To be presented at the Workshop Conference
on the Management of Laboratory Instruments,
Cairo, Egypt, November 5 - 14, 1976

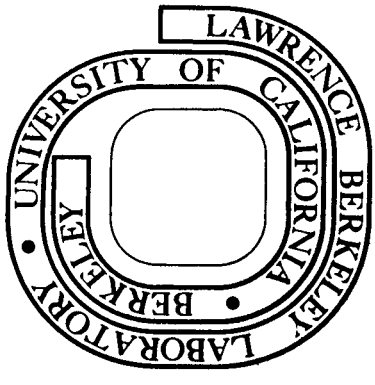
LBL-5504
c.1

LABORATORY EQUIPMENT PROCUREMENT

Dick A. Mack

August 1976

Prepared for the U. S. Energy Research and
Development Administration under Contract W-7405-ENG-48



LBL-5504
c.1

DISCLAIMER

LBL-5504

LABORATORY EQUIPMENT PROCUREMENT

Dick A. Mack
Lawrence Berkeley Laboratory
University of California
Berkeley, CA 94720 USA

To be presented at the Workshop Conference
on the Management of Laboratory Instruments

Cairo, Egypt

November 7, 1976

LABORATORY EQUIPMENT PROCUREMENT

Abstract

I. Introduction

II. Buy or Build Instrumentation?

III. Single vs. Multiparameter Instruments

IV. Equipment Intended for Later Expansion

V. Library of Catalogs and Sources

VI. Types of Purchase Transactions

VII. Procurement Procedures

VIII. Warranties and Guarantees

IX. Accessories

X. Spare Parts

XI. Records and Inventory

XII. Summary

Acknowledgement

References

Appendices

As the emphasis of a research organization changes or its facilities are modernized it is important that the instrumentation supporting such research keep abreast of the current needs of the institution. Before acquiring new equipment one must consider the trade-off between mofifying old units and acquiring new, the obsolescence of old technologies in the light of new techniques, and the maintenance costs of older units contrasted with the cost of acquisition of new models.

If a decision has been reached that new equipment is required, many factors must be considered before the actual purchase is undertaken. The steps of translating an experimental need into the completed delivery of an instrument should consider the following:

Both financial considerations and the nature of the experiment should determine the practicality of purchasing several single parameter generators or analyzers compared to one multiparameter device. Before purchasing equipment from a commercial supplier one should consider the possibility of equipment being acquired through international agencies from surplus equipment of other institutions.

Specifications should be prepared to ensure that the purchase will include only equipment that is known to meet the needs of the experiment and exclude devices that would be marginal in performance.

Bidding, quotation and purchase order documents should be coordinated between the purchasing and technical staff to ensure that the scientific requirements of the instrument are not compromised by administrative constraints.

Finally, adequate acceptance tests need to be specified in the purchase order and performed to determine that the unit is operating satisfactorily and meets the intention of the original need. These steps should be completed before final payment is given to the vendor.

Warranty and guarantee provisions should be critically examined because they may become important if the apparatus malfunctions soon after delivery. The ordering of accessories, renewable supplies and recommended spare parts should also be considered.

This work performed under the auspices of the Energy Research and Development Administration with partial support from the U.S. National Science Foundation.

I. INTRODUCTION

When planning a series of experiments to be conducted as part of a research program, it is important that the most suitable instrumentation for the purpose be available for use.

Before acquiring new equipment a number of considerations should be taken into account.

1. Where should the apparatus be designed and constructed? The following alternatives are available:

   a) Designed and constructed at the laboratory,
   b) Designed at the laboratory and constructed elsewhere,
   c) Designed and constructed by another organization, perhaps a commercial one,
   d) Purchased from commercially available sources.

2. If there is a need for generating or measuring several parameters, should it be met by acquiring several single parameter generators or analyzers or by one multiparameter device?

3. Is the equipment available in such a form that is easily expandable to care for later experimental needs? Also, must accessories and attachments be installed at the factory or can they be readily connected by the user?

The following discussion will treat these considerations along with a detailed description of the steps typically required at our Laboratory to procure equipment.

II. BUY OR BUILD INSTRUMENTATION?

A number of factors go into the decision of what fraction of the design and construction of new equipment should be undertaken in-house and what portion should be procured commercially. We have found it less expensive in terms of both money and manpower to purchase when available most modern measurement or analysis instruments rather than construct them at the Laboratory. This policy

leaves the engineering design staff free to construct one-of-a-kind apparatus or research instruments that are not yet commercially available. As a good example, our Laboratory at one time designed and built a number of wide-band oscilloscopes; however, as measurement techniques and oscilloscope technology became more sophisticated, we have long since established a policy of purchasing all of our oscilloscopes. This raises the question, "How does one know what is available?" This question will be answered in the section dealing with catalogs and source library.

Likewise, for instruments that have been designed at the Laboratory, the locale of construction must be considered. The electronics circuit fabrication facilities for most scientific laboratories are designed to handle only small quantities of printed circuits or instrument chasses. For quantities of greater than 10 or 20 units, it is usually advisable to take advantage of the production capacity of a commercial fabricator. Occasionally when short turn-around times are required, larger quantities may be constructed in-house.

III. SINGLE VS. MULTIPARAMETER INSTRUMENTS

The physical principles underlying most analytical instruments allow the measurement of only one parameter of one sample at a time. For example, an atomic absorption spectrophotometer employs a special lamp containing the element that it is designed to analyze. In order to analyze a specimen for another element, the source lamp must be changed. On the other hand, a few instruments operate on principles that permit a number of elements or compounds to be analyzed simultaneously. X-ray fluorescence analysis allows one to measure trace quantities of a number of elements in a sample at the same time.

The relative cost and versatility of single and multiparameter generators and analyzers, along with the nature of the experiment should be considered before deciding which type of instrument would be most suitable.

IV. EQUIPMENT INTENDED FOR LATER EXPANSION

Many research projects can be initiated with rather modest instrumentation facilities; then as the work progresses it may be necessary to broaden the scope of the experiment requiring instrumentation having additional channels or increased sensitivity. Several mechanisms exist to accomplish expansion; one is the modular approach.

Instrument systems such as the National Instrumentation Methods (NIM) system and the Computer Automated Measurement And Control (CAMAC) system are modular in nature and thus lend themselves to easy expansion from modest to rather large systems.[1]

V. LIBRARY OF CATALOGS AND SOURCES

Once the decision has been made as to the item to be procured, the next question is the best source from which to obtain it. To answer this question it is necessary to have access to catalogs from the possible suppliers. Thus it is important to maintain an up-to-date library of catalogs from as many as possible dealers of the types of equipment which the laboratory is likely to need. The library should also include data on equipment builders, listing the type of service they can perform. Primarily the responsibility of obtaining catalogs and other material would be that of the librarian, but the engineers and scientists should, when they find interesting items in the course of their literature surveys, notify the librarian so that he can investigate sources of such items.

An up-to-date comprehensive library of this type can also be of value to the engineers and scientists in helping them determine instruments that they may need in their research. The library should be made easily accessible and the habit of making full use of it should be encouraged.

It is important that the library contain catalogs from all of the major countries of the world. Even when items are available in one's own country, those from elsewhere should be considered for possible purchase. Assuming that it is well organized and cross-indexed the greater the number of local and foreign supplier catalogs it has on file, the more useful will the library be to the laboratory.

VI. TYPES OF PURCHASE TRANSACTIONS

Procurement in its simplest terms means the acquisition (usually by purchase) of supplies or equipment needed for the laboratory. Procurement may be as simple as an individual staff member obtaining drafting supplies from a central storeroom or as complex as the negotiations involving a large part of the Laboratory and the University when we purchased a multimillion dollar Control Data, Model 7600, computer. The following lists the types of purchase transactions

that are used at our Laboratory:

1) Petty cash purchases cover low cost incidental items that individual staff members may need immediately and pick up themselves instead of ordering through the purchasing department. Very few items are purchased in this manner.

2) A low value purchase order system covers expendable items such as circuit components, spare parts, etc. Their purchase may be arranged by the supply department over the telephone. The procedure of soliciting quotations may be employed if a range of prices is expected; if only one seller provides the component, the order is placed with a supplier after obtaining a single price quotation.

3) The regular purchase order is by far the most usual method of procurement. Nearly all of the instruments purchased by the Laboratory are by this means. Laboratory commitment authority is limited to the purchasing department and is based on purchase order value. There are several different levels of authority: Certain staff are authorized to submit requisitions up to $2,500 in value; principal investigators may usually authorize requisitions up to $15,000; requisitions above that amount require an associate director's signature. The Laboratory (purchasing department) can authorize purchases under $100,000; over $100,000, the contracting government agency approves; and over $500,000, University regents' authorization is required.

VII. PROCUREMENT PROCEDURES

The acquisition of a new piece of equipment requires as many as fourteen steps starting with the original recognition of a new experimental need and ending with the fulfillment of that need when the equipment is paid for and is properly operating. Table I diagrams the steps necessary for the orderly procurement of Laboratory components. Table II shows the organization of a purchasing section of a supply department.

As an illustration of how equipment is acquired, a member of the scientific or engineering staff decides that a multichannel analyzer is required for a proposed experiment in gamma-ray spectroscopy. Most scientific divisions have an

equipment budgeting committee to pass on proposed equipment. The budget or finance office is then contacted to verify that funds are available and obtain the necessary budgetary approval. For expensive items a cost estimate is usually required. For this a series of steps involving the experimental staff, the engineering staff and the business staff may have to be repeated several times before the experimental needs can be accommodated with the funds available. Often a request is delayed for many months before adequate funds from the contracting agency become available to the Laboratory.

Depending upon experimental needs and the funds available the design engineers may recommend modifying an existing 400-channel analyzer, constructing a new analog-to-digital converter feeding a computer, or possibly purchasing a commercial 4096-channel analyzer.

If an old analyzer is modified or a new one constructed at the Laboratory, the individual components would be acquired and tested, the analyzer system assembled, and delivered to the research group requesting the instrument.

If a commercial unit is under consideration, then formal specifications should be prepared. A purchase requisition form (See Appendix A) would also be filled out. Performance specifications are quite often a compromise between those desired by the experimenter and the published specifications of the manufacturer. For instruments that are produced in high volume such as pulse generators or oscilloscopes, manufacturer's specifications must usually be accepted without change. On the other hand, for more specialized items, such as a 4096-channel analyzer, different manufacturers would be willing to add or delete various features from their standard models.

In parallel with the preparation of a request for quotation (See Appendix B), we continually consult with several of the other scientific or government agencies to see if surplus equipment from their organizations may be available. Much valuable equipment has been acquired in this manner.

Where possible we request bids from a number of suppliers. If there is only one known supplier of the equipment considered adequate for our needs, regulations require us to submit a form justifying the selection criteria with a single source supply form (See Appendix C). In reply to our request for quotation, the

seller (who may be either a manufacturer or his agent) submits a quotation expressing his ability and willingness to meet our specifications, and his price.

For routine orders the evaluation of the quotation is made by our purchasing staff; for more complicated orders the engineering and scientific staff meet with the purchasing staff to discuss and evaluate all quotations submitted for consideration. Items under consideration include price, terms, conditions, specifications, warranty, etc. Upon recommendation for awared a purchase order is issued. (See Appendices D, E, F) If none of the quotations is satisfactory, the request for quotation is cancelled and the specifications are revised and the quotation request process is repeated.

Upon the acceptance of our purchase order, the purchasing department will expedite the order to ensure performance as promised. The seller ships via the method agreed upon (air, surface). Our receiving department unpacks the shipment and makes a preliminary inspection. Further inspections and tests are performed by the engineering staff with the final acceptance being made when correct system operation is obtained. See Fig. 1. For routine purchases the approval for payment is made upon receipt of the equipment at the Laboratory; however, when there is a question of damage in transit or of the equipment not meeting specifications, the payment is delayed until performance adequacy can be determined.

VIII. WARRANTIES AND GUARANTEES

Warranty and guarantee provisions should be critically examined prior to the awarding of an order. Even manufacturers of highest integrity on occasion deliver equipment that is faulty in its early operational life. The warranty should spell out in detail limits of liability for the cost of labor and parts for repair, and also who pays for shipping to and from the repair facility. The warranty may be voided if unauthorized repairs are attempted.

IX. ACCESSORIES

Accessories may often be obtainable at a reduced price if purchased along with the original apparatus. It is important that all available options be studied, especially if the equipment is to be used by several different research groups.

X. SPARE PARTS

Recommendations for spare parts inventory will be discussed in a companion paper[2]. However, it may be stressed here that adequate parts should be ordered at the time of the original purchase. A manufacturer's agent will give greater attention to a large order including necessary spare parts than a small parts order arriving independently. The manufacturer's agent is also an excellent source of information concerning the parts necessary to avoid long outages due to lack of repair components.

XI. RECORDS AND INVENTORY

Government regulations require us to maintain adequate records of the location of all laboratory instrumentation. In addition, frequent reference to records indicating the most recent location of an instrument helps keep track of it and significantly increases an instrument's utilization. See Fig. 2.

XII. SUMMARY

Purchasing instrumentation that satisfies government regulations and meets the needs of an experimental program is a necessary but often unappreciated task. Specifications should be prepared conscientiously to insure that equipment which is marginal in performance is not procured unintentionally. Also, whenever possible specifications should permit competition to ensure obtaining the best value on the market.

ACKNOWLEDGEMENT

I thank Messrs. Harold T. McGrath and J. Thomas Beales for their information and advice on this report; Dr. George A. Morton for reviewing the manuscript, and Mrs. Lillian A. Wirth for editing the report.

REFERENCES

1. NIM System Standards and CAMAC System Standards are included in International Electrotechnical Commission Standard 482. Information is also available from Mr. Louis Costrell, National Bureau of Standards, Washington, DC 20234.

2. D. A. Mack, "Instrumentation Maintenance", LBL Report No. 5505, 1976.

APPENDICES

A - Purchase Requisition Form

B - Request for Quotation Form

C - Justification for Non-Fabrication Sole Source or No Substitute Procurement Form

D - Determination - Resonableness of Price Form

E - Justification for Premium Procurement Costs Form

F - Purchase Order Form

TABLE I FLOW DIAGRAM FOR EQUIPMENT PROCUREMENT

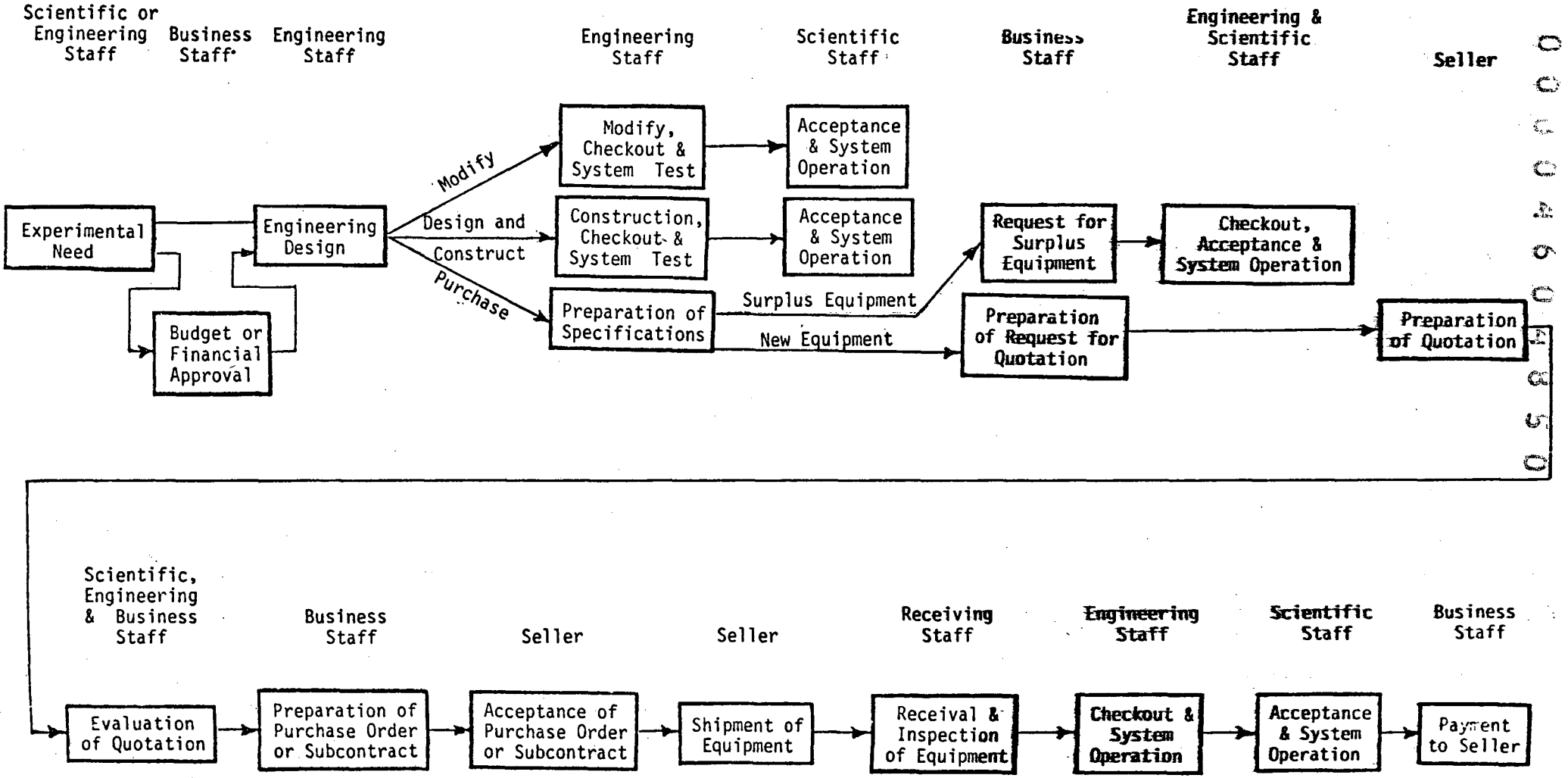
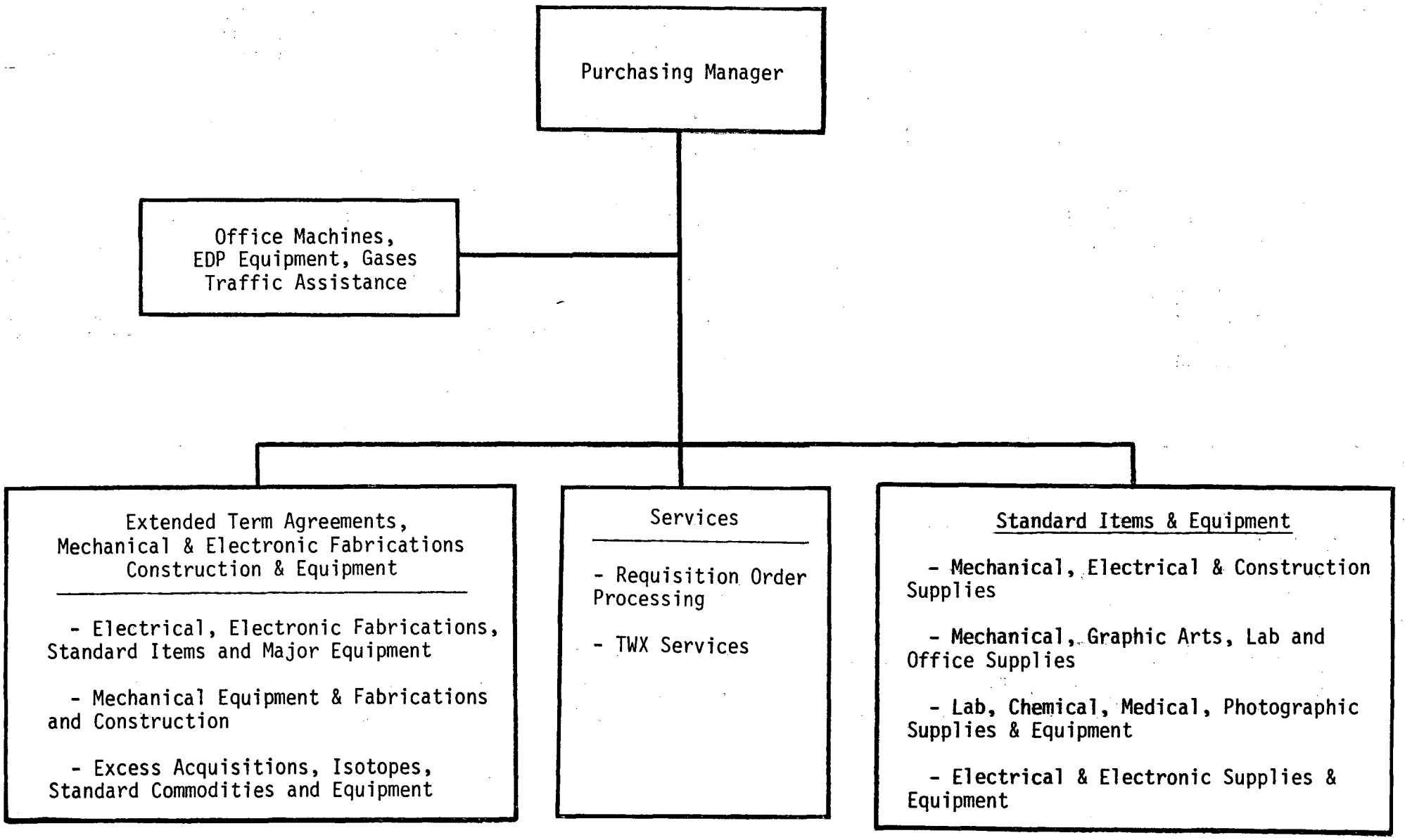


TABLE II ORGANIZATION OF A SUPPLY DEPARTMENT

Purchasing Section



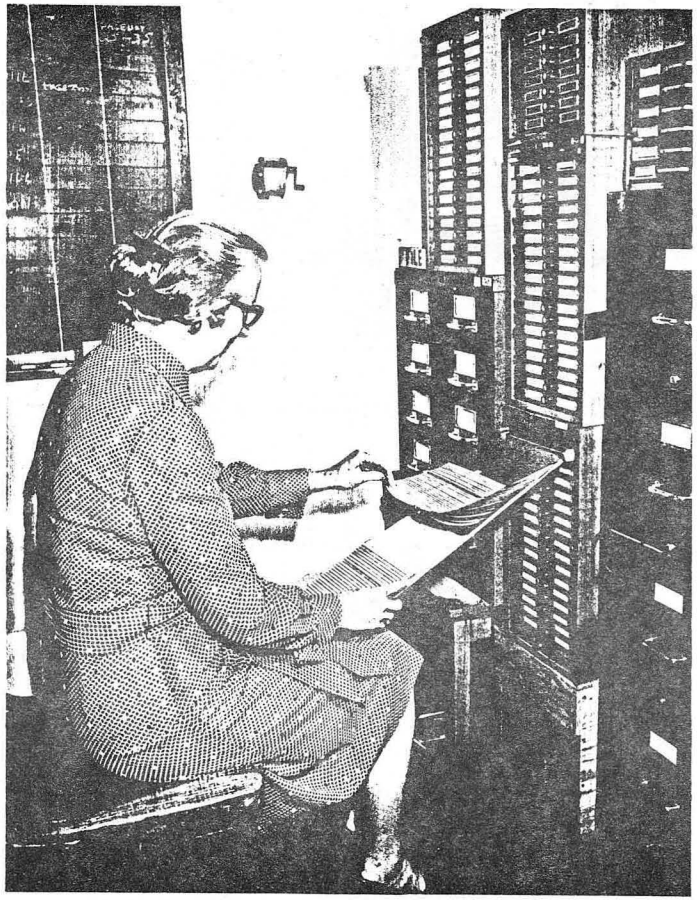


Fig. 2

Instrument Loan staff member checking instrument records.

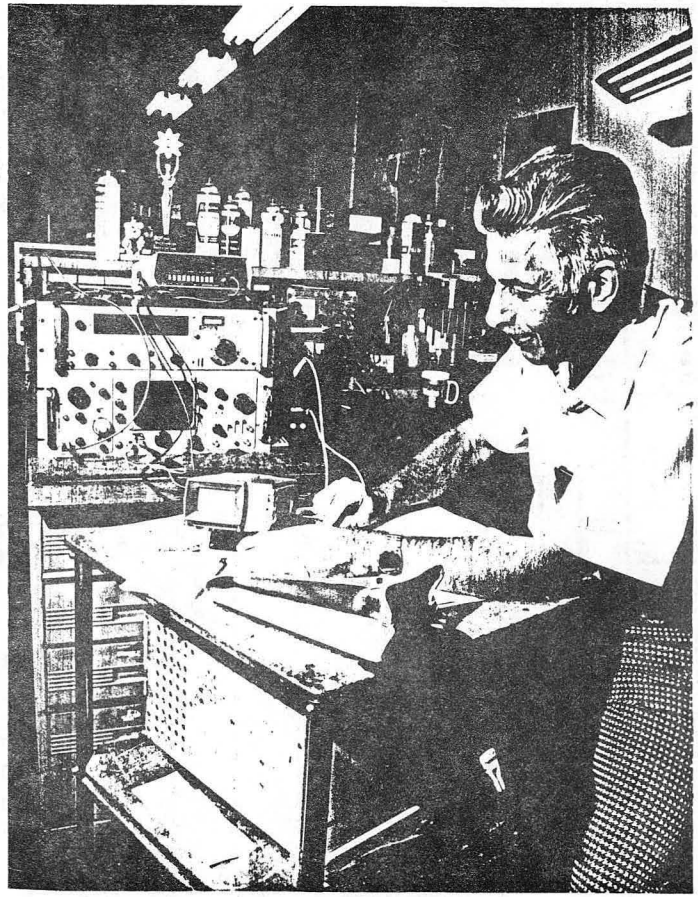


Fig. 1

Technician checking portable oscilloscope to determine if it is performing properly.

APPENDIX A

REQUESTED BY	BLDG. ROOM	DELIVERY TO BLDG. RM.	NOTIFY EXT.	HOLD FOR ACCT./J.O.

APPROVED BY	ACCOUNT NO.	AMOUNT OF P.O.	SELLER CODE	STAT. CODE	SELLER'S NAME

AUTHORIZATION $2500 ☐ $15,000 ☐ OVER ☐ $B ☐ BB ☐

UNIVERSITY OF CALIFORNIA

PURCHASE REQUISITION

FOR CONTRACT NO. W-7405-ENG. 48
WITH THE ATOMIC ENERGY COMMISSION

SEND WITH YELLOW, GREEN & PINK COPY TO PURCHASING DEPARTMENT

BUYER CODE C - E - L - M - P - PS - S	ORDER NO.	REQ. DATE DATE NEEDED
COST NOT TO EXCEED REFER BIDS TO	REQ. NO. 312046	TERMS: FROM RECEIPT OF GOODS OR INVOICE WHICHEVER IS LATER.

SHADED AREA FOR PURCHASING USE ONLY.

SELLER _____

SAMPLE

Street _____

City _____ State _____

Placed _____ Date _____ Contact _____

DESTINATION: BERKELEY ☐ LIVERMORE ☐ SITE 300 ☐

DATE MATERIAL RECEIVED:	PACKING LIST NO.
DATE OF INSPECTION	RECEIVAL & INSPECTION CERTIFIED BY:
CARRIER	DELIVERY RECEIPT NUMBER

COLUMNS BELOW FOR PURCHASING, RECEIVING AND ACCOUNTING.

REQUISITIONERS MAY USE ONLY IF ESTIMATE TOTAL ORDER EXCEEDS $100.00.

SHIP BY	SHIP FROM	F.O.B.	PROMISED DELIVERY TO CARRIER
			QUANTITY ACCEPTED AS ORDERED

ITEM NO.	LAB CATALOG NO. IF APPLICABLE	ITEM. SPECIFICATIONS. CATALOG REFERENCE	QUANTITY	UNIT PRICE	TOTAL PRICE

REMARKS:

7600-55438
RL 2350 (REV. 7/72)

Authorized By _____
PURCHASING DEPARTMENT

0 0 0 0 4 6 0 4 8 5 2

INSTRUCTIONS

1. Quote lowest price, state delivery terms, shipping point, F O B point, method of shipping. No charge for packaging, drayage or for any other purpose will be allowed over and above the price quoted herein.
2. Indicate Federal excise tax separately to facilitate issuance of an excise tax exemption certificate.
3. Quote Federal Supply Schedule prices, if applicable, and the appropriate FSC Contract No.
4. If unable to quote on merchandise as specified, submit prices on equal, or suggest and describe substitutes.
5. Articles listed on this form should be produced or manufactured in the United States. If of foreign make, please specify origin.
6. The right is reserved to accept or reject quotations on each item separately or the quotation as a whole without further discussion and thus quotations should be on the most favorable technical and commercial terms.

APPENDIX B

REFER INQUIRIES TO:

BUYER CODE	REQUEST NO.	DATE
TELEPHONE	To be considered, your quotation must be received by	Telephone quotations must be confirmed by return of this form.

UNIVERSITY OF CALIFORNIA

Request for Quotation

This is not an Order

FOR CONTRACT NO. W-7405-ENG. 48
ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

SAMPLE

NOTICE

1. **FOR RESALE** — State Sales Tax should not be charged, as the University holds States Sales Tax Permit C 135323.
2. Prices will be considered firm unless otherwise indicated. Preference will be given to firm price quotations or those containing downward escalation provisions.
3. By submitting this quotation, quoter represents that he has not employed or retained any company or person nor paid or agreed to pay any fee to obtain this order, except as permitted by the terms of Article X on reverse hereof. A quoter who cannot make this representation must, when submitting his quotation, request in writing a Standard Form 119.
4. You are required to follow the provisions of D M S Reg 1 and all other applicable regulations and orders of the OIBA, Department of Commerce in obtaining controlled materials and other products and materials needed to fill this order.

SUBMIT QUOTATIONS TO BUYER SHOWN ABOVE

LAWRENCE BERKELEY LABORATORY
☐ Bldg. 90 - Rm. 1024
Berkeley, Calif. 94720

LAWRENCE LIVERMORE LABORATORY
☐ Box 808
Livermore, Calif. 94550

Check Appropriate Block

SMALL BUSINESS: ☐ Yes ☐ No

SIGN AND RETURN THIS COPY

ITEM NO.	LAB CATALOG NO. IF APPLICABLE	ITEM, SPECIFICATIONS, CATALOG REFERENCES	QUANTITY	UNIT PRICE	TOTAL PRICE	PROMISED DEL. TO CARRIER

CASH DISCOUNT TERMS	SHIPPING POINT	F.O.B. POINT

THE TERMS AND CONDITIONS ON THE REVERSE HEREOF CONSTITUTE A PART OF THIS REQUEST FOR QUOTATION

DATE	FIRM	SIGNATURE	TITLE

JUSTIFICATION FOR NON-FABRICATION SOLE SOURCE OR NO SUBSTITUTE PROCUREMENT

APPENDIX C

(I) "Complete and submit this form with your requisition when your total order cost estimate is more than $2,500 and (check one)."

☐ It appears impractical to obtain competition or,

☐ It appears certain substitutes will not be acceptable.

"This form is not required when your estimate is $2,500 or less, but in such cases you must show on your requisition, or provide on request, sufficient information to enable the buyer to verify there is no acceptable alternative."

Location _____

REQUISITION No. _____

(II) (A) Fill in data on the procurement:

1. Program and Project _____ 2. Account # _____

_____ 3. Person in charge _____

(B) Check reason for sole source or no substitute:

☐ 1. Unique repair or replacement item

☐ 2. Supplementary or accessory part required from same manufacturer

☐ 3. Designed into equipment

☐ 4. Item's performance is best for the job

☐ 5. To comply with standards program

☐ 6. For test and evaluation

☐ 7. Other: _____

(C) Name any Buying Personnel contacted. _____

(III) Answer each question. (Attach separate sheets where necessary for items of high cost, unusual specifications, or other unusual requirements)

(a) What is the item, and what is the total order cost estimate?

(b) With what equipment or system will the item be used?

(c) What are the minimum use requirements (e.g., operating specs., dimensions, tolerances, accuracies, purity, reliability, useful life, etc.)?

(d) Why is only this make or model acceptable?

(e) What others did you consider and reject and why?

(f) Were you able to spend enough time investigating other items—would you spend more time if you could considering item cost and possible price or other gain (if work load or schedules were limiting factors, explain)?

(g) Did you rely on anyone else's judgment in your choice (if so, who was he and why was this proper)?

SAMPLE

Prepared by: _____ _____ _____

Name Group Date

Approved by: _____ _____ _____

Person Authorized to Approve Requisition Group Date

UNIVERSITY OF CALIFORNIA—(for interdepartmental use)

7600-55084 RL 2378-1 (Rev. 10/70)

0 0 3 0 4 6 0 4 8 5 3

APPENDIX D

DETERMINATION - REASONABLENESS OF PRICE

Location _____

Proposed Order _____ Reqn. _____ Date _____

PURPOSE: Must be completed, approved, and placed in purchase order file before placing order of total price more than $2,500. Exceptions - do not use when (1) "certified cost or pricing data" is required or (2) price has been established by supply or service agreement, contract, or by law or regulation.

I (a) Check method used. The sub-entries listed are points to be covered by the buyer but are not to be considered all inclusive.

☐ 1. *Competition:*
- *Explain any undue restrictions*
- *Explain appreciable price differences*

☐ 2. *Generally Uniform Market Prices:*
- *Describe market, pricing practices*
- *Describe how to independently verify*

☐ 3. *Established Published Price:*
- *Identify list by title, date, location*
- *Describe market, types of users, numerous vs. few, private vs. Government*
- *Describe pricing policy, "OEM", Gov't, Educational Institutions*
- *Compare price(s) of any comparable item(s)*

☐ 4. *Comparison, Recent Prices Paid:*
- *Identify other items, order number, date*
- *Show similarity with items compared*
- *Explain price, specification differences*
- *Show how earlier price justified*

☐ 5. *Comparison, Independent Laboratory Estimate:*
- *Enter or attach detailed estimate*
- *Explain differences, estimate vs. price*

☐ 6. *"Building Block" Pricing Elements:*
- *Enter or attach Laboratory or Supplier furnished information*
- *Justify reasonableness of each element*
- *Explain Laboratory, supplier differences*

(b) Check conclusion reached:

☐ 1. Reasonable ☐ 2. Lower than expected ☐ 3. Appears high ☐ 4. Unable to determine

II Enter in this space, and on the reverse, if necessary, all information required (1) for the method checked in Section I above and (2) in the left margin of this Section II.

SAMPLE

(a) Describe attempts to negotiate a lower price than quoted - if none, state why.

(b) State why the price is believed to be the best obtainable.

(c) When "methods" 5 or 6 are checked, name technical person involved and state extent to which his judgment was relied upon to reach conclusion.

(d) When "conclusions" 3 or 4 are checked, explain why it is necessary to place the order under the circumstances.

III Furnish a copy to requester and approver when either "method" 5 or 6 is used. Secure approvals indicated below when either (1) the price appears high or (2) reasonableness cannot be determined.

Prepared: _____ Buyer

Concurred: _____ Purchasing Manager or Designate

Approved: _____ Person Authorized to Approve Requisition

Approved: _____ Business Officer or Designate

RL-2376 (Rev. 4/72)

APPENDIX E

LAWRENCE RADIATION LABORATORY

To:_____ Date:_____

JUSTIFICATION FOR PREMIUM PROCUREMENT COSTS

(I) (a) Description of Item Involved:

Requisition No._____

Order No._____

SAMPLE

(b) Check Premium Cost Involved.

- ☐ 1. Price
- ☐ 2. Method of Shipment
- ☐ 3. Method of ordering and expediting—wires, long distance phones
- ☐ 4. Travel
- ☐ 5. Other_____

(c) Check Reason for Incurring Cost:

- ☐ 1. Breakdown of critical equipment
- ☐ 2. Schedule requires delivery asked
- ☐ 3. Unforeseen change in schedule
- ☐ 4. Material first ordered unsatisfactory
- ☐ 5. Excusable supplier delay (for LRL acct)
- ☐ 6. Other_____

(II) The following information was furnished verbally to_____who in turn authorized the following premium costs for the reason indicated in I (c) above.

(a) Price to attempt to meet required delivery . . . . . $_____

Price for "normal" delivery estimated_____days longer . . . . . $_____

Premium Authorized . . . . . $_____

(b) Shipment required by_____ . . . . . Est. Cost $_____

Shipment "normally" by_____ . . . . . Est. Cost $_____

Premium Authorized . . . . . $_____

(c) "Normal" processing time (to secure quotations, place order) is_____working days for the type items in this requisition. Premium costs were authorized and incurred in efforts to meet your "required date" of_____ _____due to: . . . . . Est. Cost $_____ (When more than $25)

(III) (a) This information is furnished you for your records to support your verbal authorizations to incur the costs indicated.

- ☐ Please confirm these authorizations by returning one signed copy of this form.
- ☐ No reply is required. Notify us of any material inaccuracies.

(b) Your records of this transaction should include, in addition to the copy of this form you retain, information which clearly demonstrates program or other necessity for incurring the costs indicated including, when applicable, a comparison with other costs which accrue through delays.

Committed by:_____
PURCHASING DEPARTMENT

Authorized by:_____
PERSON AUTHORIZED TO APPROVE REQUISITION

UNIVERSITY OF CALIFORNIA—(for interdepartmental use)

RL-2373

DISTRIBUTION - WHITE (PURCHASING) YELLOW (REQUESTER) BLUE (PROGRAM FILE)

0 0 J 0 4 6 0 4 8 5 4

T

APPENDIX F

REQUESTER	BLDG. & ROOM	DELIVER TO: BLDG. ROOM	NOTIFY	EXTENSION	HOLD FOR

APPROVED BY	ACCOUNT NO.	AMOUNT OF P.O.		STAT. CODE	REQ. NO.

SUBMIT CORRESPONDENCE/QUESTIONS TO BUYER: ☐ BLDG. 90 RM. 1024 BERKELEY, CALIF. 94720 ☐ BOX 808 LIVERMORE, CALIF. 94550

BUYER	CODE	ORDER NO.	SELLER CODE	DATE

FROM RECEIPT OF GOODS OR INVOICE WHICHEVER IS LATER.

RATED ORDER	CERT. UNDER D.M.S. REG.	YOU ARE REQUIRED TO FOLLOW THE PROVISIONS OF D.M.S. REG. 1 AND ALL OTHER APPLICABLE REGULATIONS AND ORDERS OF THE DIBA, DEPARTMENT OF COMMERCE IN OBTAINING CONTROLLED MATERIALS AND OTHER PRODUCTS AND MATERIALS NEEDED TO FILL THIS ORDER.	TERMS: (AS CODED)	0 ½-10TH & 25TH 5 2%-10 DAYS 1 ½-10 DAYS 6 2%-30 DAYS 2 1%-10 DAYS 7 NET 30 DAYS 3 1%-30 DAYS 8 AS SHOWN 4 2%-10TH PROX. 9 1%-10TH PROX.

TO

UNIVERSITY OF CALIFORNIA

PURCHASE ORDER

FOR CONTRACT NO. W-7405-ENG. 48

WITH THE ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

SAMPLE

SHIP TO

FOR RESALE - State Sales Tax should not be charged, as the University holds State Sales Tax Permit C 135323

MAIL INVOICE IN DUPLICATE TO:
UNIVERSITY OF CALIFORNIA
LAWRENCE LIVERMORE LABORATORY
Accounting Office - P.O. Box 5001
Livermore, California 94550

SHIP VIA (as coded)	TRANSPORTATION TERMS (as coded)	F.O.B. (as coded)
1. PICKUP 2. PARCEL POST 3. UPS 4. FEDERAL EXP. 1 5. MOTOR FREIGHT 6. AIR FREIGHT 7. AIR PARCEL POST 8. FEDERAL EXP. 2 9. AIR FRT. FORWARDER	1. ACCOUNT OF UNIVERSITY SEE ARTICLE VI ON REVERSE 2. ACCOUNT OF SELLER PREPAID 3. SEE BODY OF ORDER SHIPPING POINT	1. DESTINATION 2. SHIPPING POINT 3. SHIP PT. FREIGHT ALLOWED
0.		4.

ITEM NO.	LAB CATALOG NO. IF APPLICABLE	DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL PRICE	PROMISED DEL TO CARRIER

The Terms and Conditions On The Reverse Side Constitute A Part Of This Order

Authorized by _____

UNIVERSITY OF CALIFORNIA

BL-2354 7600-55648 (REV. 1-76)

TECHNICAL INFORMATION DIVISION
LAWRENCE BERKELEY LABORATORY
UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA 94720