New York. Div. of War<br>Research                     | 2-15-45 |
| *M-2433  | Formation of Methyl Borate From the Methyl Borate-Boron<br>Fluoride Complex                                                                | D. A. McCaulay,<br>W. L. Rittschof,<br>Standard Oil Co. of<br><del>Indiana</del> , Chicago | 9-4-45  |
| *M-2761  | Distribution of My [Radium] in Nitric Acid Digestions of<br>Pitchblende. Qualitative Notes on Filterability of Gangues.<br>Progress Report | H. C. Thomas,<br>A. S. Tomcufcik,<br>J. L. Miller,<br>Yale Univ., New Haven                |         |
| *M-4525  | The Recovery of Uranium from Byproduct Scrap Materials                                                                                     | L. Spiegler,<br>Du Pont de Nemours<br>(E. I.) and Co.,<br>Wilmington, Del.                 | [194?]  |
| *M-4541  | Pilot Plant Operations on African Ore                                                                                                      | R. Wiesendanger,<br>Linde Air Products Co.<br>Tonawanda Lab.,<br>Tonawanda, N. Y.          | 5-26-44 |
| *MCW-3   | The Coprecipitation of Boron with Sodium Uranate                                                                                           | A. E. Ruehle,<br>Mallinckrodt Chemical<br>Works, St. Louis                                 | 4-1-46  |
| *MCW-16  | A Preliminary Report on a Uranium-Molybdenum Compound                                                                                      | A. E. Ruehle,<br>R. P. Smith,<br>Same                                                      | 4-1-46  |
| *MCW-25  | The Preparation of Pure Uranium Tetrafluoride by a Wet<br>Process                                                                          | J. V. Opie,<br>Same                                                                        | 4-1-46  |
| *MCW-127 | Effect of the Uranium Content of "in" Ether Upon the Uranium<br>Content of Raffinate                                                       | W. G. Weber,<br>Same                                                                       | 7-20-48 |

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| *MCW-138                | Fluorination of Uranium Dioxide with Hydrogen Fluoride-Water Mixtures                                                  | C. W. Kuhlman, Jr. 9-27-48<br>Mallinckrodt Chemical Works, St. Louis                    |
| *MCW-162                | Studies on the Use of Calcined CX [Crude Calcium Uranate] as a Plant 6 [Uranium Ore Refining] Feed                     | C. W. Kuhlman, Jr. 12-31-48<br>C. F. Ritchie,<br>Same                                   |
| *MCW-221                | Pilot Plant Study of a Process for Introducing CX Calcium Uranate Feed Material into Clarified FEinc Filtrate          | W. Weber, 9-20-49<br>J. H. Yeager                                                       |
| MISC-1958-88            | An Electrostatic Model for Prediction of Shapes of Simple Covalent Molecules and Ions. First Technical Progress Report | A. W. Searcy, 1-30-58<br>California. Univ.,<br>Berkeley. Minerals<br>Res. Lab.          |
| MISC-1958-90            | Capacity of the Electrical Double Layer and Adsorption at Polarized Platinum Electrodes. Technical Report              | N. Hackerman, 3-15-58<br>P. V. Popat,<br>Texas. Univ.,<br>Austin                        |
| MISC-1958-91            | School of Chemistry, Department of Radiochemistry, Report No. 2.                                                       | New South Wales Univ. 12-57<br>of Tech., Sydney                                         |
| MISC-1958-174<br>No. 10 | Accession List No. 10 [Covering the Period] March 1 to March 31, 1958                                                  | Battelle Memorial Inst. 4-15-58<br>Radiation Effects Info.<br>Center, Columbus, Ohio    |
| *MITG-247(Del.)         | Lyometallurgy Survey                                                                                                   | F. W. Bloecher, Jr. 1-25-51<br>Mass. Inst. of Tech.,<br>Watertown. Mineral<br>Eng. Lab. |
| *MITG-A50               | Production of Sulfuric Acid and Ferric Sulfate by Air Oxidation of SO <sub>2</sub> and Ferrous Sulfate in Towers       | J. J. Brunner, 9-27-48<br>C. O. Jackson,<br>R. R. Porter<br>Same                        |
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| *MITG-A57         | Radioassay of Leach Solutions and Residues                                                                                                   | W. Freyberger,<br>E.M. Rubino,<br>Mass. Inst. of Tech.,<br>Watertown. Mineral<br>Eng. Lab.           | 2-28-49  |
| *MLM-554(Del.)    | Report for Liquid Waste Disposal Research; November 13,<br>1950 to March 5, 1951                                                             | Mound Lab.,<br>Miamiaburg, Ohio                                                                      | 4-9-51   |
| *MLM-828(Del. 2)  | Technical Activities Quarterly Report through March 17, 1953                                                                                 | Same                                                                                                 | 3-31-53  |
| *MND-1031         | The Feasibility of Producing Power From Radioisotopes                                                                                        | F. Hittman,<br>Martin Co.,<br>Baltimore                                                              | [1957]   |
| *NAA-SR-943(Rev.) | Separations Chemistry Quarterly Progress Report [for]<br>October - December 1953                                                             | E.E. Motta,<br>D.W. Bareis,<br>D.D. Cubicciotti,<br>North American Aviation,<br>Inc., Downey, Calif. | 3-26-54  |
| NBS-5792          | Carbon-14 Carboxy-Labeled Polysaccharides                                                                                                    | J.D. Moyer,<br>H.S. Isbell,<br>National Bureau of<br>Standards, (Washington, D.C.)                   | 2-28-58  |
| NBS-5840          | Heat of Formation of Titanium Trichloride                                                                                                    | W.H. Johnson,<br>A.A. Gilliland,<br>E.J. Prosen,<br>Same                                             | 3-30-58  |
| *NP-6493          | The Effect of Nuclear Radiation on Structural Adhesives and<br>Plastics. Bimonthly Report No. 2 [for] August 15, 1957<br>to October 15, 1957 | R.Y. Mixer,<br>Stanford Research<br>Inst., Menlo Park,<br>California                                 | 10-15-57 |

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| *NP-6508       | Wetting Effects on Heat Transfer. Final Report [for] September 1, 1955 through September 30, 1957 [on] Project No. A-252 | W.B. Harrison,<br>Georgia Inst. of<br>Tech., Atlanta. Eng.<br>Experiment Station                   |
| *NP-6514       | Progress Report No. 2 for September 1, 1957 to November 30, 1957                                                         | J. F. Andrew, 12-1-57<br>J. Repetski,<br>H. E. Strauss, et al.<br>Buffalo Univ.                    |
| *NRDC-65       | New Nuclear Data on Thorium, Uranium and Plutonium Isotopes                                                              | J. E. Sanders, 5-5-55<br>Gt. Brit. Atomic<br>Energy Res. Est.<br>Harwell, Berks, Eng.              |
| *NYO-112(Del.) | Survey of Processes for Radium Recovery from Pitchblende Ores                                                            | A. B. Babcock, Jr. [1950]<br>New York Operations<br>Office, AEC                                    |
| *NYO-218       | Supplementary Laboratory Studies. (Laboratory Studies Relating to the Separation of Boron 10). Polymer Project           | Girdler Co. Gas 7-3-53<br>Processes Div.<br>Process Development and<br>Res. Labs., Louisville, Ky. |
| *NYO-5101      | Effects of Impurities on the Excess Acid Test [In Uranium Refinery Feed Liquors]                                         | R. W. Bragdon, 3-27-45<br>Mallinckrodt Chemical<br>Works, St. Louis                                |
| *NYO-5147      | The Removal of "Vitamin" (Boron) and $\text{SO}_4^{=}$ from Soda Salt                                                    | A. L. Grunewald, 12-4-45<br>Same                                                                   |
| *NYO-5190      | Removal of Molybdenum in Processing AAA [Pitchblende] Ore. VI. Washing Methods                                           | A. S. Tomcufcik, 7-46<br>Same                                                                      |
| *NYO-5224      | The Oxidation of $\text{UO}_2$ in Air and Under Conditions of Storage                                                    | J. Stevenson, 4-1-48<br>J. Boyd,<br>Same                                                           |

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| OMRO-13A                   | Conference on Effects of Nuclear Radiations on Materials<br>[Held at] Watertown Arsenal, October 1 and 2, 1957 | Watertown<br>Arsenal Materials<br>Res. Lab. Mass.              | 2-58     |
| *ORNL-788(Del.)            | Analytical Chemistry Division Quarterly Progress Report for<br>Period Ending June 30, 1950                     | Oak Ridge<br>National Lab., Tenn.                              | 10-4-50  |
| *ORNL-955(Del.)            | Analytical Chemistry Division Quarterly Progress Report for<br>Period Ending January 10, 1951                  | Same                                                           | 3-28-51  |
| *ORNL-962(Del.)            | Chemical Technology Division, Pilot Plant Section Report for<br>November 1950 - January 1951                   | H. K. Jackson,<br>Same                                         | 3-8-51   |
| *ORNL-1242(Del.)           | Decontamination of ORNL Purex Pilot Plant                                                                      | H. P. Wood,<br>Same                                            | 5-5-52   |
| *ORNL-1472(Del.)           | Distillation of Purex Wastes                                                                                   | R. G. Mansfield,<br>Same                                       | 4-24-53  |
| *ORNL-1941(Del.)           | ORNL Metal Recovery Plant Processing Clementine Reactor<br>Fuel Elements. Terminal Report                      | J. L. Matherne,<br>Same                                        | 9-7-55   |
| *ORNL-1986                 | Determination of Trivalent Uranium with Methylene Blue                                                         | W. J. Ross,<br>A. S. Meyer, Jr.,<br>J. C. White,<br>Same       | 11-22-55 |
| *ORNL-1993(Rev.)<br>(Del.) | Chemical Development of the 25-TBP Process                                                                     | J. R. Flanary,<br>J. H. Goode,<br>A. H. Kibbey, et al.<br>Same | 4-9-57   |
| *ORNL-1994(Del.)           | Laboratory Development of the Thorex Process. Progress<br>Report [for] July 1, 1954 to November 30, 1955       | R. P. Wischow,<br>R. G. Mansfield,<br>Same                     | 6-22-56  |

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| *ORNL-2005(Del.) | Chemical Separation of Isotopes Section Semiannual Progress Report for Period Ending June 30, 1955     | Oak Ridge<br>National Lab., Tenn.                                               | 2-23-56  |
| *ORNL-2039(Del.) | Fission Products Activities in Irradiated Natural Uranium, Enriched Uranium, and Thorium               | E. D. Arnold,<br>Same                                                           | 3-28-56  |
| *ORNL-2043       | Determination of Trivalent Uranium in Fluoride Salt Mixtures by the Modified Hydrogen Evolution Method | J. C. White,<br>A. S. Meyer, Jr.,<br>W. F. Vaughan, et al.<br>Same              | 2-28-56  |
| *ORNL-2070(Del.) | Analytical Chemistry Division Semiannual Progress Report for Period Ending April 20, 1956              | H. P. Raaen,<br>Same                                                            | 5-1-56   |
| *ORNL-2168       | Compatibility of Pump Lubricants with Alkali Metals and Molten Fluoride Salts                          | G. Goldberg,<br>A. S. Meyer, Jr.,<br>J. C. White,<br>Same                       | 1-11-57  |
| *ORNL-2210(Del.) | Power Reactor Fuel Processing Status Report for October 1956                                           | R. E. Bianco,<br>W. K. Eister,<br>D. E. Ferguson,<br>Same                       | 1-23-57  |
| ORNL-2473        | Thorex Process: Third Uranium Cycle Studies                                                            | J. R. Oliver,<br>Same                                                           | 4-14-58  |
| ORNL-2477        | A Summary of the Separation Operations                                                                 | M. E. Whatley,<br>Same                                                          | 4-11-58  |
| ORNL-2498        | The Use of Tri-n-Octylphosphine Oxide in the Solvent Extraction of Zirconium                           | J. C. White,<br>W. J. Ross,<br>Same                                             | 4-24-58  |
| *POC/Data-49     | Design Aspects of Precipitator Fission Product Detectors                                               | A. E. Herriott,<br>Gt. Brit. Atomic<br>Energy Res. Est.<br>Harwell, Berks, Eng. | 10-22-56 |
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| *RAE-TN-CHEM-1291          | The Effect of Preloading Under Various Environmental Conditions on the Strength of Glass-Fibre Laminated Plastics                                                                              | M. M. Cornford,<br>W. W. Wright,<br>Gt. Brit. Royal<br>Aircraft Est.<br>Farnborough, Hants, Eng. | 11-56   |
| *RMI-073-Q3                | High Temperature Stable Semiorganic Fluids. Quarterly Progress Report No. 3 [covering period] September 1 to November 30, 1956                                                                 | D. Grafstein,<br>Reaction Motors, Inc.,<br>Denville, N. J.                                       | 1-15-57 |
| RT-1541                    | Electric Oscillations in Disperse Systems. Trans. from Kolloidnyi Zhurnal 10, 148-54 (1948). 12p.                                                                                              | Ia. I. Frenkel'                                                                                  |         |
| *SCTM-183-57(14)           | Evaluation on Temperature Characteristics of Piezo Coefficients of Samples of General Electric Lead Metaniobate and a 56-Mol Per Cent Lead Zirconate-44-Mol Per Cent Lead Titanate Composition | C. A. Sullivan,<br>Sandia Corp.,<br>Albuquerque, N. Mex.                                         | 8-7-57  |
| *SCTM-205-75(16)<br>(Det.) | Properties of Copper-Clad Plastic Laminates for Etched Printed Circuit Boards                                                                                                                  | R. E. Whitford,<br>Same                                                                          | 9-9-57  |
| *SRO-14                    | Production of Electrolytic Thorium Cell Feed by a Wet Chemical Method. Process Report                                                                                                          | C. E. Fisher,<br>Horizons, Inc.,<br>Cleveland                                                    | 3-18-55 |
| *SRO-15                    | Research and Development in the Field of Thorium Chemistry and Metallurgy. Monthly Progress Report [for] March 15 thru April 15, 1955                                                          | J. L. Wyatt,<br>Same                                                                             | 4-26-55 |
| *SRO-16                    | Research and Development in the Field of Thorium Chemistry and Metallurgy. Monthly Progress Report [for] May 16 thru June 15, 1955                                                             | J. L. Wyatt,<br>Same                                                                             | 7-1-55  |
| SRO-17                     | The Preparation of Thorium Metal Powder by Fused Salt Electrochemical Techniques                                                                                                               | J. L. Wyatt,<br>Same                                                                             | [1955]  |

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| *SRO-18         | Expanded Scale Process Development of the Electrolytic Production of Thorium from $\text{ThCl}_4$ in Externally Heated Electrolytic Cells | L. Abraham, 1-15-56<br>M. Merlhub-Sobel,<br>J.L. Wyatt, et al.<br>Horizons Inc.,                                                        |
| *TID-5074(Del.) | The Effects of Fission Radiations on Lubricants and Lubrication. Part III. Static Irradiations                                            | R.O. Bolt, 2-15-52<br>J.G. Carroll,<br>G.H. Denison<br>Calif. Res. Corp.                                                                |
| *TID-5423(Del.) | Laboratory Isotope Mass Spectrometer. Job Specification JS-747, Rev. 2                                                                    | Union Carbide 9-16-55<br>Nuclear Co. K-25 Plant,<br>Oak Ridge, Tennessee                                                                |
| *TID-10145      | Quarterly Progress Report for the Period Ending September 30, 1954                                                                        | C. J. Rodden 12-54<br>New Brunswick Lab.,<br>AEC, N. J.                                                                                 |
| *TID-10146      | Quarterly Progress Report for the Period Ending March 31, 1955                                                                            | C. J. Rodden, 6-55<br>Same                                                                                                              |
| *TID-10163      | Quarterly Progress Report for the Period Ending December 31, 1954                                                                         | C. J. Rodden, 2-55<br>Same                                                                                                              |
| *TID-10174      | Nuclear Engineering Program, 1947-1948. Radiochemistry V.                                                                                 | J. F. Flagg, 4-29-48<br>Knolls Atomic Power<br>Lab., Schenectady, N. Y.                                                                 |
| *TML-89         | Vacuum-Fusion Analysis for Oxygen in Titanium                                                                                             | W. R. Hansen, 12-6-57<br>M. W. Mallett,<br>M. J. Trzeciak,<br>Battelle Memorial Inst.<br>Titanium Metallurgical Lab.,<br>Columbus, Ohio |
| USNRDL-TR-218   | Laboratory Studies on the Decontamination of Radioactive Seawater by Coagulation and Sedimentation                                        | M. Honma, 3-31-58<br>A. E. Greendale,<br>Naval Radiological Defense Lab.,<br>San Francisco, Calif.                                      |

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- \*WADC-TR-53-426(Pt. 5)      Organo-Metallic and Organo-Metalloidal High-Temperature Lubricants and Related Materials. [Period Covered] August 1956 to August 1957      H. Gilman, 7-15-57  
R.D. Gorsoch,  
B.J. Gaj,  
Iowa State Coll., Ames
- \*WADC-TR-56-540      Spiranes and other Rigid Molecules      D. J. Cram, 10-56  
California Univ.,  
Los Angeles
- WADC-TR-56-646(Part II)      Effects of Radiation on Aircraft Lubricants and Fuels. [Second Summary Report Covering Period] November 30, 1957 to January 31, 1958      R.O. Bolt, 1-31-58  
J.G. Carroll,  
California Res. Corp.,  
Richmond, Calif.
- \*WADC-TR-57-45 (Pt. I)      High Temperature Stable Semiorganic Fluids. Period Covered: March 1, 1956 to February 15, 1957      D. Grafstein, 2-15-57  
R. Dudak,  
M.S. Cohen, et al.  
Reaction Motors Inc.,
- \*WADC-TR-57-212      X-Ray Emission Lines and  $2\theta$  values for Lithium Fluoride Analyzing Crystal. [Period Covered] February 1956 to March 1957      W.L. Baun, 3-15-57  
R.E. Brocklehurst,  
Wright Air Development  
Center. Materials. Lab.,  
Wright-Patterson AFB, Ohio
- \*WADC-TR-57-359      Analytical Applications of Far Infrared Spectra I Historical Review, Apparatus and Techniques. Period Covered: September 1954 to December 1956      F.F. Bentley, 7-11-57  
E.F. Wolfarth,  
N.E. Srp, et al.,  
Same
- \*WADC-TR-57-391      Polymerization Through Coordination      J.C. Bailar, Jr., 8-1-57  
W.C. Drinkard, Jr.,  
M.L. Judd,  
Illinois Univ., Urbana

|                    |                                                                                                                                                          |                                                                                                                     |          |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------|
| *WAL-TR-833/7      | Mass Spectrometric Analysis of Low Concentration HD in Mixtures with Hydrogen                                                                            | E. R. Washwell,<br>W. J. McMahon,<br>A. Kant,<br>Watertown Arsenal Lab., Mass.                                      | 11-57    |
| *WAPD-ADC-61       | Radiochemical Analyses of the S1W Plant Particulate Corrosion Products for the Period of the Extended High Power Run--<br>June 3, 1956 to August 8, 1956 | R. S. Gilbert,<br>R. N. Osborne,<br>G. L. Grandy, et al.<br>Westinghouse Electric<br>Corp. Bettis Plant, Pittsburgh | 12-3-56  |
| *WAPD-CP-79        | Lithium Borate Solubility Test in a Dynamic System                                                                                                       | B. G. Schultz,<br>Same                                                                                              | 9-3-53   |
| *WAPD-EM-177(Rev.) | Investigation of Pulse Channel Operation with a Fission Counter in High Gamma Radiation                                                                  | J. Kostalos,<br>Same                                                                                                | 10-18-57 |

### ENGINEERING

|                  |                                                                                                      |                                                                                |         |
|------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------|
| AERE-E/R-2217    | The Viscosity Plate Thrust Bearing                                                                   | D. V. Wordsworth,<br>Gt. Brit. Atomic Energy<br>Res. Est. Harwell, Berks, Eng. | 10-52   |
| AERE-R/M-148     | The Commissioning and Operation of a Small Bismuth Loop and Tests on a D. C. Electromagnetic Pump    | E. H. Aldworth,<br>Same                                                        | 10-57   |
| CF-58-2-49       | Reed Beeler Boiler High Pressure Steam System and Thermal Cycling Facility. Summary Report           | P. P. Holz,<br>Oak Ridge National Lab., (Tenn.)                                | 2-12-58 |
| IGR-TNCA-768     | Experiments on a Fluid Piston Bearing                                                                | J. L. Dickson,<br>Gt. Brit.<br>Capenhurst Works, Capenhurst,<br>Ches., Eng.    | 9-57    |
| *MLM-CF-57-10-31 | Nuclear Battery-Thermocouple Type Third Quarterly Report<br>[for] July 1, 1957 to September 30, 1957 | B. C. Blanke,<br>Mound Lab., Miamisburg, Ohio                                  | 9-30-57 |

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|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------|
| Monograph 2931              | An Electrical Engineer's World--1957. Reprinted from Electrical Engineering 77, 181-4 (1958).                               | S. B. Ingram<br>Bell Telephone Labs., Inc.,                                                    | 3-58     |
| *NACA-RM-52D03              | Design of Apparatus for Determining Heat Transfer and Frictional Pressure Drop of Nitric Acid Flowing Through a Heated Tube | B. A. Reese,<br>R. W. Graham,<br>Purdue Univ.,<br>Lafayette, Ind.                              | 6-16-52  |
| *NP-6515                    | Impact Effect of Fragments Striking Structural Elements                                                                     | R. A. Williamson,<br>R. R. Alvy,<br>Holmes and Narver, Inc.,<br>Los Angeles                    | [1957]   |
| *NP-6516                    | Design of Pressure Vessels and Piping Containing Explosive Mixtures                                                         | R. R. Alvy,<br>Same                                                                            | [1957]   |
| PR-ED-15                    | Engineering Development and Special Projects Division. Progress Report [for/ October 1, 1957 to December 31, 1957           | Atomic Energy of<br>Canada Ltd., Chalk<br>River Project, Chalk River, Ont.                     |          |
| *R-50GL231                  | Investigation of Liquid Metal Lubricated Bearings                                                                           | H. Apkarian,<br>General Electric Co.<br>General Eng. and Consulting Lab.<br>Schenectady, N. Y. | 11-27-50 |
| *TID-278(Del.)              | Heat Transfer. Reports from Session XII, General Information Meeting, October 24, 25, 26, 1949, Oak Ridge, Tennessee        | Technical Information Service,<br>AEC                                                          |          |
| *WADC-TR-56-272             | Design Data for O-Rings and Similar Elastic Seals. [Period Covered] July 1955 to April 1956                                 | F. W. Tipton,<br>Boeing Airplane Co., Seattle                                                  | 5-56     |
| *WADC-TR-56-272<br>(Pt. II) | Design Data for O-Rings and Similar Elastic Seals. [Period Covered] May 1956 to March 1957                                  | R. J. Dunsmoor,<br>H. R. Hack,<br>F. W. Tipton, et al.<br>Same                                 | 6-30-57  |
| *WAPD-AD(V)-662             | Crane Company Seal Leakage Program                                                                                          | F. J. Hartz,<br>Crane Co., Chicago                                                             | 1-31-55  |

\*WAPD-CTA(RM)- 312 Friction Fundamentals Outline

\*WAPD-FE-175 Pressure Drop Through a Rotated Plate Subassembly

N. B. Dewees, 11-29-55  
Westinghouse Electric  
Corp. Bettis Plant, Pittsburgh

R. A. DeBortoli, 6-23-54  
Same

METALLURGY AND CERAMICS

AERE-M/M-179 Preliminary Fabrication Studies on U-Th-Be Fuel Elements  
(AAEC/ARC/P-48)

W. J. Wright, 10-57  
Gt. Brit. Atomic Energy  
Res. Est. Harwell, Berks,  
Eng.

AERE-M/R-2144A Plug Formation During the Circulation of a Thorium Bismuth  
Slurry by Convection. Part II. Inhibited System

G. H. Broomfield, 9-57  
Same

AERE-M/R-2432 The Effect of a Brittle Case on the Notched Impact Transition of  
Unirradiated and Irradiated Steel

D. Hull, 11-57  
Same

\*BMI-810(Del.) Protective Coatings for Molybdenum

C. F. Powell, 2-17-53  
R. P. Jones,  
A. C. Secrest, et al.  
Battelle Memorial Inst.,  
Columbus, Ohio

BNL-3472 Fractional Precipitation Processes for Liquid Metal Fuels

R. J. Teitel, 3-58  
Brookhaven National Lab.,  
(Upton, N. Y.)

CRL-51 Uranium Dioxide. A Promising Nuclear Fuel. A Metallurgy  
(AECL-553) Seminar to be Presented at the University of Toronto,  
Jan. 24, 1958 and at McMaster University, Feb. 20, 1958

O. J. C. Runnalls, 1-58  
Atomic Energy of  
Canada Ltd., Chalk River  
Project, Chalk River, Ont.

\*Microcards

CRRD-750  
(AECL-560)

An Eddy Current Device for Measuring Aluminum Cladding on Uranium Fuel Elements

A. R. Jones, 2-58  
Atomic Energy of Canada  
Ltd. Chalk River Project,  
Chalk River

HW-54932

Evaluation of Welded and Seamless Zirconium and Zircaloy-2 Tubing. Interim Report. Initial Metal Preparation and Seamless Tube Fabrication and Testing

S. H. Bush, 2-10-58  
Hanford Atomic Products  
Operation, Richland, Wash.

KAPL-1880

The Electron Metallography of Some Aluminum Alloys

F. D. Leipsiger, 10-57  
Knolls Atomic Power Lab.,  
(Schenectady, N. Y.)

KAPL-1909

Irradiation Behavior of Dispersion Fuels

D. W. White, 10-1-57  
A. P. Beard,  
A. H. Willis,  
Same

\*MAB-121-M

Uniform Testing Procedures for Sheet Materials. Part 4. Bearing Test. Part 6. Crippling Test. Report No. 3 of Task Force on Uniform Procedures for Structural Design Data Collection

National Res. 11-27-57  
Council. Materials  
Advisory Board

MISC-1958-40  
No. 48

Forty-Eighth Quarterly Report to Sponsors of the Institute for the Study of Metals

Chicago. Univ. Inst. 3-58  
for the Study of Metals

MISC-1958-174  
No. 10

Accession List No. 10 [Covering the Period] March 1 to March 31, 1958

Battelle Memorial Inst. 4-15-58  
Radiation Effects Information  
Center, Columbus, Ohio

\*MIT-1052(Pt. I  
(Del.))

Technical Progress Report for the Period April Through June 1950

Mass. Inst. of Tech., 9-8-50  
Cambridge, Metallurgical  
Project

\*MIT-1078(Del.)

Technical Progress Report for the Period April 1951 through September 1951

Same 4-1-52

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|                      |                                                                                                                    |                                                                                 |          |
|----------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------|
| *MIT-2018(Del.)      | Progress Report for January 1954                                                                                   | Mass. Inst. of Tech., Cambridge.<br>Metallurgical Project                       | 1-27-54  |
| MIT-RLE-TR-328       | The Spectral Emissivity and Optical Properties of Tungsten.<br>(Thesis)                                            | R. D. Larrabee,<br>Mass. Inst. of Tech., Cambridge. Res.<br>Lab. of Electronics | 5-21-57  |
| *NAA-SR-14(Del.)     | Results of Resistivity-Range Measurements on Graphite Bombarded with Charged Particles                             | F. Faris,<br>North American Aviation, Inc.,<br>Downey, Calif.                   | 10-12-50 |
| *NAA-SR-28(Del.)     | Lecture on Relaxation Effects in Irradiated Graphite                                                               | F. W. Brown,<br>North American Aviation, Inc., Los Angeles                      | 2-22-49  |
| *NAA-SR-60(Del.)     | An Improved Method for Determining Activation Energies of Relaxation Processes                                     | G. J. Dienes,<br>W. E. Parkins,<br>Same                                         | 4-12-50  |
| *NAA-SR-94(Del.)     | Corrosion Problems in the NPR                                                                                      | R. L. Loftness,<br>M. H. Feldman,<br>Same                                       | [1951]   |
| *NAA-SR-119(Del.)    | Changes in the Thermal and Electrical Properties of Irradiated Graphite During Pulse-Annealing                     | A. S. Hook,<br>Same                                                             | 1-24-52  |
| *NAA-SR-836(Del.)    | Effect of Reactor Irradiation on the Thermal Conductivity of Uranium Impregnated Graphite at Elevated Temperatures | R. E. Durand,<br>D. J. Klein,<br>F. R. Nykiel,<br>Same                          | 4-29-54  |
| *NAA-SR-MTA-24(Del.) | Corrosion of "Croloy" Steel by Liquid Bismuth Under Cyclotron Irradiation                                          | N. S. Rasor,<br>A. A. Epp,<br>Same                                              | [1951?]  |

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|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------|
| *NACA-TN-3766   | Radiation and Recovery Corrections and Time Constants of Several Chromel-Alumel Thermocouple Probes in High-Temperature, High-Velocity Gas Streams             | G. E. Clawe,<br>F. S. Simmons,<br>T. M. Stickney,<br>Lewis Flight Propulsion Lab.,<br>Cleveland | 10-56    |
| *NACA-TN-4082   | Abnormal Grain Growth in Nickel-Base Heat-Resistant Alloys                                                                                                     | R. F. Decker,<br>A. I. Rush,<br>A. G. Dano, et al.<br>Michigan Univ.,<br>Ann Arbor              | 12-57    |
| *NARF-57-53-T   | Radiation Damage to Metal Bonded and Sandwich Panels-I.                                                                                                        | R. E. Johnson,<br>F. Sicilio,<br>Convair, Fort Worth, Tex.                                      | 11-26-57 |
| *NEPA-1244      | Development of Apparatus and Methods for Measurement of Creep to Temperatures of 3500°F. Progress Report No. 17 [for] November 15 to December 16, 1949.        | M. J. Sinnott,<br>Michigan Univ., Ann<br>Arbor. Eng. Res. Inst.                                 | 12-16-49 |
| *NEPA-1313      | Development of Apparatus and Methods for Measurement of Creep to Temperatures to 3500°F. Progress Report No. 19 [for] January 15, 1950 to February 15, 1950    | M. J. Sinnott,<br>Michigan Univ.                                                                | 2-20-50  |
| NMI-1182        | Annual Progress Report to the AEC Research Division for the Period July 1, 1956 through July 1, 1957                                                           | Nuclear Metals, Inc.,<br>Cambridge, Mass.                                                       | 11-20-57 |
| NMI-1198        | Quarterly Progress Report to the AEC Research Division for the Period October 1, 1957 through December 31, 1957                                                | S. Isserow,<br>W. B. Nowak,<br>E. J. Rapperport, et al.<br>Same                                 | 1-10-58  |
| *NMI-2045(Del.) | Fundamental and Applied Research and Development in Metallurgy. Progress Report for April 1956                                                                 | Same                                                                                            | 5-3-56   |
| *NP-6402        | Materials Evaluation in Relation to Component Behavior. Proceedings of the Third Sagamore Ordnance Materials Research Conference on December 5, 6, and 7, 1956 | Syracuse Univ.<br>N. Y. Res. Inst.                                                              |          |

|                 |                                                                                                                   |                                                                                        |          |
|-----------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------|
| *NP-6481        | Notes of a Meeting on Coatings for Titanium                                                                       | Battelle Memorial Inst. Titanium Metallurgical Lab., Columbus, Ohio                    | 10-15-57 |
| *NP-6492        | Measurement of Thermal Properties. Progress Report No. 4 [for] August and September, 1957                         | J. T. Lang, I. B. Fieldhouse, Ill. Inst. of Tech., Chicago. Armour Res. Foundation     | 10-14-57 |
| *NP-6497        | Bend Tests and Forming Tests on Titanium Alloys                                                                   | Battelle Memorial Inst.                                                                | 11-8-57  |
| *NP-6506        | Metallurgical and Mechanical Characteristics of High-Purity Titanium-Base Alloys. Quarterly Progress Report No. 5 | F. C. Holden, J. A. Houck, H. R. Ogden, et al. Battelle Memorial Inst., Columbus, Ohio | 5-31-57  |
| *NP-6509        | The Present State of Development of Iron-Aluminum-Base Alloys                                                     | W. J. Lepkowski, J. W. Holladay, Same                                                  | 11-18-57 |
| *NP-6510        | The Measurement of Grain Contiguity in Two-Phase Alloys. Technical Report No. 2                                   | J. Gurland, Brown Univ., Providence                                                    | 11-57    |
| NYO-4876        | The Adaptation of New Research Techniques to Mineral Engineering Problems. Progress Report                        | Mass. Inst. of Tech., Cambridge. Dept. of Metallurgy                                   | 1-31-58  |
| *NYO-5054(Del.) | Graphite Liner Program. Report No. 2.                                                                             | Mallinckrodt Chemical Works, St. Louis                                                 | 6-26-44  |
| *NYO-5055(Del.) | Graphite Liner Program. Report No. 3.                                                                             | J. V. Opie, Same                                                                       | 7-15-44  |
| *Microcards     |                                                                                                                   |                                                                                        |          |

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|---------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------|
| *NYO-5056(Del.)     | Graphite Liner Program Report No. 4                                                                            | Mallinckrodt<br>Chemical Works,<br>St. Louis                                                                | 8-14-44 |
| *NYO-5057(Del.)     | Graphite Liner Program. Report No. 5                                                                           | Same                                                                                                        | 11-6-44 |
| *ORNL-1915(Del.)    | Investigation of Materials for a Water Cooled and Moderated Reactor                                            | L. Scheib,<br>Oak Ridge National<br>Lab., Tenn.                                                             | 8-54    |
| *ORNL-2078(Del.)    | Metallurgy Division Semiannual Progress Report for Period Ending October 10, 1955                              | Same                                                                                                        | 6-14-56 |
| OMRO-13A            | Conference on Effects of Nuclear Radiations on Materials<br>[Held at] Watertown Arsenal, October 1 and 2, 1957 | Watertown Arsenal.<br>Materials Res. Lab., Mass.                                                            | 2-58    |
| *RAE-TN-MET-<br>253 | An Optical Apparatus for Continuous Measurement of Shrinkage at High Temperature                               | J. Hutchings,<br>J. P. Roberts,<br>Gt. Brit. Royal Aircraft<br>Est., Farnborough,<br>Hants, Eng.            | 8-56    |
| *SC-4128(TR)        | Static Failure of an Aircraft-Type Beam                                                                        | W.B. Stephenson,<br>E. R. Ripperger,<br>Sandia Corp.,<br>Albuquerque, N. Mex.                               | 10-57   |
| SCTM-3-58(16)       | Test of 61S-T6 Aluminum Sheet Under Short-Duration, High Rate of Rise, Heating                                 | J.A. Barber,<br>Same                                                                                        | 1-20-58 |
| *SEP-170(Del.)      | Determination of Bonding of Thin Clad Composites by Ultrasonic Techniques                                      | H.I. Raiklen,<br>R. V. Rubino,<br>Sylvania Electric<br>Products Inc., Atomic Energy<br>Div., Bayside, N. Y. | 7-19-54 |

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| SO-2056          | Energetics of Dilute Solutions of the Noble Metals in Liquid Tin                                                                                                                         | R. A. Oriani,<br>W. K. Murphy,<br>General Electric Co.<br>Res. Lab.,<br>Schenectady, N. Y.                          | 4-58     |
| *SOM-104         | Process Development and Fabrication of S3G Fuel Elements.<br>Technical Summary No. 3 for June - July 1957                                                                                | Olin Mathiessen<br>Chemical Corp.<br>Nuclear Fuel Div.,<br>New Haven, Conn.                                         | 8-6-57   |
| *TID-7507(Del.)  | The 1955 Meeting of AEC Welding Committee, Savannah River<br>Plant, September 7-8, 1955                                                                                                  | Division of Reactor<br>Development, AEC                                                                             | 7-56     |
| TID-7546(Book 1) | Fuel Elements Conference [Held at] Paris, November 18-23,<br>1957. Sessions I, II, and III.                                                                                              | France. Commissariat<br>A L'Energie Atomique,<br>Paris and Atomic Energy<br>Commission, (Washington,<br>D. C.)      |          |
| TID-7546(Book 2) | Fuel Elements Conference [Held at] Paris, November 18-23,<br>1957. Sessions IV, V, VI, and VII                                                                                           | Same                                                                                                                | 3-58     |
| *TML-73          | The Physical Properties of Titanium and Titanium Alloys                                                                                                                                  | W. J. Lepkowski,<br>J. W. Holladay,<br>Battelle Memorial<br>Inst. Titanium<br>Metallurgical Lab.,<br>Columbus, Ohio | 7-25-57  |
| *TML-88          | The Salt Corrosion of Titanium Alloys at Elevated Temperature<br>and Stress. Progress Report                                                                                             | Same                                                                                                                | 11-20-57 |
| *UK/C/6/108      | Effect of Neutron Irradiation on Mechanical Properties of<br>Ferritic Steels. [Paper Presented at] Sixth UK/Canada<br>Technical Conference, Chalk River, Ontario, October 21-22,<br>1957 | L. P. Trudeau,<br>Atomic Energy of Canada<br>Ltd. Chalk River Project,<br>Chalk River, Ont.                         | 9-57     |

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USBM-U-422

Zirconium Progress Report for the Period of December 15, 1957 - H. Kato,  
March 15, 1958

4-15-58

R.A. Beall,  
H.P. Holmes, et al.  
Bureau of Mines.  
Northwest Electro-  
development Experimental  
Station, Albany, Oreg.

\*WADC-TN-57-247

Crystallographic Structure and Orientation of the  $\gamma'$  Phase in  
Four Commercial Nickel-Base Alloys

J.A. Amy, 7-57  
W.C. Bigelow,  
Michigan Univ., Ann  
Arbor. Engineering Res. Inst.

\*WADC-TR-53-190  
(Pt. 5)

New High Temperature Intermetallic Materials. [Period Covered]  
September 2, 1955 through November 2, 1956

R.D. Griethal, 11-56  
Firth Sterling Inc.,  
American Electro Metal Div.,  
Yonkers, N. Y.

\*WADC-TR-54-278  
(Pt. 4)

Development of Titanium-Base Alloys for Elevated Temperature  
Application. Period Covered: January 1, 1956 to March 31, 1957

F.A. Crossley, 3-57  
W.F. Carew,  
D.W. Levinson,  
Ill. Inst. of Tech.,  
Chicago. Armour Res. Foundation

\*WADC-TR-54-391

Investigation on Notch Sensitivity of Heat-Resistant Alloys at  
Elevated Temperature. (Rupture Strength of Notched Bars  
at High Temperatures).

R.L. Carlson, 10-54  
R.J. MacDonald,  
W.F. Simmons,  
Battelle Memorial Inst.  
Columbus, Ohio

\*WADC-TR-55-243

Development of Alloys Having Good High Temperature Properties  
through Powder Metallurgy Techniques. [Period Covered: July 1954  
to April 1955]

R. Kieffer, 5-13-55  
F. Benesovsky,  
Metallwerk Plansee,  
Reutte, Tyrol, Austria

\*WADC-TR-55-491  
(Pt. II)

Research on Elevated Temperature Resistant Ceramic Structural  
Adhesives. Period Covered: November 1955 to October 1956

H.G. Lefort, 12-56  
R.M. Spriggs,  
D.G. Bennett,  
Ill. Univ. Urbana

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|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------|
| *WADC-TR-56-122              | Effect of Fatigue Stress History on Elasticity Properties and Stress Distribution Under Rotating Bending                                                                                    | L. C. Lidstrom,<br>B. J. Lazan,<br>Minnesota Univ.,<br>Minneapolis                  | 8-56     |
| *WADC-TR-56-227              | An Experimental Study Relating to the Prediction of Elevated-Temperature Structural Behavior from the Results of Tests at Room Temperature                                                  | H. F. Allen,<br>Michigan Univ., Ann<br>Arbor. Eng. Res. Inst.                       | 4-56     |
| *WADC-TR-56-340              | Determination of Tensile, Compressive, Bearing, and Shear Properties of Ferrous and Nonferrous Structural Sheet Metals at Elevated Temperatures. Period Covered: January 1955 to March 1956 | J. V. Melonas,<br>J. R. Kattus,<br>Southern Res. Inst.,<br>Birmingham, Ala.         | 10-56    |
| *WADC-TR-56-478              | Literature Survey of the Corrosion of Magnesium and Magnesium Alloys. [Period Covered] July 1955 to November 1956                                                                           | H. S. Sack,<br>B. P. Roe,<br>Cornell Univ.,<br>Ithaca, N. Y.                        | 12-13-56 |
| *WADC-TR-56-633              | Research on Intermetallic Containers for Melting Titanium. [Period Covered] September 1, 1955 through October 31, 1956                                                                      | W. B. Crandall,<br>C. H. McMurtry,<br>D. D. Button<br>N. Y. State Univ.             | 10-56    |
| *WADC-TR-57-135              | A Study of Graded Cermet Components for High Temperature Turbine Applications. [Period Covered] May 1, 1956 to February 28, 1957                                                            | H. W. Lawendel,<br>C. G. Goetzel,<br>Sintercast Corp. of<br>America, Yonkers, N. Y. | 5-24-57  |
| *WADC-TR-57-194<br>(Pt. II)  | Investigation of Alloys of Magnesium and Their Properties. Part II. Thermal and Electrical Properties of Magnesium Base Alloys. [Period Covered] March 1956 to January 1957                 | H. Baker,<br>Dow Chemical Co.,<br>Midland, Mich.                                    | 5-1-57   |
| *WADC-TR-57-194<br>(Pt. III) | Investigation of Alloys of Magnesium and Their Properties. Part III. Development of Preferred Orientation in Wrought Magnesium Alloys. Period Covered March 1956 to January 1957            | S. L. Couling,<br>Dow Chemical Co.,<br>Midland, Mich.                               | 5-1-57   |

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|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------|
| *WADC-TR-57-241<br>(Pt. I)  | Development of a Corrosion Resistant Magnesium Alloys.<br>Part I. Development of Magnesium Alloys for Better<br>Corrosion Resistance. [Period Covered] May 1955 to<br>September 1956 | M. Balicki,<br>C. D'Antonio,<br>A. Kravic,<br>Brooklyn Polytechnic Inst.       | 3-22-57 |
| *WADC-TR-57-241<br>(Pt. II) | Development of a Corrosion Resistant Magnesium Alloy.<br>Part II. Surface Tension Data of Elements. [Period<br>Covered] May 1955 to September 1956                                   | V. P. Siuta,<br>M. Balicki,<br>Brooklyn Polytechnic Inst.                      | 3-22-57 |
| *WADC-TR-57-242             | Investigation of Fe-Mn-Cr-N-C System for Heat Resistance<br>and Oxidation Resistance Between 1200 F and 2000 F.<br>[Period Covered] January 1956 to December 1956                    | Chi-Mei Hsiao,<br>E. J. Dulis,<br>Crucible Steel Co.<br>of America, Pittsburgh | 9-4-57  |
| *WADC-TR-57-251<br>(Pt. I)  | High Temperature Brittleness in Titanium Alloys. [Period<br>Covered]: March 1956 to March 1957                                                                                       | N. Makrides,<br>W. M. Baldwin, Jr.<br>Case Inst. of Tech.,<br>Cleveland        | 3-57    |
| *WADC-TR-57-269             | Partition of Soluble Carbon in Ti-6Al-4V Alloy. Period Covered:<br>February 1, 1956 to February 28, 1957                                                                             | R. D. Seibel,<br>R. L. Beck,<br>L. E. Olds,<br>Denver Univ. Denver Res. Inst.  | 7-15-57 |
| *WADC-TR-57-298<br>(Pt. 1)  | Iron-Aluminum Alloy Systems. Part I. Fundamental Studies<br>and Alloy Development. Period Covered: April 1956 through<br>March 1957                                                  | F. X. Kayser,<br>Ford Motor Co.,<br>Dearborn, Mich.                            | 4-57    |
| *WADC-TR-57-298<br>(Pt. 2)  | Iron-Aluminum Alloy Systems. Part 2. Some Investigations in<br>Air-Melting and Application of Iron-Aluminum Alloys. Period<br>Covered: April 1956 through March 1957                 | J. J. Clark,<br>W. J. Zager,<br>Same                                           | 4-57    |
| *WADC-TR-57-298<br>(Pt. 3)  | Iron-Aluminum Alloy Systems. Part 3: Welding of Iron-Aluminum<br>Alloys. Period Covered: April 1956 through March 1957                                                               | R. Burthwick,<br>S. Goodman,<br>Same                                           | 4-57    |
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- \*WADC-TR-57-309 Joining of Molybdenum. [Period Covered] February 15, 1956 to April 15, 1957  
W.N. Platte,  
Westinghouse Electric  
Corp. Res. Labs.,  
East Pittsburgh, Penna.
- \*WADC-TR-57-317 The Development of Testing Procedures and the Evaluation of Coatings for Tantalum, Graphite, Nickel, and Copper [Period Covered] October 15, 1955 to January 15, 1957  
W.A. Spraker, 7-10-57  
A.E. Weller,  
R.E. Hess, et al.  
Battelle Memorial Inst.,  
Columbus, Ohio
- \*WADC-TR-57-360 Research on the Effects of Stress, Strain, and Temperature on the Eutectoid Decomposition of Titanium Alloys. [Period Covered] February 1, 1956 to May 30, 1957  
A.W. Goldenstein, 5-27-57  
A.G. Metcalfe,  
W. Rostoker,  
Ill. Inst. of Tech.,  
Chicago. Armour Res.  
Foundation
- \*WADC-TR-57-374 Physical Properties of High Temperature Materials. Part II. (Pt. II) The Heat Capacity of Zirconium, Several Zirconium Hydrides, and Certain Cladding Materials from 0° to 900°C; Relation to Other Thermodynamic Properties of the Zr-H System  
T.B. Douglas, 8-1-57  
A.C. Victor,  
National Bureau of  
Standards, Wash. D.C.
- \*WADC-TR-57-491 SiC-Graphite Body for Elevated Temperature Service (Pt. I)  
C.F. Cline, 6-57  
Carborundum Co.,  
Niagara Falls, N.Y.
- \*WAL-401/267-1 Study of the Stability of Arcs with Titanium Electrodes in Argon and Helium. Technical Report No. 2 [on] Fundamental Characteristics of Titanium Arcs in the Inert Gases  
T.B. Jones, 9-56  
E.H. Young,  
Johns Hopkins Univ.,  
Baltimore Inst. for  
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- \*WAL-401/282 Uniformity of Commerical Titanium Alloy Ingots. Phase I: Alloys Ti-6% Al-4% V and Ti-8% Mn; Ingots Produced from Mallory-Sharon Titanium Corporation, Niles, Ohio  
S.V. Arnold, 8-57  
Watertown Arsenal Lab., Mass.

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| *WAL-TR-401/265          | Quantitative Phase Analysis in Titanium by X-Ray Diffraction                                 | S. L. Lopata,<br>Watertown Arsenal Lab., Mass.                                                 | 12-57   |
| *WAL-TR-401/284          | The Elevated Temperature Characteristics of Internally Oxidized Titanium-Cerium Alloys       | R. H. Hiltz, Jr.<br>Same                                                                       | 10-57   |
| *WAPD-51(Rev.)           | The Tensile Properties of Zirconium Alloys at Fabrication Temperatures and Strain Rates      | C. R. Simcoe,<br>D. E. Thomas,<br>Westinghouse Electric Corp. Atomic Power Div.,<br>Pittsburgh | 3-18-52 |
| *WAPD-78(Del.)           | Effects of Neutron Bombardment Upon the Properties of Zirconium and of a Zirconium-Tin Alloy | M. L. Bleiberg,<br>L. S. Castleman,<br>Same                                                    | 3-17-53 |
| *WAPD-83(Del.)           | A Modified Cathodic Vacuum Etching Procedure with Versatile Metallographic Applications      | T. R. Padden,<br>F. Cain, Jr.,<br>Same                                                         | 5-25-53 |
| *WAPD-AIW(RD)-366 (Rev.) | Stress Analysis of Plate-Type Fuel Subassemblies                                             | B. R. Teer,<br>D. E. Nestler,<br>Same                                                          | 12-57   |
| WAPD-BT-6                | Bettis Technical Review, No. 6. Reactor Metallurgy                                           | Same                                                                                           | 1-58    |
| *WAPD-C-110              | Crud Memorandum No. 13                                                                       | D. M. Wroughton,<br>Same                                                                       | 1-12-53 |
| *WAPD-C-115              | Crud Memorandum No. 14                                                                       | D. M. Wroughton,<br>Same                                                                       | 1-26-53 |
| *WAPD-C-122              | Crud Memorandum No. 16 (Contains information through February 23, 1953)                      | D. M. Wroughton,<br>Same                                                                       | 3-2-53  |
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| *WAPD-C-125                                                                    | Crud Memorandum No. 17 (Contains information through March 9, 1953).                                                        | D. M. Wroughton,<br>Westinghouse Electric<br>Corp. Atomic Power<br>Div., Pittsburgh | 3-12-53 |
| *WAPD-C-135                                                                    | Crud Memorandum No. 19. (Contains information through April 6, 1953)                                                        | D. M. Wroughton,<br>Same                                                            | 4-9-53  |
| *WAPD-C-141                                                                    | Crud Memorandum No. 21. (Contains Information through May 4, 1953).                                                         | D. M. Wroughton,<br>Same                                                            | 5-7-53  |
| *WAPD-C-144                                                                    | Crud Memorandum Number 22. (Contains information through May 18, 1953)                                                      | D. M. Wroughton,<br>Same                                                            | 6-2-53  |
| *WAPD-C-152                                                                    | Crud Memorandum Number 24. (Contains information through July 1, 1953)                                                      | D. M. Wroughton,<br>Same                                                            | 8-17-53 |
| *WAPD-CTA-(EML)-Summary of Bettis Experience with Seal Welding Machines<br>199 |                                                                                                                             | J. J. Gertz,<br>Same                                                                | 1-18-57 |
| *WAPD-CTA(MPA)- SIW Port Stainless Steel Steam Generator<br>1456               |                                                                                                                             | E. Landerman,<br>Same                                                               | 8-10-56 |
| *WAPD-FE-62                                                                    | A Procedure for the Fabrication [of] Clad Pellets or Rods by Extrusion                                                      | J. Halapatz,<br>Same                                                                | 4-21-54 |
| *WAPD-FE-68                                                                    | An Evaluation of Extrusion Billet Design--Steel Jacketing Vs. Bare Extrusions. Report on Experiment PWR 11d1.               | J. Halapatz,<br>Same                                                                | 4-26-54 |
| *WAPD-FE-77                                                                    | The Pressure Bonding of Natural Uranium in Zircaloy-2 Hemispherical Cups                                                    | B. E. Schaner,<br>Same                                                              | 5-8-54  |
| *WAPD-FE-85(Rev.)                                                              | The Effect of Stabilized Uranium Filament Size in Multifils on the Type of Corrosion Failure. Report of Experiment PWR 11C1 | J. Halapatz,<br>Same                                                                | 6-15-54 |

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| *WAPD-FE-152 | Fuel Element Annealing. Experiment 3d6                                                                                                                     | H. R. Hoge,<br>Westinghouse Electric<br>Corp. Atomic Power Div.,<br>Pittsburgh | 5-26-54  |
| *WAPD-FE-197 | Hardness Conversion for Uranium-Base Alloys. Report PWR<br>Experiments 6b2 and 6c2                                                                         | W. L. Mudge, Jr.<br>Same                                                       | 7-23-54  |
| *WAPD-FE-230 | Zircaloy-2 Clad BI-Metal Fuel Extrusion. Report on Experiment<br>11aj(1)                                                                                   | R. E. Droegkamp,<br>Same                                                       | 11-4-54  |
| *WAPD-FE-231 | Investigation of Barrier Layers for Extruded Zircaloy-2 Clad<br>Molybdenum-Uranium Rods. Report on experiment 11 f (1)                                     | R. E. Droegkamp,<br>Same                                                       | 11-4-54  |
| *WAPD-FE-452 | PWR Flat Rod Manufacture by Forging. Report on Experiment<br>11vi                                                                                          | R. E. Droegkamp,<br>Same                                                       | 9-15-54  |
| *WAPD-FE-456 | Extrusion of Unclad Natural Uranium and Molybdenum-Natural<br>Uranium Rod for TRX. Report on Experiment 7c4.                                               | R. W. Tombaugh,<br>Same                                                        | 9-29-54  |
| *WAPD-FE-464 | Fabrication of Mechanically Bonded Fuel Element Rod from<br>Assembled Components by Cold Swaging and Drawing. Report<br>on Experiments 11al(1) and 11al(2) | H. J. Snyder,<br>Same                                                          | 10-4-54  |
| *WAPD-FE-489 | Experiment 10-m-2 Evaluation of the Bond Between the U-Mo<br>Fuel and Cladding Material                                                                    | H. R. Hoge,<br>Same                                                            | 10-11-54 |
| *WAPD-FE-493 | Information Regarding 12 Zircaloy-2 Clad UO <sub>2</sub> Filled Rods<br>Transferred to the Metallurgy Subdivision for Irradiation Damage<br>Study          | B. E. Schaner,<br>Same                                                         | 10-23-54 |
| *WAPD-FE-525 | Report on Experiment 2a6 Hardness of Zircaloy-B                                                                                                            | H. R. Hoge,<br>Same                                                            | 12-3-54  |
| *WAPD-FE-704 | Proposal for WAPD-NRX-CR-5 Test of U-Mo and UO <sub>2</sub><br>Bundles.                                                                                    | K. M. Goldman,<br>Same                                                         | 3-17-55  |
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PHYSICS

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| AERE-T/R-2300 | On the Image Field in a Cut Wall                                                                                                                                          | W.B. Thompson, 9-57<br>Gt. Brit. Atomic Energy<br>Res. Est. Harwell, Berks, Eng.                                                          |
| AERE-T/R-2423 | Vertical Motion in Spiral-Ridged Accelerators                                                                                                                             | J.W. Burren, 12-57<br>Same                                                                                                                |
| CU-172        | Summary of the International Conference on Neutron Interactions with Nuclei Held at Columbia University, September 9-13, 1957. Experimental Aspects. Theoretical Aspects. | M.I. Pevzner, 2-1-58<br>C.E. Porter,<br>Columbia Univ., New York.<br>Pupin Cyclotron Lab. and<br>Columbia Univ., New York.<br>Pegram Lab. |
| IDO-16405     | Pile Production of Plutonium-240 from Plutonium-239 Irradiated under Time Variable Flux Conditions                                                                        | R.J. Howerton, 8-23-57<br>Phillips Petroleum Co.<br>Atomic Energy Div., Idaho<br>Falls, Idaho                                             |
| INSJ-8        | A Logarithmic Representation of Phot-Tube Output                                                                                                                          | M.F. Crouch, 4-1-58<br>T. Matano,<br>I. Miura, et al.,<br>Tokyo Univ. Inst. for<br>Nuclear Study                                          |
| ISC-926       | Measurement of Minority Carrier Lifetimes in Semiconductors                                                                                                               | Y. Nishina, 3-57<br>G.C. Danielson,<br>Ames Lab., Ames Iowa                                                                               |
| KAPL-1842     | Analysis of Reactor Power Coefficients by Machine Methods                                                                                                                 | L.G. Barrett, 8-57<br>E.D. Reilly, Jr.,<br>Knolls Atomic Power Lab.                                                                       |
| LA-2178       | The Evaluation of the Kassel Integral Via IBM 704                                                                                                                         | E.M. Willbanks, 4-14-58<br>Los Alamos Scientific Lab.,<br>N. Mex.                                                                         |

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B. M. Pontecorvo,  
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- MISC-1958-95      A New Method in the Theory of Superconductivity. (In Russian)      N. N. Bogoliubov,      1-58  
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- \*NDA-56-2 A Proposed Experiment to Study the Production of Gamma Radiation Nuclear Development 2-8-56  
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S. Liebson
- NEVIS-65 Time Reversal Invariance and  $\theta_2^0$  Decay S. Weinberg, 3-58  
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- \*NP-6504 Nuclear Scattering of Nucleons and Antinucleons, Technical Report No. 8 Hans-Peter Duerr, [1957]  
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| *NYO-2165        | Attenuation of Scattered Cobalt 60 Radiation in Lead and Building Materials                          | R. T. Mooney, 10-29-57<br>C. B. Braestrup,<br>Columbia Univ., New York                                                            |
| *ORNL-1290(Del.) | Mathematics Panel Quarterly Progress Report for Period Ending April 30, 1952                         | C. L. Perry, 7-24-52<br>Oak Ridge National Lab., Tenn.                                                                            |
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| ORNL-2485        | On Kofink's Approximate Solution of the Neutron Transport Equation                                   | Ky Fan, 4-10-58<br>J. J. Andrews,<br>Same                                                                                         |
| *RAE-TN-GW-426   | A New D. C. Amplifier for General Use in Electronic Analogue Computers                               | P. R. Benyon, 8-56<br>Gt. Brit. Royal Air-<br>craft Est. Farnborough,<br>Hants, England                                           |
| RIB-32           | Development of Photomultiplier Tubes. Report No. 27 for August 1, 1957 to November 1, 1957           | F. W. Schenkel, 3-58<br>P. A. Snell,<br>J. Bolakas, et al.,<br>DuMont (AllenB.) Labs.,<br>Inc. Tube Res. Labs.,<br>Passaic, N. J. |
| *SCTM-92-57(14)  | Boolean Analysis of Ordinary and Oscillatory Binary Counters                                         | M. B. Marcus, 9-18-57<br>Sandia Corp.,<br>Albuquerque, N. Mex.                                                                    |
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| *SCTM-210-55(51) | Acceptance Testing for Intermittent Defects on a Sampling Basis                                                                                   | C. R. Clark,<br>Sandia Corp.,<br>Albuquerque, N. Mex.                                                    | 10-18-55 |
| *SCTM-227-57(51) | REAC Calculations for the Explosive Electric Transducer Problem                                                                                   | W. J. Spencer,<br>Same                                                                                   | 9-5-57   |
| *SCTM-274-57(14) | An IBM Card-to-Paper Tape Converter for use with the Librascope LGP-30 Computer                                                                   | H. B. Durham,<br>Same                                                                                    | 10-31-57 |
| *TPI-87          | Estimated Fission Fragment Masses                                                                                                                 | I. W. Hay,<br>T. D. Newton,<br>Atomic Energy of Canada Ltd.<br>Chalk River Project, Chalk<br>River, Ont. | 7-56     |
| *UK/C/5/1        | U. K. /Canada Conference. Nuclear Data Session: 5-Pu <sup>239</sup> ,<br>U <sup>235</sup> , U <sup>233</sup> - H <sub>2</sub> O Assemblies (ZETR) | K. C. Hines,<br>Gt. Brit. Atomic Energy<br>Res. Est. Harwell, Berks, Eng.                                | [1956]   |
| *UNM-TR-EE-6     | Resolution of Vertical Incidence Radar Return Into Random and Specular Components                                                                 | R. K. Moore,<br>New Mexico. Univ.,<br>Albuquerque, Eng.<br>Experiment Station                            | 7-57     |
| *UNM-TR-EE-8     | Reflection and Scattering Coefficients for Several Types of Terrain                                                                               | A. R. Edison,<br>New Mexico. Univ.,<br>Albuquerque, Eng. Experi-<br>ment Station                         | 9-57     |
| *WADC-TR-57-375  | A Method for Determining Neutron Flux Spectra from Activation Measurements                                                                        | S. R. Hartmann,<br>Wright Air Development<br>Center. Materials Lab.,<br>Wright-Patterson AFB, Ohio       | 6-14-57  |

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Test Conducted on Open Type Shim Rod Magnet

B. Levy, 5-5-50  
Westinghouse Electric Corp.  
Atomic Power Div.,  
Pittsburgh

WAPD-TM-95

Turbo. A Two-Dimensional Few-Group Depletion Code for  
the IBM-704

J.B. Callaghan, 11-57  
L.M. Culpepper,  
J.G. Fairey, et al.  
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WASH-745

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V.L. Sailor, 3-58  
Nuclear Cross Sections  
Advisory Group, AEC

### REACTOR SCIENCE

ANL-5836

EBR-I, Mark III. Design Report

R.E. Rice, 3-58  
R.N. Curran,  
F.D. McGinnis, et al.,  
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(Lemont, Ill.)

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D.M. Gruen, 3-58  
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APAE-18

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Reactor APPR-1

J.L. Meem, ed. 8-9-57  
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BMI-1258

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Scale Air-Flow Model of the PWR

A.R. Orban, 3-18-58  
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Battelle Memorial Inst.,  
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| BNL-488                | Reactor Operations. Monthly Report for October 1957                                                                                | R. W. Powell,<br>C. L. Osborne,<br>Same                                                                     | 1-58     |
| BNL-492                | Reactor Operations. Monthly Report for December 1957                                                                               | R. W. Powell,<br>C. L. Osborne,<br>Same                                                                     | 2-58     |
| BNL-495                | Reactor Operations. Monthly Report for January, 1958                                                                               | R. W. Powell,<br>C. L. Osborne,<br>Same                                                                     | 3-58     |
| CF-57-8-4              | Feasibility Study of a Homogeneous Fused Salt-Molten Metal<br>Cooled-Power Reactor System. Reactor Design and<br>Feasibility Study | W. A. Box,<br>C. S. Barnett,<br>R. Bean, et al.,<br>Oak Ridge School of<br>Reactor Technology, Tenn.        | 8-57     |
| CF-57-11-30            | Power Calibration for BSR Loading 33                                                                                               | E. B. Johnson,<br>Oak Ridge National Lab.,<br>(Tennessee)                                                   | 11-28-57 |
| CF-58-2-25             | Gas Saturated Run on the 400A-1 Pump                                                                                               | H. R. Payne,<br>Same                                                                                        | 2-10-58  |
| CF-58-2-127            | High Thermal-Neutron Flux From Fission Oversimplified<br>Cases                                                                     | W. K. Ergen,<br>Same                                                                                        | 2-26-58  |
| CRRP-724<br>(AECL-562) | Calculated Temperature Coefficient for Several Loadings of the<br>Pool Test Reactor                                                | G. L. Keech,<br>R. M. Pearce,<br>Atomic Energy of Canada Ltd.,<br>Chalk River Project, Chalk<br>River, Ont. | 2-14-58  |

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| DP-265            | Power Reactor Studies. Quarterly Progress Report [for]<br>August, September, and October 1957             | L. Isakoff, Comp. 2-58<br>DuPont de Nemours<br>(E.I.) and Co.<br>Atomic Energy Div.,<br>Wilmington, Del. |
| DP-285            | Heavy Water Moderated Power Reactors. Quarterly Progress<br>Report for November 1957 through January 1958 | L. Isakoff, Comp. 3-58<br>Same                                                                           |
| IDO-16414         | Heat Generation with the Thermal Shields and Vessel Wall<br>of the Spert-III Reactor                      | V. C. Kobold, 3-1-58<br>Phillips Petroleum Co.<br>Atomic Energy Div.,<br>Idaho Falls, Idaho              |
| IDO-16434         | Theory of Power Transients in the Spert I Reactor                                                         | Same 1-10-58                                                                                             |
| LA-2142           | Preliminary Critical Experiments on a Mock-up of the Los<br>Alamos Molten Plutonium Reactor               | H. G. Barkmann, 4-15-58<br>D. M. Holm,<br>R. M. Kiehn, et al.<br>Los Alamos Scientific Lab.,<br>N. Mex.  |
| *MonP-206(Del.)   | Physical Data on New High Flux Pile                                                                       | A. M. Weinberg, 11-21-46<br>Clinton Labs., Oak Ridge, Tenn.                                              |
| *NAA-SR-129(Del)  | Control Requirements for the NAA-NPR                                                                      | M. A. Greenfield, 6-29-51<br>North American Aviation, Inc.,<br>Downey, Calif.                            |
| *NAA-SR-137(Del.) | Natural Uranium Reactors for the Production of Plutonium<br>and Useful Power                              | T. Fahrner, 9-26-51<br>C. A. Trilling,<br>E. F. Weisner,<br>Same                                         |
| *NAA-SR-219(Del.) | Uranium Production Reactor (UPR) Quarterly Progress Report                                                | R. L. Stoker, 1-29-53<br>R. A. Laubenstein,<br>Same                                                      |
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NAA-SR-2400  
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\*NAA-SR-Memo-204 Preliminary Study of Power Converter Reactors  
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R. Balent, 1-29-52  
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\*NAA-SR-Memo-279 Comparison of Fuel Temperatures in PuP and NRX Reactors

R.D. Elliott, 4-3-52  
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\*NAA-SR-Memo-315 (Del.) "Box" Type Thorium Assemblies and Multiple-Section Fuel  
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W.C. Cooley, 5-8-52  
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\*NAA-SR-Memo-679 Cost Trends in Medium Size Central Station Power Plants

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\*NAA-SR-Memo-724(Del.) Heat Generation in Thermal Shield and Concrete of the Uranium  
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H.L. Sletten, 7-10-53  
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I. Bornstein, 1-20-56  
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| *NARF-57-48-T   | Calibration of the ASTR                                                                                                                                                            | J. C. Nance, 11-1-57<br>Convair, Fort Worth, Tex.                                             |
| *NDA-29         | Reactor Heat Transfer Progress. [Issue] No. 11. Unclassified Section. (15J-15)                                                                                                     | J. E. Viscardi,<br>Nuclear Development<br>Corp. of America,<br>White Plains, N. Y.            |
| *NDA-31(Del.)   | Reactor Heat Transfer Progress. [Issue] No. 12 (15J-17)                                                                                                                            | J. E. Viscardi, 10-30-56<br>Same                                                              |
| *NEA-5301(Del.) | A Survey of Reactor Systems for Central Station Power Generation                                                                                                                   | C. R. Barthelemy, 10-53<br>V. H. Simon,<br>D. M. Leppke, et al.<br>Foster Wheeler Corp.       |
| *NNSD-4(Del.)   | Nuclear Ship Propulsion Study. Interim Technical Report                                                                                                                            | Newport News 3-1-54<br>Shipbuilding and Dry<br>Dock Co., Va.                                  |
| *NNSD-9(Del.)   | Nuclear Ship Propulsion Study. Interim Technical Report                                                                                                                            | Same 7-1-54                                                                                   |
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| *NP-6507        | Seaplane Hull Bottom Neutron Activation Study. Bi-Monthly Progress Report No. 2                                                                                                    | M. Zizza, 9-57<br>M. D'Agostino,<br>Grumman Aircraft<br>Engineering Corp.,<br>Bethpage, N. Y. |
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| *ORNL-1424(Del.)            | Homogeneous Reactor Project Quarterly Progress Report for<br>Period Ending October 1, 1952   | W. E. Thompson,<br>Same                                                         | 1-10-53  |
| *ORNL-1478(Del.)            | Homogeneous Reactor Project Quarterly Progress Report for<br>Period Ending January 1, 1953   | W. E. Thompson,<br>Same                                                         | 3-3-53   |
| *ORNL-1753(Del.)            | Homogeneous Reactor Project Quarterly Progress Report for<br>Period Ending April 30, 1954    | H. F. McDuffie,<br>Same                                                         | 9-17-54  |
| *ORNL-1780(Del.)            | Physics of the Homogeneous Reactor Test--Statics                                             | M. C. Edlund,<br>P. M. Wood,<br>Same                                            | 8-27-54  |
| *ORNL-1794(Vol2<br>(Del.))  | The Oak Ridge National Laboratory Research Reactor Safe-<br>guard Report. Volume 2--Appendix | F. T. Binford,<br>Same                                                          | 10-7-54  |
| *ORNL-1813(Del.)            | Homogeneous Reactor Project Quarterly Progress Report for<br>Period Ending October 31, 1954  | H. F. McDuffie,<br>D. C. Kelley,<br>Same                                        | 11-10-54 |
| *ORNL-1834(Del.)            | Homogeneous Reactor Test. Summary Report for the Advisory<br>Committee on Reactor Safeguards | S. E. Beall,<br>S. Visner,<br>Same                                              | 1-5-55   |
| ORNL-2500(Part I)           | The ORNL Gas-Cooled Reactor. Plant Design. Summary Report                                    | Same                                                                            | 4-1-58   |
| ORNL-2500(Part 2)           | The ORNL Gas-Cooled Reactor. Part 2. Plant Design, Sections<br>1 thru 5.                     | Same                                                                            | 4-1-58   |
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| ORNL-2500(Part 3) | The ORNL Gas-Cooled Reactor. Part 3. Lant Design. Sections 6 thru 9                                                                  | Oak Ridge National Lab., (Tenn.)                                                               | 4-1-58   |
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| *PCWP/P-1         | Moderator Circuit; the Light Water Cleansing Operation                                                                               | I. G. Jones,<br>E. T. Smith,<br>Gt. Brit. Atomic Energy<br>Res. Est. Harwell, Berks, Eng       | 10-57    |
| *POC/Mem-37       | The Use of Enriched Uranium in B. E. P. O.                                                                                           | F. W. Fenning,<br>Same                                                                         | 5-19-50  |
| *RDP-30           | Proposed Control Rods and Operating Mechanism for the N. R. U. Pile                                                                  | A. R. Edis,<br>National Res. Council<br>of Canada. Atomic Energy<br>Project, Chalk River, Ont. | 9-15-50  |
| *RDP-69           | The Effect of Steel Rods and Tray Rods on the NRU Output Fractions and Reactivity for the Proposed Control Rod Sequence of July 1956 | R. M. Pearce,<br>A. M. Williamson,<br>Same                                                     | 11-30-56 |
| *RDP-70           | NRU Output Fractions and Reactivity for 3 1/2" control Rods in the Sequence Proposed in July 1956                                    | R. M. Pearce,<br>D. F. Saunders,<br>Same                                                       | 4-1-57   |
| *RPI-12(AECL)     | Reactivity and Fuel Balance in Recycled Plutonium Reactors                                                                           | M. F. Duret,<br>Same                                                                           | 10-24-55 |
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| *TRDC/P-3         | Pippa Shield Design                                                                                                                  | C. C. Horton,<br>Gt. Brit. Atomic Energy<br>Res. Est. Harwell, Berks, Eng                      | 7-9-53   |
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| *WAPD-AIW(M)-307       | MTR A-33 Pressure Tube Feasibility Study                                                     | M. Dumas 4-4-56<br>W. R. Gibson,<br>Westinghouse Electric<br>Corp. Atomic Power Div.,<br>Pittsburgh        |
| *WAPD-AIW(RDM)-<br>397 | Control Rod Assembly Misalignment Study                                                      | W. A. Kerr, 11-26-56<br>J. J. Lesclain,<br>Same                                                            |
| *WAPD-AD(M)-14         | Parallel-Flow, Rod-Type Fuel Element. Design Study                                           | E. Frisch, 6-7-54<br>Same                                                                                  |
| *WAPD-AD(M)-20         | Optimization of PWR-Type Primary Loops                                                       | D. H. Fax, 10-54<br>Same                                                                                   |
| *WAPD-B(C)-242         | Description of Operation of the Reluctance Motor Drive --<br>Drawings 61-J-658 and 39-A-1201 | R. C. Cunningham, 1-28-52<br>Same                                                                          |
| *WAPD-C-136            | Investigation of Clogging of Mark I Filters; Preliminary Report                              | P. Cohen, 4-20-53<br>V. W. Thompson,<br>Same                                                               |
| *WAPD-C(PC)-31         | A Study of Chemical Control for PWR                                                          | Z. M. Shapiro, 4-8-55<br>Same                                                                              |

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| *WAPD-CDA-(1)-3        | Chemistry of the Ninth PWR Fuel Material Test X-1 Loop NRX Reactor. Interim Report Covering Period from Start-up, January 18 to April 8, 1957 | R. Ehrenreich,<br>Westinghouse Electric<br>Corp. Atomic Power Div.,<br>Pittsburgh    |          |
| *WAPD-CDA(AD)-<br>29   | Radiation Dose Rates Due to Fission Products in the PWR Primary Coolant                                                                       | F. W. Pement,<br>Same                                                                | 7-29-57  |
| *WAPD-CP-489           | High Nitrogen and Oxygen in Bettis Test Facility, May 25, 1954. Incident Report                                                               | H. K. Lembersky,<br>Same                                                             | 6-7-54   |
| *WAPD-CP-1121          | Proposal for Dynamic in-pile Cyclic Fuel Materials Tests at MTR                                                                               | E. S. Lembersky,<br>Same                                                             | 5-10-55  |
| *WAPD-CPM-M-19         | PWR Simulator Studies. Series IX                                                                                                              | E. A. Wieczorkowski,<br>Same                                                         | 11-28-56 |
| *WAPD-CPM-M-23         | PWR Simulator Study. Series VII                                                                                                               | N. F. Simcic,<br>E. A. Wieczorkowski,<br>Same                                        |          |
| *WAPD-CPM-M-24         | PWR Simulator Study. Series VII                                                                                                               | N. F. Simcic,<br>E. A. Wieczorkowski,<br>Same                                        | 12-5-56  |
| *WAPD-CTA-EL-2062      | PWR (EASE) Simulator Study. Series IV (September 1955 )                                                                                       | Z. H. Calhoun,<br>Same                                                               | [2-56]   |
| *WAPD-CTA(EMX)-<br>230 | Test Results of the Effects of Crud on Mechanism Components                                                                                   | T. L. Weybrew<br>Same                                                                | 12-19-56 |
| WASH-746               | The Response of Elastic Spherical Shells to Spherically Symmetric Internal Blast Loading                                                      | W. E. Baker,<br>F. J. Allen,<br>Ballistic Res. Lab.,<br>Aberdeen Proving Ground, Md. | 11-57    |

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| PR-10-35         | Operations. Progress Report [for] October 1, 1957 to<br>December 31, 1957                                                                | Atomic Energy of<br>Canada Ltd., Chalk River<br>Project, Chalk River, Ont. |
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| *SCTM-220-57(51) | A Shock or Detonation Arrival Indicator                                                                                                  | W. B. Benedick, 8-2-57<br>Sandia Corp.,<br>Albuquerque, N. Mex.            |

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| UCRL-8250                      | List of Unclassified Reports Received and Issued by the UCRL<br>Information Division During the Period of April 1-15, 1958                                                                                                                                                        | 4-17-58 |
| UCRL-Translation<br>358(L)     | Constructive Explosions--China, Trans. from Tekhnika Molodezhi G. I. Pokrovskii<br>1957, No. 7, 7 and Physics of Earth Works, Trans. from<br>Tekhnika Molodezhi 1953, No. 2, 9-12 and Beginning of An Era<br>of Atomic Energy. Trans. from Tekhnika Molodezhi 1954 No. 9,<br>2-6. |         |
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