NAS1-98100

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 1

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
6	12-17-97	GH.2959	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than Item 6)	CODE

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)	(x)	9A. AMENDMENT OF SOLICITATION NO.
TO ALL CONCERNED		1-137-GH.2959
		9B. DATED (SEE ITEM 11)
		11-5-97
		10A. MODIFICATION OF CONTRACT/ORDER NO.
		10B. DATED (SEE ITEM 13)
CODE / FACILITY CODE		

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

X The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers X is extended, ☐ is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(x)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose of this amendment is to extend the proposal due date for the RIMS Solicitation. Accordingly, the following change is hereby made to the Solicitation:

The hour and date specified for receipt of offers is hereby extended to 4:00 p.m. local time on January 5, 1998.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
		ROSEMARY C. FROEHLICH	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY Rosemary C. Froehlich (Signature of Contracting Officer)	12-16-97

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

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2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
5	12-11-97	GH.2959	

6. ISSUED BY CODE

National Aeronautics and Space Administration
Langley Research Center
Hampton, VA 23681-0001

7. ADMINISTERED BY (If other than Item 6) CODE

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code)

TO ALL CONCERNED

(x) 9A. AMENDMENT OF SOLICITATION NO.

1-137-GH.2959

9B. DATED (SEE ITEM 11)

11-5-97

10A. MODIFICATION OF CONTRACT/ORDER NO.

10B. DATED (SEE ITEM 13)

C O M | FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

X The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, X is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

(x)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose of this amendment is to answers questions about the solicitation. The answers given to

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
		ROSEMARY C. FROEHLICH	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
[Signature of person authorized to sign]		BY Rosemary C. Froehlich (Signature of Contracting Officer)	12-11-97

FAR (48 CFR) 53.243

A. Question: Reference Contract NAS1-19722 (the incumbent contract for this procurement), paragraph H.17, Option to Transfer Lease on Contractor-Provided Vehicles. Please provide information on the vehicles referenced in this contract clause including number, description, mileage, condition and lease cost.

Answer: The incumbent contractor under contract NAS1-19722 is not providing leased vehicles under the contract.

B. Question: Reference paragraph L.33.C.2, Element **A:** ISO 9000 Compliance Plan. Please exclude copies of ISO registration certificates from the Volume I page limit.

Answer: Any ISO registration certificates submitted in response to Mission Suitability Subfactor 2, Element **A ARE** NOT excluded from the Volume I page limitation set forth in L.30, Proposal Page Limitations. If a registration certificate *is* larger than 8.5 by 11 inches. it will still be considered to be one page in length.

OMB Appro 2700-0042

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

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2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
4	12-9-97	GH.2959	

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National Aeronautics and Space Administration
Langley Research Center
Harnpton, VA 23681-0001

7. ADMINISTERED BY *(If other than Item 6)* CODE

-

8. NAME *AND* ADDRESS OF CONTRACTOR **(No., *street, county, State.* and *Zip Code)***

TO ALL CONCERNED

CODE FACILITY CODE

(x) 9A. AMENDMENT OF SOLICITATION NO.

1-137-GH.2959

9B. DATED *(SEE ITEM 11)*

11-5-97

10A. MODIFICATION OF CONTRACT/ORDER NO.

10B. DATED *(SEE ITEM 13)*

11. THIS ITEM ONLY APPLIES TO AMENDMENTS **OF** SOLICITATIONS

X The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, X is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15. and returning __1__ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted. such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment. and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

(x)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date. etc.)* SET FORTH IN ITEM *14.* PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter* where feasible.)

The purpose of this amendment is to make changes *to* the solicitation, and to answer a question about the solicitation. The following changes, which are in bold face italicized type and are underlined (except

15A. NAME *AND* TITLE OF SIGNER *(Type orprint)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*
		ROSEMARY **C.** FROEHLICH
15B. CONTRACTOWOFFEROR	15C DATE SIGNED	16B. UNITED STATES *OF* AMERICA 16C. DATE SIGNED
(Signature of person aulhomed to sign)		BY X *(Signature of Contracting Officer)* 12-9-97

NSN 7540-01-152-8070
PREVIOUS EDITION UNUSABLE

30-105

STANDARD FORM 30 (Rev 10-83)
Prescribed by GSA
FAR (48 CFRI 53 243

A. On the solicitation cover sheet, the third paragraph is revised as follows:

"In addition to the original and ***ten hard*** copies ***(plus an electronic COPY on 3.5 inch diskette)*** of your proposal to be received in accordance with Block 9 of the Standard Form (SF) 33 and provision 1.33, one copy shall be sent directly to the cognizant DCAA office with a cover sheet referencing the solicitation number that appears in Block 3 of the SF 33.

B. On the solicitation cover sheet, fifth paragraph, delete the word "criteria" in the third sentence, and insert the word ***"factors"*** in its place.

C. In Section B, B.1 ITEMS TO BE FURNISHED, the descriptions for CLIN 1 and CLIN 4 are revised as follows:

"Contract Line Item Number (CLIN) 1 - On-Going Services: Work includes the operation of an equipment loan pool on site at Langley Research Center (LaRC), Receipt and Inspection, ***operation and*** maintenance of LaRC's Metrology and Information (INFOPC) System, configuration and quality control management, metrology engineering support, instrument pick-up and delivery, and maintenance and repair of the Government Furnished Equipment (GFE) provided under this contract. The specific requirements for CLIN 1 are contained in Section C, Statement of Work. The work covered by this CLIN requires no written work request (e.g., task orders) for the Contractor to proceed with performance. **All** of the work described in Section C for CLIN 1 shall begin on the effective date of the contract.

CLIN 4 - On-Site Instrument Services and Digital Systems Support Services: Work includes ***on-site emergency repairs and services on equipment that requires immediate attention, and on-site repairs and services on equipment that cannot be transported due to physical or research impact constraints.*** Work shall be performed on an as needed basis, and shall be initiated when a service call is received. All such calls shall be documented on an IWO. Multiple shift and off-hours support (see ***C.1 Statement of Work, paragraph*** 4.1) shall be provided by the Contractor. ***The specific requirements for on-site instrument services and digital systems, including routine repair, emergency repair, and maintenance,*** and computer systems services under CLIN 4 are contained in Section C, Statement of Work.

D. In Section F, **F.2** PLACE OF DELIVERY is revised as follows:

"F.2 PLACE OF DELIVERY (LARC 52.211-92) (OCT 1992)

Delivery shall be f.o.b. destination ***at Langley Research Center*** or as specified in Task Orders and ***Engineering Service Requests.***"

E. In Section G, G.3 LIST OF GOVERNMENT-FURINISHED PROPERTY, **is** revised as follows:

"G.3 LIST OF GOVERNMENT-FURNISHED PROPERTY (NASA 18-52.245-76) (OCT 1988)

For the performance of work under this contract, the Government will make available Government ***existing*** property identified in Exhibit C of this contract on a no-charge-for-use basis. The Contractor shall use this property in the performance of this contract at the Contractor's facilities and at other location(s) as may be approved by the Contracting Officer. Under the FAR ***52.245-5*** Government Property clause of this contract, the Contractor is accountable for the identified property."

F. In Section G, G.4 LIST OF INSTALLATION-PROVIDED PROPERTY AND SERVICES (NASA 18-52.245-77) (MAR 1989) is deleted and replaced with the following:

"G.4 LIST OF INSTALLATION-ACCOUNTABLEPROPERTY AND SERVICES (NASA 18-52.245-77) (JUL 1997)

In accordance with the clause at 1852.245-71, **Installation-Accountable** Government Property, the Contractor is authorized use of the types of property and services listed below, to the extent they are available, in the performance of this contract within the physical borders of the installation which may include buildings and space owned or directly leased by NASA in close proximity to the installation, if so designated by the Contracting Officer..

(a) Office space, work area space, utilities and existing furniture. The Contractor shall use Government telephones for official purposes only.

(b) Existing general- and special-purpose equipment.

(1) Existing equipment to be made available to the Contractor for use in performance of this contract on-site and at such other locations as approved by the Contracting Officer is listed in Exhibit B. The Government retains accountability for this property under the clause at 1852.245-71, Installation-Accountable Government Property, regardless of its authorized location.

(2) The Contractor shall not acquire property as a direct cost under this contract unless expressly authorized by the Contracting Officer. When authorized, this property also shall become accountable to the Government upon its entry into the **NASA** Equipment Management System (NEMS) in accordance with the property-reporting requirements of this contract.

(3) If the Contractor brings property owned or leased by the Contractor on-site for use under this contract, such property shall be tagged or otherwise marked to identify the owner.

(c) Institutional fire and security protection on-site at LaRC.

(d) Medical treatment of a first-aid nature for Contractor personnel injuries or illnesses sustained during on-site duty.

(e) Cafeteria privileges for Contractor employees during normal operating hours.

(f) Building maintenance for on-site facilities occupied by Contractor personnel.

(g) Moving and hauling of Government Furnished Equipment.

(h) Liquid Nitrogen (LN2) as required for the performance of work under the contract.

(i) The user responsibilities of the Contractor are defined by paragraph (a) of the clause at 1852.245-71, **Installation-Accountable** Government Property."

G. In Section G, G.7 INVOICES **AND** PAYMENTS is revised as follows (please note that the revised paragraph B. of *G.7* allows cost invoices to be submitted every two weeks for large businesses, and more often for small businesses. This supersedes the answer to question 10 in Amendment No. 1 to this solicitation.):

"G.7 INVOICES AND PAYMENTS (LARC 52.232-96) (OCT 1992)

A. General—Invoices shall be addressed as shown in Block 25 on page 1 of this contract and shall be identified by the contract number. Cost and fee invoices shall be submitted separately.

B. ***Cost—the frequency of payments of cost shall be made in accordance with the Section I clause entitled "Allowable Cost and Payment (FAR 52.216-7).***

C. Cost invoices shall be submitted through the delegated Government Audit Agency.

D. Payments of award fee shall be made in ***accordance with the Section I clause entitled "Award Fee For Service Contracts (NFS 1852.216-76)".***

H. In Section H, H.7 CONTRACTOR EMPLOYEE'S SECURITY CLEARANCE (LARC 52.204-90) (OCT 1992), the date in the title of the clause is incorrect. It is hereby changed to "(***OCT 1996***)".

I. In Section H, H.8 SECURITY PROGRAM/FOREIGN NATIONAL EMPLOYEE INVESTIGATIVE REQUIREMENTS (LaRC 52.204-91) (NOV 1991), is deleted and replaced by the following:

"H.8 SECURITY PROGRAM/FOREIGN NATIONAL EMPLOYEE INVESTIGATIVE REQUIREMENTS (LARC 52.204-91) ***(AUG 1997)***

Prior to reporting to Langley Research Center (LaRC) to perform under a contract or grant, each Foreign National shall have approval for access to LaRC facilities from NASA Headquarters, International Relations Division ***(Code IR)***. A copy of the access authorization request shall be provided *to* the LaRC Chief of Security. Additionally, an investigation by the Government shall be completed on each Foreign National Contractor prior to reporting to LaRC to perform under a contract or grant. A properly executed "Name Check Request" (NASA Form 531) and a completed "applicant" fingerprint card shall be submitted to the LaRC Security Office, Mail Stop ***450***, for each Foreign National Contractor at least 75 days prior *to* the estimated entry on duty date. The NF 531 and fingerprint card may be obtained from the LaRC Security Office. If the access approval is obtained from NASA Headquarters prior to completion of the investigation, and the Contracting Officer

requires a Foreign National to work on LaRC, an escort request may be considered by the LaRC Chief of Security."

J. In Section I, the following clauses are hereby deleted:

52.207-3	Right of First Refusal of Employment (NOV 1991)
52.237-8	Restrictions on Severance Payments to Foreign Nationals (OCT 1995)
1852.223-73	Safety and Health Plan (DEC 1988)
1852.245-70	Acquisition of Centrally Reported Equipment (JULY 1997)

K. In Section I, the following clauses are hereby added or updated, and are incorporated therein by reference:

52.215-27	Termination of Defined Benefit Pension Plans (MAR 1996)
52.215-39	Reversion or Adjustment of Plans for Postretirement Benefits Other Than Pensions (PRB) (MAR 1996)
52.215-40	Notification of Ownership Changes (FEB 1995)
52.215-42	Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data-Modifications (JAN 1997)--Alternate I (OCT 1995)
52.219-16	Liquidated Damages - Subcontracting Plan (OCT 1995)
52.230-6	Administration of Cost Accounting Standards (APR 1996)
52.242-4	Certification of Final Indirect Costs (JAN 1997)
1852.216-89	Assignment and Release Forms (JULY 1997)
1852.243-71	Shared Savings (MARCH 1997)
1852.245-71	Installation-Accountable Government Property (JULY 1997)

L. The following full text clause is hereby added to Section I:

1.18 SUBMISSION OF COMMERCIAL TRANSPORTATION BILLS TO THE GENERAL SERVICES ADMINISTRATION FOR AUDIT (FAR 52.247-67) (FEB 1995)

(a)(1) In accordance with paragraph (a)(2) of this clause, the Contractor shall submit to the General Services Administration (GSA) for audit, legible copies of all paid freight bills/invoices, commercial bills of lading (CBL's), passenger coupons, and other

supporting documents for transportation services on which the United States will assume freight charges that were paid (i) by the Contractor under a cost-reimbursement contract, and (ii) by a first-tier subcontractor under a cost-reimbursement subcontract thereunder.

(2) Cost-reimbursement Contractors shall only submit for audit those CBL's with freight shipment charges exceeding $50.00. Bills under $50.00 shall be retained on-site by the Contractor and made available for GSA on-site audits. This exception only applies to freight shipment bills and is not intended to apply to bills and invoices for any other transportation services.

(b) The Contractor shall forward copies of paid freight bills/invoices, CBL's, passenger coupons, and supporting documents as soon as possible following the end of the month, in one package to the General Services Administration, ATTN: FWATS, 18th & F Streets, NW, Washington, DC 20405. The Contractor shall include the paid freight bills/invoices, CBL's, passenger coupons, and supporting documents for first-tier subcontractors under a cost-reimbursement contract. *If* the inclusion of the paid freight bills/invoices, CBL's, passenger coupons, and supporting documents for any subcontractor in the shipment is not practicable, the documents may be forwarded to GSA in a separate package.

(c) Any original transportation bills or other documents requested by GSA shall be forwarded promptly by the Contractor to GSA. The Contractor shall ensure that the name *of* the contracting agency is stamped or written on the face of the bill before sending it to **GSA.**

(d) A statement prepared in duplicate by the Contractor shall accompany each shipment of transportation documents. GSA will acknowledge receipt of the shipment by signing and returning the copy of the statement. The statement shall show--

(1) The name and address of the Contractor;

(2) The contract number including any alpha-numeric prefix identifying the contracting office;

(3) The name and address of the contracting office;

(4) The total number of bills submitted with the statement; and

(5) A listing of the respective amounts paid or, in lieu of such listing, an adding machine tape of the amounts paid showing the Contractor's voucher or check numbers."

M. The following provisions are hereby added to Section L:

"L.35 RESTRICTION ON DISCLOSURE AND USE OF DATA (FAR 52.215-12) (APR 1984)

Offerors or quoters who include in their proposals or quotations data that they do not want disclosed to the public for any purpose or used by the Government except for evaluation purposes, shall--

(a) Mark the title page with the following legend:
"This proposal or quotation includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed—in whole or in part--for any purpose other than to evaluate this proposal or quotation. If, however, a contract is awarded to this offeror or quoter as a result of--or in connection with--the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets _____"; and

(b) Mark each sheet of data it wishes to restrict with the following legend:
"Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal or quotation."

L.36 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA (JAN 1997)--ALTERNATE IV (OCT 1995)

(a) Submission of cost or pricing data is not required.

(b) Offerors shall provide the information described in L.33 PROPOSAL PREPARATION AND SUBMISSION--SPECIAL INSTRUCTIONS, Paragraph D.1.

L.37 PATENT RIGHTS CLAUSES (NASA 1852.227-84) (DEC 1989)

This solicitation contains the patent rights clauses of FAR 52.227-11 (as modified by the NFS) and NFS 1852.227-70. If the contract resulting from this solicitation is awarded to a small business or nonprofit organization, the clause at NFS 1852.227-70 shall not apply. If the award is to other than a small business or nonprofit organization, the clause at FAR 52.227-11 shall not apply."

N. In Section L, L.33 PROPOSAL PREPARATION AND SUBMISSION–SPECIAL INSTRUCTIONS, Paragraph B.4., the reference to "Section M, M.3" is hereby changed to "***Section M, M.2***".

O. The title of Exhibit B is hereby changed to "INSTALLATION-ACCOUNTABLE GOVERNMENT PROPERTY".

P. The following changes are hereby made to Exhibit E:

(1) Under Section I of Exhibit E, Paragraphs B., C., and N. are revised as follows:

B. Quarterly Financial Management Report--The Contractor shall submit a quarterly financial report detailed by categories specified in Paragraph ***A.4.*** above on NASA Form 533Q at times and in accordance with the instructions contained on the reverse side of the form. The initial 533Q shall be submitted within 10 operating days after award of the contract.

C. Financial Baseline Plan--A time-phased financial baseline plan, detailing by month how you plan to incur costs for the period, shall be submitted for the first 12-month interval of the total five year contract period. Financial baseline plans for each of the remaining 12-month intervals shall be submitted within 10 days of the anniversary of the effective date of this contract. Financial baseline plan revisions resulting from the exercise of priced option hours shall be submitted 10 days following the effective date of the option being exercised. This plan shall include the periods **by** the cost categories specified in Paragraph A.4 above. The total estimated cost reflected in the baseline plans must equal the contract values for the total contract period, ***except that*** no overrun costs will be included in the baseline plan. The Financial Baseline Plan will be revised each time a contract modification is executed which increases or decreases the contract estimated cost for a reason other than an overrun. The Financial Baseline Plan and revisions thereto are subject to Contracting Officer approval.

N. Virginia and Local Sales Taxes--In accordance with Section ***H, H.77,*** you are required to submit a copy of the letter sent to the Virginia Tax Commission and a copy of the subsequent response.

(2) Under Section I of Exhibit E, the following Paragraph T is hereby added:

"T. Response to LaRC Notice of Violation (Safety)–The Contractor shall respond to any such notice in a timely manner in accordance with the instructions contained in the Notice of Violation (Safety)."

(3) Under Section II. of Exhibit E, the following changes are hereby made to Paragraph B:

(a) Under the "Letter Code and Distribution Column"! "***I-1***" is added for the Semiannual Equipment Report.

(b) "Requisition and Invoice/Shipping Document (DD Form 1149)" is hereby deleted.

Q. In Section C, C.I Statement of Work, paragraph 1.5.3 is revised as follows:

1.5.3 The Contractor shall perform functions as outlined in Langley Handbook (LHB) 5330.9 to insure effectiveness of and compliance with the LaRC instrument recall program. The Government will determine which instruments will be included in the recall system; approximately 1000 instruments are presently in the recall system. The Contractor shall notify LaRC staff that their equipment is due for calibration (the INFOPC System will track the due dates and generate the customer notices). The Contractor shall input data into the calibration recall data system, and provide a monthly report to the Metrology Manager ***(through the COTR)*** listing all instruments due and their status.

R. The instructions for EXHIBIT I, SUBCONTRACTING PLAN on solicitation page 161 are revised as follows:

(The ***Offeror*** shall attach its Small and Small Disadvantaged Business Subcontracting Plan here as Exhibit I to the contract offer.)

S. In Section L, L.33 PROPOSAL PREPARATION AND SUBMISSION--SPECIAL INSTRUCTIONS, Paragraph C.2. (Subfactor 2), Element D - Offeror's Approach to Meeting the 12% Small Disadvantaged Business (SDB) Participation Goal, the following is hereby added:

For each proposed Small Disadvantaged Business subcontract exceeding $10,000. the offeror shall identify the applicable Standard Industrial Classification (SIC) Code utilized for that subcontract, and shall provide the rationale for the selection of the specific SIC Code." (See Amendment 3 to this solicitation for information related to this change.)

T. Section L. L.33 PROPOSAL PREPARATION AND SUBMISSION--SPECIAL INSTRUCTIONS, D. Business Proposal - Volume II, the following paragraph 3 is hereby added:

"3. Contract Offer

The offeror shall submit three copies of its contract offer, each with original signatures, with the original of its business proposal (but not with the ten copies). A "contract offer" shall consist of Solicitation Sections A through K ("A" is the Standard Form 33), including the Exhibits referenced in Section J, but not the attachments. All properly acknowledged amendments will be considered a part of your contract offer, and hard copies of each amendment will be attached to the executed contract of the successful offeror. All items in Sections A through K that require information to be filled in shall be completed by the Contractor. The Small and Small Disadvantaged Business Subcontracting Plan shall be included as "Exhibit I" to the contract offer. Should the Government select a Contractor based on initial offers, the Contracting Officer will execute the award by countersigning the three copies of the "contract offer" on the Standard Form 33."

U. The following question (request) was received regarding Mission Suitability Subfactor 3 - Cost Realism:

Q: Please provide current salary information for the incumbent work force. In the alternative, please exclude direct labor costs associated with the retention of incumbent employees from the probable cost assessment and point deduction.

A: We realize that the prospective offers other than the incumbent do not have access to actual incumbent employee salary rates. Accordingly, we do not expect all proposals which incorporate the use of incumbent personnel to reflect the incumbent rates. However, we do expect offerors to propose rates which are reasonable and realistic in relation to the proposed technical approach and associated skill mix. We will not penalize offerors under the Cost Realism Subfactor of Mission Suitability merely because the proposed rates do not reflect the actual rates of incumbent employees. We may, of course, consider the actual incumbent rates, when appropriate, in developing our probable cost adjustments during the evaluation of Factor 2 - Cost.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

CONTRACT ID CODE | PAGE OF PAGES 1 2

3	12-5-97	GH.2959	

6. ISSUED BY CODE

National Aeronautics and Space Administration
Langley Research Center
Hampton, VA 23681-0001

7. ADMINISTERED BY *(If other than Item 6)* CODE

8. NAME AND ADDRESS OF CONTRACTOR **(No., *street, county, state, and Zip Code)***

TO ALL **CONCERNED**

CODE FACILITY CODE

(x) 9A. AMENDMENT OF SOLICITATION NO.

1-137-GH.2959

9B. DATED (SEE ITEM 11)

11-5-97

10A. MODIFICATION OF CONTRACT/ORDER NO.

10B. DATED *(SEE ITEM 13)*

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

X The above numbered solicitation is amended as **set forth** in Item 14. The **hour and** dale specified **for** receipt cl Offers ☐ is extended, X is *not* extended. Offers must **acknowledge** receipt of this amendment prior to the **hour** and date specified in the solicitation *or* as amended, by **one** cl the following methods:

(a) By completing Hems 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer **submitted; *or*** (c) By separate letler ***or*** telegram which includes a **reference** to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION ***OF*** YOUR OFFER. K by **virtue** of this amendment you desire to change an offer already **submitted.** such change may **be** made by telegram **or** letler. **provided** each telegram **or** letter makes refer —— to the solicitation and this amendment, and is received **prior** to **the** opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(x)	A. THIS CHANGE ORDER **IS** ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation* date, *etc.)* SET FORTH IN ITEM 14. WRSUANT TO THE AUTHORITY ***OF*** FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT **IS** ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

The purpose of this amendment is to provide the correct definition of "Small business contractor"; an incorrect definition was conveyed **by NASA** personnel in one or more conversations with firms interested

15A. W E AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*	
		ROSEMARY C. FROEHLICH	
15B. CONTRACTOWOFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY Rosemary C. Froehlich *(Signature of Contracting Officer)*	12-5-97

The offerors' attention is directed to **FAR** 19.701 , which provides the following definition:

"Small business subcontractor" means any concern that –

(a) In connection with subcontracts of $10,000 or less if, including its affiliates, its number of employees does not exceed 500 persons; and

(b) In connection with subcontracts exceeding $10,000, if its number of employees or average annual receipts, including its affiliates, does not exceed the size standard under **(FAR)** section 19.102 *for the product or service it is providing on the subcontract.*" (emphasis added)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

CONTRACT ID CODE	PAGE OF PAGES
	1 2

2	11-21-97	GH.2959	

6. ISSUED BY CODE

National Aeronautics and Space Administration
Langley Research Center
Harnpton, VA 23681-0001

7. ADMINISTERED BY *(If other than Item 6)* CODE

8. NAME AND ADDRESS OF CONTRACTOR **(No.. *street, county, stare. and Zip Code)***

TO ALL CONCERNED

CODE FACILITY CODE

(x) 9A. AMENDMENT OF SOLICITATION NO.

1-137-GH.2959

9B. DATED ***(SEE ITEM 11)***

11-5-97

10A. MODIFICATION OF CONTRACTIORDER **NO.**

10B. DATED *(SEE ITEM 13)*

11. THIS ITEM ONLY APPLIES TO AMENDMENTS **OF** SOLICITATIONS

X The above numbered solicitation is amended **as** set **forth** in Item 14. The hour and date specified for receipt of Offers X is extended, ☐ is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date **specified** in the solicitation or as amended. by one **cl** the following methods:

(a) By completing Hems **8** and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt **cl** this amendment ***on*** each copy of the offer submitted; ***or*** (c) **By** separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED **MAY** RESULT IN REJECTION ***OF*** YOUR OFFER. **If** by virtue of this amendment **you** desire to change an offer already submilted. such change may be made by telegram or letter. provided each telegram or letter makes reference to the solicitation and this amendment. **and** is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS **OF** CONTRACTSIORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(x) A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: ***(Specify** authority)* THE CHANGES SET FORTH IN ITEM **14 ARE** MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

B. THE ABOVE NUMBERED CONTRACTIORDER **IS** MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES ***(such as changes in paying office, appropriation* date, *etc.)*** SET FORTH IN ITEM **14,** PURSUANT TO THE AUTHORITY OF FAR 43.103(b).

C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

D. OTHER ***(Specify lype of modification and authority)***

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION **OF** AMENDMENT/MODIFICATION ***(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)***

The purpose of this amendment is to extend the proposal due date, to clarify a facility requirement, and to revise Attachment 11 - Cost Forms and Instructions. Accordingly, the following changes are hereby made to the Solicitation:

A. The hour and date specified for receipt of offers is hereby extended *to* **4:00** p.m. local time on December 18, 1997.

(CONTINUED)

Except as provided herein. **all** terms and conditions of the document referenced in Hem 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER ***(Type orprint)***		16A. NAME AND TITLE OF CONTRACTING OFFICER ***(Type or print)***
		ROSEMARY C. FROEHLICH
15B CONTRACTOWOFFEROR	15C DATE SIGNED	16B. UNITED STATES OF AMERICA 16C. DATE SIGNED
(Signature of person authorrized to sign)		BY Rosemary C. Froehlich 11-21-97 *(Signature of Contracting Officer)*

B. In Section L, L.31 CONTRACTOR'S OFF-SITE FACILITY, Paragraph C is revised as follows:

"**ACCESS** DOOR - At least one 9 feet high **by** 12 feet wide door suitable for truck loading and unloading."

C. The original Attachment 11 - Cost Forms and Instructions is hereby deleted, and is replaced **by** the enclosed Attachment **11.**

ATTACHMENT 11

COST FORMS AND INSTRUCTIONS

Note: This attachment is in the form of a Lotus 1-2-3 file, and is provided as a stand-alone document file.

DISKETTE INSTRUCTIONS FOR COST FORMS A-C

1. NASA Langley Research Center thanks you for your interest in this procurement. We, like all organizations, are finding ways to improve efficiency. Although your cost proposal must be submitted on a SF 1448 and supported as required by Table 15-3, we now require "selected" cost information (Cost Forms A-C) to be submitted in a NASA designated format. This reduces duplication of effort, minimizes errors, and allows a consistent evaluation of all proposals. Your help in this matter is extremely important. Following the instructions found in Section L.33.D.1. of the RFP and those below will help insure a timely and fair evaluation.

2. Submit all Cost Forms A-C, along with supporting rates and factor data, under a single file name. This allows data produced by formulas, referenced cells, etc. to "flow" through the applicable portions of all Cost Forms.

3. Identify, explain, and reconcile any differences between Cost Form classifications and/or rates and those classifications and/or rates in your established accounting system. This establishes an audit trail from the Cost Forms to DCAA approved rates and factors.

4. Do not move cells and do not insert or delete rows or columns (the exception is the line spacing on Forms B1 and C1). This makes your proposal data on the Cost Forms compatible with our evaluation software. However, you may change column widths, formats, fonts, etc.

5. Provide two copies of your diskette(s) to allow evaluation in the event one is damaged.

6. Your diskettes shall be true self-calculating, i.e., including all rates, factors, and formulas used to derive your costs. If possible, do not use absolute values; however, if absolute values are used they must be explained and their values supported. This allows for verification of formulas and lets changes "flow" through the Cost Forms.

7. Read carefully and follow the instructions provided as "NOTES" on each Cost Form.

8. Cost Forms A: The "Total Direct Labor Hours" should correspond to those hours specified in paragraph L.33.D.1.c.(2) *of* the RFP and those itemized on Cost Form B. Any variance shall be explained according to the instructions of that paragraph.

9. Cost Forms A: "Subcontract Direct Labor Costs" plus "Profit and Costs Other than Labor in Direct Labor Subcontracts" shall equal the SF 1448's submitted by Subcontractors and be supported by their fully executed Cost Forms A-C.

10. Cost Forms A: The costs shown for "Payroll Taxes/Fringe Benefits" will not necessarily correlate with Cost Form C; however, the derivations of the cost must be traceable and their relationship clear.

11. Cost Forms A: "Other Overhead" should include costs of elements in your overhead pool other than those payroll taxes and fringe benefits detailed on Cost Form C. Costs on this line shall be itemized and fully explained.

12. Cost Forms A: "OTHER: Costs not Shown Elsewhere" are other direct costs not included in other lines. They shall be itemized and fully explained and supported.

13. Cost Form B: Labor Category "Other" is to be used if you propose to use a labor category other than those listed to perform the direct labor hours in each CLIN. If more than one additional category is proposed for each CLIN, put the composite information on this line, itemizing and detailing as backup.

EEFORE YOU SUBMIT THIS COST PROPOSAL:

- Be sure you have complied with the instruction provided in Section L.33.D.1. of the RFP and on the diskette.
- Verify the cell contents are showing formulas rather than absolute values.
- Confirm all categories and elements been addressed.
- Delete this instruction sheet from your spreadsheet.
- Save all Cost Forms and supporting data under a single file name.

	TOTAL	PHASE-IN PERIOD (Year 1)	(Year 2)	(Ysar 3	Year 4
DIRECT LABOR HOURS:					
Straight Time					
Overtime					
Subcontract					
Total Direct Labor Hours					
DIRECT LABOR COSTS.					
Straight Time					
Overtime Excluding Premium					
Overtime Premium					
Subcontract					
Total Direct Labor Costs					
OVERHEAD.					
Payroll Taxes/Fringe Benefits					
Other Overhead					
Total Overhead					
OTHER:					
Profit and Costs Other than Labor in Direct Labor Subcontracts					
Allocated Labor Other than G&A					
Supplies/Material Costs					
GP Plant Equipment Cost (CLINs 2,3,4)					
Spare Parts (CLINs 2 & 4)					
Data Sys Hardware/Software (CLIN 3)					
Travel					
Business License Tax					
Costs not Shown Elsewhere					
Total ODC					

NOTES

(1) Cost Form A is the summary of all proposed costs. It summaries Cost Forms A1-A4, which are the details of CLINs 1-4.

(2) Provide formulas (bases and rates) used to derive all dollars shown on all Cost Forms)

COST FORM A1

PROPOSED COSTS FOR TOTAL EFFORT - CLIN 1

Solicitation 1-137-GH.2959- RIMS

PROPOSER _____

	TOTAL	PHASE-IN	INITIAL PERIOD (Year 1)	FIRST OPTION (Year 2)	SECOND OPTION (Year 3)	THIRD OPTION (Year 4)	FOURTH OPTION (Year 5)
DIRECT LABOR HOURS: (Note 1)							
Straight Time							
Overtime							
Subcontract							
Total Direct Labor Hours							
DIRECT LABOR COSTS: (Note 1)							
Straight Time							
Overtime Excluding Premium							
Overtime Premium							
Subcontract							
Total Direct Labor Costs							
OVERHEAD:							
Payroll Taxes/Fringe Benefits (Note 2)							
Other Overhead (Note 3)							
Total Overhead							
OTHER:							
Profit and Costs Other than Labor							
in Direct Labor Subcontracts							
Allocated Labor Other than G&A (Note 4)							
Supplies/Material Costs							
Travel (Note 5)							
Business License Tax							
Costs not Shown Elsewhere (Note 3)							
Total ODC							
G&A							
FCCOM							
TOTAL COST							
FEE							
COST PLUS FEE							

NOTES

(1) Support with Cost Form B.

(2) Support with Cost Form C for Year 1 (See Note 4 on Cost Form C)

(3) Itemize and provide details.

(4) Include any portion of "Allocated Labor Other than G&A" that is normally in your "Overhead under "Other Overhead"

(5) Include the $35,000 annual esbmate specified in Solicitation paragraph D.1 c.(7)

COST FORM A2
PROPOSED COSTS FOR TOTAL EFFORT - CLIN 2
Solicitation **1-137-GH.2959 - RIMS**

PROPOSER: _____

	TOTAL	PHASE-IN	INITIAL PERIOD (Year 1)	FIRST OPTION (Year 2)	SECOND OPTION (Year 3)	THIRD OPTION (Year 4)	FOURTH OPTION (Year 5)
DIRECT LABOR HOURS: (Note 1)							
Straight Time							
Overtime							
Subcontract							
Total Direct Labor Hours							
DIRECT LABOR COSTS: (Note 1)							
Straight Time							
Overtime Excluding Premium							
Overtime Premium							
Subcontract							
Total Direct Labor Costs							
DVERHEAD:							
Payroll Taxes/Fringe Benefits (Note 2)							
Other Overhead (Note 3)							
Total Overhead							
)THER:							
Profit and Costs Other than Labor in Direct Labor Subcontracts							
Allocated Labor Other than G&A (Note 4)							
Supplies/Material Costs							
GP Plant Equipment *Costs*	$125,000		$25,000	$25,000	$25,000	$25,00(	$25,000
Spare Parts	$1,250,000		$250,000	$250,000	$250,00	$250,00(	$250,000
Travel							
Business License Tax							
Costs not Shown Elsewhere (Note 3)							
Total ODC							
G&A							
FCCOM							
//TOTALCOST							
FEE							
COST PLUS FEE							

NOTES
(1) Support with Cost Form B.
(2) Support with Cost Form C for Year 1 (See Note 4 on Cost Form C).
(3) Itemize and provide details.
(4) Include any portion of "Allocated Labor Other than G&A" that is normally in your "Overhead" under "Other Overhead."

COST - FORM A3
PROPOSED COSTS FOR TOTAL EFFORT - CLIN 3
Solicitation 1-137-GH.2959 - RIMS

PROPOSER: _____

	TOTAL	PHASE-IN	INITIAL PERIOD (Year 1)	FIRST OPTION (Year 2)	SECOND OPTION (Year 3)	THIRD OPTION (Year 4)	FOURTH OPTION (Year 5)
)IRECT LABOR HOURS (Note 1)							
Straight Time							
Overtime							
Subcontract							
Total Direct Labor Hours							
)IRECT LABOR COSTS (Note 1)							
Straight Time							
Overtime Excluding Premium							
Overtime Premium							
Subcontract							
Total Direct Labor Costs							
)THER							
Profit and *Costs* Other than Labor in Direct Labor Subcontracts							
Allocated Labor Other than G&A (Note 4)							
Supplies/Material Costs							
GP Plant Equipment Costs	$75,000		$15,000	$15,000	$15,000	$15,000	$15,000
Data Sys Hardware/Software	$6,250,000		$1,250,000	$1,250,000	$1,250,000	$1,250,000	$1,250,000
Travel (Note 5)							
Business License Tax							
Costs not Shown Elsewhere (Note 3)							
Total ODC							
i&A							
CCOM							
OTAL COST							
EE							
OST PLUS FEE							

NOTES

(1) Support with Cost Form B.

2) Support with Cost Form C for Year 1 (See Note 4 on Cost Form C).

3) Itemize and provide details.

4) Include any portion of "Allocated Labor Other than G&A" that is normally in your "Overhead" under "Other Overhead"

5) Include the $50,000 annual estimate specified in Solicitation paragraph D.l.c.(7).

COST FORM A4
PROPOSED COSTS FOR TOTAL EFFORT - CLIN 4
Solicitation 1-137-GH.2959 - RIMS

PROPOSER: _____

	TOTAL	PHASE-IN	INITIAL PERIOD (Year 1)	FIRST OPTION (Year 2)	SECOND OPTION (Year 3)	THIRD OPTION (Year 4)	FOURTH OPTION (Year 5)
DIRECT LABOR HOURS: (Note 1)							
Straight Time							
Overtime							
Subcontract							
Total Direct Labor Hours							
DIRECT LABOR COSTS: (Note 1)							
Straight Time							
Overtime Excluding Premium							
Overtime Premium							
Subcontract							
Total Direct Labor Costs							
OVERHEAD:							
Payroll Taxes/Fringe Benefits (Note 2)							
Other Overhead (Note 3)							
Total Overhead							
OTHER:							
Profit and Costs Other than Labor in Direct Labor Subcontracts							
Allocated Labor Other than G&A (Note 4)							
Supplies/Material Cos~ - - -							
GP Plant Equipment Costs	$50,000		$10,000	$10,000	$10,000	$10,000	$10,000
Spare Parts	$2,500,000		$500,000	$500,000	$500,000	$500,000	$500,000
Travel							
Business License Tax							
Costs not Shown Elsewhere (Note 3)							
Total ODC							
G&A							
FCCOM							
TOTAL COST							
FEE							
COST PLUS FEE							

NOTES

(1) Support with Cost Form B.

(2) Support with Cost Form C for Year 1 (*See* Note 4 on Cost Form C).

(3) Itemize and provide details.

(4) Include any portion of "Allocated Labor Other than G&A" that is normally in your "Overhead under "Other Overhead."

COST FORM B

DETAILS OF PRODUCTIVE HOURS AND DIRECT LABOR COSTS

Solicitation 1-137-GH.2959 - RIMS

PROPOSER: _____

YEAR _____ LABOR CATEGORY	NO. OF POSIT.	PRODUCTIVE MAN-YEAR	STRAIGHT-TIME HOURS	OVERTIME HOURS	HOURLY LABOR RATE	STRAIGHT-TIME COST	OVERTIME COST (EXCLUDING PREMIUM)	OVERTIME PREMIUM COST	TOTAL DIRECT LABOR COST
CLIN 1									
Engineers (E.E. and M.E.)									
Systems Analyst/Programmer									
Calibration Technician									
Electronic Technician									
Production Control Specialist									
Clerical									
Technical Editor									
Other (Note 3)									
Total - CLIN 1									
CLIN 2									
Engineers (E.E. and M.E.)									
Sr. Engineering Technician									
Calibration Technician									
Electronic Technician									
Machinist									
Other (Note 3)									
Total - CLIN 2									
CLIN 3									
Engineers (E.E. and M.E.)									
Acoustical Engineer									
Laser/Optical Engineer									
Digital Systems Engineer									
Systems Analyst/Programmer									
Sr. Engineering Technician									
Engineering Technician									
Other (Note 3)									
Total CLIN 3									
CLIN 4									
Engineers (E.E. and M.E.)									
Sr. Engineering Technician									
Calibration Technician									
Electronic Technician									
Other (Note 3)									
Total - CLIN 4									
YEAR TOTAL									

NOTES

(1) Provide formulas (bases and rates) used to derive all dollars shown.

(2) Annotate with a # any category provided by a subcontractor, in whole or in part. Provide separate Cost Forms for prime and subcontractor data.

(3) If you propose any categories not listed above, provide details and explain.

COST FORM B1

DETAILS OF PRODUCTIVE HOURS AND DIRECT LABOR COSTS

Solicitation 1-137-GH.2959 - RIMS

PROPOSER:_____

YEAR _____ LABOR CATEGORY	NO. OF POSIT.	PRODUCTIVE MAN-YEAR	STRAIGHT-TIME HOURS	VERTIME HOURS	HOURLY LABOR RATE	STRAIGHT-TIME COST	OVERTIME COST (EXCLUDING PREMIUM)	OVERTIME PREMIUM COST	TOTAL DIRECT LABOR COST

NOTES

Use this form to list labor categories and detail payroll tax and fringe benefit costs for "Allocated Labor Other than G&A" and Overhead personnel allocable to this contract.

(1) Provide formulas (bases and rates) used to derive all dollars shown.

(2) Specify where these costs are reflected in your proposal.

(3) If you propose any categories not listed above, provide details and explain.

COST FORM C

DETAILS OF YEAR 1 PAYROLL TAX AND FRINGE BENEFIT COSTS FOR DIRECT LABOR POSITIONS

Solicitation 1-137-GH.2959 - RIMS

PROPOSER: _____

LABOR CATEGORY	NO. OF POSIT.	TOTAL	FICA	FUI	SUI	WORKER'S COMP	GENERAL LIABILITY INSURANCE	MEDICAL/ DENTAL INSURANCE	PAID ABSENCE	PENSIONS/ SAVINGS PLANS	OTHER (Note 3)
CLIN 1											
Engineers (E.E. and M.E.)											
Systems Analyst/Programmer											
Calibration Technician											
Electronic Technician											
Production Control Specialist											
Clerical											
Technical Editor											
Other											
Total - CLIN 1											
RATE (Note 4)											
CLIN 2											
Engineers (E.E. and M.E.)											
Sr. Engineering Technician											
Calibration Technician											
Electronic Technician											
Machinist											
Other											
Total - CLIN 2											
RATE (Note 4)											
CLIN 3											
Engineers (E.E. and M.E.)											
Acoustical Engineer											
Laser/Optical Engineer											
Digital Systems Engineer											
Systems Analyst/Programmer											
Sr. Engineering Technician											
Engineering Technician											
Other											
Total CLIN 3											
RATE (Note 4)											
CLIN 4											
Engineers (E.E. and M.E.)											
Sr. Engineering Technician											
Calibration Technician											
Electronic Technician											
Other											
Total - CLIN 4											
RATE (Note 4)											

t S

(1) Provide formulas (bases and rates) used to derive all dollars *shown*.

(2) Annotate with a # any category provided by a subcontractor, in whole or in part. Provide separate forms for prime and subcontractor data.

(3) Use "Othef for any payroll tax or fringe benefit *not listed.* itemize and explain.

(4) If :he "Total" rate does not equal your overhead rate, explain and specify where any additional overhead costs are in your proposal. The Information on this form will be used to support the total compensation pian to be evaluated in Mission Suitability, Subfactor 2. IF THESE CALCULATIONS OR RATES DIFFER IN YEARS 2-5, EXPLAIN OR COMPLETE THIS COST FORM FOR THOSE YEARS ALSO.

COST FORM C1

DETAILS OF YEAR 1 PAYROLL TAX AND FRINGE BENEFIT COSTS FOR NON-PRODUCTIVE LABOR POSITIONS

Solicitation **1-137-GH.2959 - RIMS**

PROPOSER: _____

LABOR CATEGORY	NO. OF POSIT.	TOTAL	FICA	FUI	SUI	WORKERS COMP	GENERAL LIABILITY INSURANCE	MEDICAL/ DENTAL INSURANCE	PAID ABSENCE	PENSIONS/ SAVINGS PLANS	OTHER (Note 3)

NOTES

Use this form to list labor categories and detail payroll tax and fringe benefit costs for "Allocated Labor Other than G&A" and Overhead personnel allocable to this contract.

(1) Provide formulas (bases and rates) used to derive all dollars shown.

(2) Specify where these costs are reflected in your proposal.

(3) Use "Other" for any payroll tax or fringe benefit not listed. Itemize and explain.

(4) If the "Total" rate does not equal your overhead rate, explain and specify where any additional overhead costs are in your proposal. The Information on this form will be used to support the total compensation plan to be evaluated in Mission Suitability, Subfactor 2. IF THESE CALCULATIONS OR RATES DIFFER IN YEARS 2-5, EXPLAIN OR COMPLETE THIS COST FORM FOR THOSE YEARS ALSO.

OMB Approval #: 2700-0042

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. *(If applicable)*
1	11-14-97	GH.2959	

6. ISSUEDBY CODE

National Aeronautics and Space Administration
Langley Research Center
Hampton, VA 23681-0001

7. ADMINISTERED BY *(If other than Item 6)* CODE

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State, and Zip Code)*

TO ALL CONCERNED

CODE FACILITY CODE

(x)

9A. AMENDMENT OF SOLICITATION NO.

1-137-GH.2959

9B. DATED *(SEE ITEM 11)*

11-5-97

10A. MODIFICATION OF CONTRACT/ORDER NO.

10B. DATED *(SEE ITEM 13)*

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

X The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of *Offers* X is extended, ☐ is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended. by one of the following methods:

(a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted: or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE O f YOUR ACKNOWLEDGEMENT TO BE RECENED AT THE PLACE DESIGNATEDFOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire lo change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment. and ĸ received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

(x)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY O f FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

The purpose of this amendment is to extend the proposal due date to compensate for the two Government holidays that fall in November, and to answer questions about the Solicitation. Accordingly, the following changes are hereby made to the Solicitation:

15A. NAME AND TITLE OF SIGNER *(Type or print)*		16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)*	
		ROSEMARY C. FROEHLICH	
15B. CONTRACTOWOFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY Rosemary C Froehlich *(Signature of Contracting Officer)*	11-21-97

NSN 7540-01-152-8070
PREVIOUS EDITION UNUSABLE

30-105

STANDARD FORM 30 (Rev. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

B. The answers provided to the questions below are hereby incorporated into the solicitation:

1. Question: Of the 14,000 instruments serviced per year under this solicitation, how many are instruments calibrated and how many are instruments repaired?

Answer: Of the 14,000 instruments serviced, approximately 7,000 were calibrated and 7,000 were repaired.

2. Q: How many calibrations are done on-site (at a faciiity, i.e. wind tunnel, etc.)?

A: Approximately 2,300 calibrations were done on-site.

3. Q: How many Calibrations are performed at the Contractor's off-site facility?

A: Approximately 4,700.

4. Q: What is the average hours per instrument calibrated?

A: 4.4 hours.

5. Q: What is the average hours per instrument repaired?

A: 5.4 hours.

6. Q: What is the average turn around time for instruments calibrated?

A: IWO due dates are customer driven and can vary anywhere from immediate to long term. Typically the work falls in three categories:

1 to 4 days approximately 2 to 8% of calibrations.
5 to 14 days approximately 40 to 50% of calibrations.
over 14 days approximately 50% to 60% of calibrations.

7 Q: Please define any Government provided services and participation by Government personnel in Element B, Acoustic Field Test Representative Task Order.

A: Since the RIMS contract is to be performance based, proposals should be prepared assuming that all services and personnel required to meet the requirements of sample tasks are to be provided by the Contractor. Only inherently Governmental liaison and interface functions, such as arranging for access to other government facilities, will be provided by NASA personnel. GFE provided under the contract will of course be available for use.

8. ***Q:*** Will NASA extend the due date for proposals to December 19, 1997?

A: No; however, the date is extended by Item A in Block **14** (page 1) of this amendment to 2:00 p.m. local time on December 8, 1997. Please note that the time of day specified, 2:00 p.m., is earlier than the time specified in the original solicitation (4:00 p.m.).

9. ***Q:*** Will NASA increase the proposal page limitation for Mission Suitability from 75 to 100 pages?

A: No. **A** thorough analysis of the page limitation as stated in provision **L.30** of the solicitation has been conducted by cognizant NASA personnel, and it has been determined that the limitation will allow all offerors to respond to the solicitation in sufficient depth and detail to fully display their abilities and expertise.

10. Q: Will NASA allow bi-monthly invoicing for incurred costs, as opposed to monthly invoicing as currently stipulated in the payment clause?

A: No, only monthly cost invoicing is acceptable.

11. Q: Will NASA allow for monthly provisional award fee payments under the RIMS Contract?

A: No. Award fee will be paid following the Award Fee Evaluation for the period only. (NASA has a policy in place with a goal of paying award fee within 60 days after the end of the award fee period. Langley has been highly successful in meeting this goal, particularly on support service contracts.)

285 pgs

NASA

National Aeronautics and
Space Administration

Langley Research Center
Hampton, Virginia **2368** 1-0001

SOLICITATION

1-137-GH.2959

REQUIREMENT: Research Instrumentation and Measurement Support (RIMS)

IMPORTANT NOTICES:

disadvantaged business participation (See Section **L,** Provision **L.32).**

Your attention is directed to Section **L,** Provision **L.33,** Proposal Preparation and Submission - Special Instructions, for important information on proposal preparation. Section M sets forth the evaluation factors for award.

In addition to the original and eight copies of your proposal to be received in accordance with Block 9 of the Standard Form (SF) **33,** one copy shall be sent directly to the cognizant **DCAA** office with a cover sheet referencing the solicitation number that appears in Block **3** of the SF **33.**

Your attention is directed to Attachment 4 of the **RFP,** which is the Award Fee Evaluation Plan. It is the Government's intention to award a cost-plus-award-fee contract, then negotiate conversion to a cost-plus-incentive-fee contract at a later date. The performance evaluation criteria (metrics) in the award fee plan have been structured, for the most part, **as** objective measures of performance. Once it is established that these metrics (as currently stated or later revised) provide a fair measure of performance, the Government will seek to enter into negotiations with the Contractor to convert to an incentive fee contract using those metrics.

A LIST **OF ACRONYMS USD IN** THIS **RFP IS INCLUDED AS EXHIBIT H.**

NOTICE: THE IDENTITIES OF FIRMS SUBMITTING PROPOSALS IN RESPONSE TO THIS RFP WILL NOT BE RELEASED UNTIL AFTER SELECTION AND CONTRACT AWARD.

SOLICITATION, OFFER AND AWARD

1 THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE OF PAGE(S)
		1 164

1-137-GH.2959	☐ SEALED BID (IFB) ☒ NEGOTIATED (RFP)	11-5-97	GH.2959

7 ISSUED BY CODE

National Aeronautics and Space Administration
Langley Research Center
Hampton, VA 23681-0001

8. ADDRESS OFFER TO *(if other than item 7)*

NASA, Langley Research Center
9A Langley Boulevard, Building 1195B, Room 125
Hampton, VA 23681-0001

10 FOR INFORMATION CALL ▶	A. NAME	B TELEPHONE (Include area code) (NO COLLECT CALLS)
	David H. Jones	(757)864-2421

X	A	SOLICITATION/CONTRACT FORM	1	X	I	CO	26
X	B	SUPPLIES OR SERVICES AND PRICES/COSTS	2	PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS			
X	C	DESCRIPTIONS/SPECS./WORK STATEMENTS	3	X	J	LIST OF ATTACHMENTS	45
X	D	PACKAGING AND MARKING	13	PART IV - REPRESENTATIONS AND INSTRUCTIONS			
X	E	INSPECTION AND ACCEPTANCE	13	X	K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE	13				
X	H	SPECIAL CONTRACT REQUIREMENTS	18	X	M	EVALUATION FACTORS FOR AWARD	

13. DISCOUNT FOR PROMPT PAYMENT (See *Section I, Clause No. 52.232-8*)	10 CALENDAR DAYS %	20 CALENDAR DAYS %	30 CALENDAR DAYS %	CALENDAR DAYS %

14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents	AMENDMENT NO	DATE	AMENDMENT NO.	DATE

15B TELEPHONE NO *(Include area code)*	15C CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE	17 SIGNATURE	18 OFFER DATE

20. AMOUNT

☐ 10 U.S.C 2304(c) ( ) ☐ 41 U.S.C 253(c) ( )

(4 copies unless otherwise specified) ▶

24 ADMINISTERED BY (if other than item 7) CODE	25 PAYMENT WILL BE MADE BY
	Financial Management Office Langley Research Center, MS 175 Hampton, VA 23681-001

26 NAME OF CONTRACTING OFFICER (Type or Print)	27 UNITED STATES OF AMERICA *(Signature of Contracting Officer)*	28 AWARD DATE

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

PART I - THE SCHEDULE

SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS

B.1 ITEMS TO BE FURNISHED

Research Instrumentation and Measurement Services

Contract Line Item Number (CLIN) 1 - On-Goina Services: Work includes the operation of an equipment loan pool on site at Langley Research Center (LaRC), Receipt and Inspection, maintenance of LaRC's Metrology and Information (INFOPC) System, configuration and quality control management, metrology engineering support, instrument pick-up and delivery, and maintenance and repair of the Government Furnished Equipment (GFE) provided under this contract. The specific requirements for CLIN 1 are contained in Section C, Statement of Work. The work covered by this CLIN requires no written work request (e.g., task orders) for the Contractor to proceed with performance. All of the work described in Section C for CLIN 1 shaii begin on the effective date of the contract.

CLIN 2 - Instrument Support Services: Work includes instrument maintenance, calibration and repair, and new instrument acceptance testing at the Contractor's facility(s). Work under CLIN 2 will be performed on an as needed basis. Individual Instrument Work Orders (IWOs) will begin when a piece of equipment is picked up by the Contractor for service at a regularly scheduled pick-up point, when a pick-up request call is placed with the Contractor, or when a new instrument arrives at the Contractor's facility. The specific requirements for CLIN 2 are contained in Section C, Statement of Work.

CLIN 3 - Data Systems Development and instrumentation Engineering: Work consists of instrumentation systems engineering, data acquisition and analysis, and training. Work under this CLIN with a loaded labor cost estimate of $10,000 or less AND an estimate for parts and materials of $20,000 or less shall be issued via an Engineering Service Request (ESR) originated by the Contracting Officer's Technical Representative(COTR) or one of the Task Area Monitors (TAMs). All other work under CLIN 3 shall be issued via Task Orders signed by the Contracting Officer. The specific requirements for CLIN 3 are contained in Section C, Statement of Work.

CLIN 4 - *On-Site* Instrument Services and Digital Systems Support Services: Work includes on-site emergency repairs and services that require immediate attention on equipment that cannot be transported due to physical or research impact constraints. Work shall be performed on an as needed basis, and shall be initiated when a service call is received. All such calls shall be documented on an IWO. Multiple shift and off-hours support (see 4.1) shall be provided by the Contractor. The specific requirements for on-site instrument services and emergency repair, maintenance and repair of digital systems, and computer systems services under CLIN 4 are contained in Section C, Statement of Work.

B.2 ESTIMATED COST AND AWARD FEE (NASA 1852.216-85)(SEP 1993)

The estimated cost of this contract is $_____. The maximum available award fee is $_____. Total estimated cost and maximum award fee are $_____

	Est. Cost	Max. Available Award Fee	Total Est. Cost and Max. Award Fee
CLIN 1	$	$	$
CLIN 2	$	$	$
CLIN 3	$	$	$
CLIN 4	$_____	$_____	$_____
Total	$	$	$

8.3 AWARD FEE AVAILABILITY SCHEDULE (LaRC 52.216-96) (MAR 1989)

The award fee available for each evaluation period is as follows:

AF Period	CLIN 1	CLIN 2	CLIN 3	CLIN 4
1. (4/1/98 - 9/30/98)	$	$	TBD*	$
2. (10/1/98 - 3/31/99)	$	$	TBD*	$

* The Available Award Fee under CLIN 3 for each period will be the sum of the available award fee amounts for each of the Task Orders and Engineering Service Requests (ESRs) **COMPLETED** during that period. The available award fee at the Task Order/ESR level will be computed as a percentage of the estimated **(NOT** actual) cost of the Task Order or ESR agreed upon by both parties at the time of issuance. The percentage of cost used to estimate fee will be equal to the overall fee:cost ratio for CLIN 3 in the contract. (For example, if the estimated cost for CLIN 3 for the base contract year *is* $1,000,000 and the award fee value for CLIN 3 is $50,000, then the available award fee for each Task Order and ESR during the base contract year will be 5% of the estimated cost of the Task Order or ESR.) The available award fee at the Task Order or ESR level will NOT be changed to reflect cost overruns or underruns. The Task Order or ESR available fee will be adjusted when an increase or decrease in the scope of a Task Order *or* ESR *is* negotiated with the Contractor.

B.4 CONTRACT FUNDING (NASA 1852.232-81) (JUN 1990)

(a) For purposes of payment of cost, exclusive of fee, in accordance with the Limitation of Funds clause, the total amount allotted by the Government to this contract *is* $_____. This allotment is for _____ and covers the following estimated period of performance: _____

(b) An additional amount *of* $_____ is obligated under this contract for payment of fee.

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

C.I STATEMENT OF WORK -- RESEARCH INSTRUMENTATION AND MEASUREMENT SERVICES

Introduction: The objective of this effort is to provide research instrument and measurement support that economically and reliably satisfies the requirements of Langley Research Center (LaRC). The majority of the work will be performed at the Contractor's facility; a lesser amount will be performed on-site at LaRC and a small portion will be performed at remote test sites (e.g. Wallops Flight Center, Dryden Flight Research Center, Commercial test sites, etc.)

Scope

The Contractor shall provide personnel, equipment (except as described in Exhibit C, Government Furnished Property), materials and facilities to perform the services described in CLIN 1 (On-Going Services), CLIN 2 (Instrument Support Services at the Contractor's facility), CLIN 3 (Data Systems Development and Instrumentation Engineering) and CLIN 4 (On-Site Instrument Services and Digital Systems Support Services) as required. Approximately thirty-five percent (35%) *of* the work effort under the contract is on-site services (hardware and software support) for which a maximum response time of 30 minutes during the Government's first shift (7:30 a.m. - 4:00 p.m.) and second shift (3:30 p.m. - 12:00 midnight) and 60 minutes during third shift (12:00 midnight - 7:30 a.m.), weekends (anytime Saturday or

Sunday) and Government holidays, is required to permit research to proceed and to minimize costly delays. For this Statement of Work, "Response" is defined as having personnel on site at the NASA facility.

1. CLIN 1 - On-Going Services: Work includes generation of Receipt and Inspection Reports, instrument pick-up and delivery, the operation of an equipment loan pool on-site at LaRC, maintenance and repair of GFE, maintenance of LaRC's INFOPC system, Configuration and Quality Control Management, and Metrology Engineering Support. The work described below for CLIN 1 is on-going and shall begin on the effective date of the contract and continue without interruption through the period of performance of the contract. The specific requirements for each of the work areas under CLIN 1 are as follows:

1.1. Receipt and Inspection Report: The Contractor shall perform receipt and inspection of selected incoming electronic instruments, equipment, and related materials purchased by the Government in accordance with NASA Handbook (NHB) 4200. Items to be inspected by the Contractor will be shipped directly to the Contractor's facility, where such inspections shall be performed. There were approximately 100 receipt and inspection reports processed in 1996. Services to be performed in this area shall include the following:

1.1.1 The Contractor shall inspect incoming items, and accept items that meet NASA contract or purchase order schedule; Prepare and distribute Receipt and Inspection Report (R&I LaRC Form 131), or changes thereto, and Receipt and Inspection Report Cancellation or Correction, LaRC Form (LF) 32 if required and complete applicable portion of Work Order and Shipping Memorandum, LF 165, or its electronic equivalent, which identifies the incoming shipment and all contents.

1.1.2 The Contractor shall attach appropriate Equipment Control Number (ECN) or Metrology Control Number (MCN) tags to accepted equipment.

1.1.3 The Contractor shall deliver all accepted instruments to user on site at LaRC after acceptance.

1.1.4 The Contractor shall pick-up contract/purchase order folders from the Acquisition Division (AD) file room when an item arrives for acceptance testing (see paragraph 2.1). The Contractor shall securely store all purchase order folders in its possession, and shall return the folders to the AD file room when acceptance testing is complete.

1.1.5 When items purchased by the Government do not pass acceptance testing and must be returned for repairs or replacement, the Contractor shall be responsible for.

-Contacting the supplier to determine method of shipment
-Preparation of the shipping request [instrument Research Division (IRD) Form N-620]
-Obtaining approval from the Authorized Government Representative (AGR) and forward copies to Financial Management Division (FMD), Logistics Management Office (LMO), and AD
-Enclosing approved form with the contract/purchase order file

1.2 Pickup and Delivery: The Contractor shall establish a pickup and delivery service for all standards and instruments requiring repair or calibration under this contract. Equipment transported shall be physically handled in a manner commensurate with its size, weight, and sensitivity to shipping damage. This pick-up and delivery service shall be to and from NASA facilities, other local

support service Contractor facilities, and occasionally remote facilities such as National Institute of Standards and Technology (NIST). A receipt method will be used to identify instruments submitted for service and as subsequent evidence that the item(s) have been returned after service and return delivery is complete. The Contractor may use the existing receipt method or may implement their own with Government approval. All LaRC buildings are subject to periodic pickup and delivery, and daily service is required at Buildings 1236 and 1244. The Contractor shall establish a dispatch service at the Contractor facility to implement the pick-up and delivery service. The Contractor shall initiate task tracking and documentation, and perform the following tasks:

1.2.1 The Contractor shall receive and visually inspect each instrument, and shall initiate an IWO NASA Form 165, or an electronic equivalent, for each instrument submitted for service. All IWO's will be documented by the Contractor in the INFOPC System for TAM or COTR review.

1.2.2 The Contractor shall affix ECN/MCN as required by LHB 5330.9 to all instruments received for service and update INFOPC records.

1.2.3 The Contractor shall generate a return shipping tag (NASA Form 162) and attach same to the equipment to be dispatched to the work area for service.

1.3 Operating an On-site Instrument Control Unit/Loan Pool: The Contractor shall operate LaRC's Instrument Loan Pool located on-site in Building 1230, Rooms 139/140, during the Government's first shift. The Loan Pool consists *of* Govemment-owned equipment; the Contractor will not be required to provide any instruments for use as part of the Loan Pool. Work to be performed includes the following:

1.3.1 The Contractor shall maintain accountability of instruments in loan pool inventory (approximately 5000 instruments). This effort includes the issuance and recall of instruments, deletion and addition of records to MET/TRACK® and loan pool dBase programs (maintained by the Government), and generation of recall notices on overdue inventory.

1.3.2 The Contractor shall advise users on instrument capabilities, applications, and proper usage.

1.3.3 The Contractor shall assure that the loan pool inventory is scheduled for calibration, and shall perform annual inventory of Instrument Loan Pool property as required by NHB 4200.

1.3.4 The Contractor shall process approximately 2500 LaRC Purchase Requests annually; this shall include the following: annotate for correct federal stock code, determine destination delivery (LaRC or Contractor facility), and code for inventory control.

1.3.5 The Contractor shall perform data entry into NASA Equipment Management System (NEMS), consisting of approximately 1000 monthly transaction updates (e.g. custodian/user changes, location, etc.)

1.3.6 The Contractor shall operate, update records, and provide reports to TAMs as required by the Instrument Service Tracking Program (ISTP). The ISTP is a dBaseIV application residing on a networked PC in ETTD. It downloads a monthly file from INFOPC, containing data on work completed that month. The downloaded file is then used by the ISTP to calculate quality and timeliness for all Instrument Work Orders and to generate monthly and semi-annual reports for the Task Area

Monitors. The reports generated by this application are used by the Task Area Monitors to assist in evaluating the Contractor performance.

1.4 Government Furnished Equipment (GFE) Maintenance and Repair: The Contractor shall develop and follow a program plan which maintains GFE in accordance with Section I clause 52.245-5, Government Property. Within 30 days after the award of this contract, the Contractor shall submit to the Contracting Officer a written maintenance program in sufficient detail to show the adequacy of the proposed program. If the Contracting Officer agrees to the proposed program, it shall become the normal maintenance obligation of the Contractor. The Contractor shall notify the TAM when maintenance in excess of the normal maintenance program is required. The Contractor shall keep records of all work done on the equipment and shall give the Government reasonable opportunity to inspect such records.

1.5 Operation and Maintenance of an Information Management System: The Contractor shall provide all necessary support for the operation and maintenance of the LaRC Metrology and Information System (INFOPC). INFOPC is an automated data processing system that is used to track, report, and store service history and metrology-related data for work performed under the contract (See Exhibit F for a description of the INFOPC System). This support shall consist of programming and system administration in an Advanced Revelation and Novell Network environment on a Local Area Network (LAN) located at the Contractor facility(s), Experimental Testing Technology Division (ETTD), and other ETTD support Contractor's sites. Services shall include the following:

1.5.1 The Contractor shall perform updates from NASA Equipment Management System (NEMS) and downloads to the WEB database to insure systems congruency with the INFOPC.

1.5.2 The Contractor shall maintain Instrument Service History Records on the repair and calibration history for approximately 80,000 instruments. Every instrument serviced that has a unique bar-coded number assigned, either an ECN or an MCN, shall have a record maintained that documents all repairs and calibrations.

1.5.3 The Contractor shall perform functions as outlined in Langley Handbook (LHB) 5330.9 to insure effectiveness of and compliance with the LaRC instrument recall program. The Government will determine which instruments will be included in the recall system; approximately 1000 instruments are presently in the recall system. The Contractor shall notify LaRC staff that their equipment is due for calibration (the INFOPC System will track the due dates and generate the customer notices). The Contractor shall input data into the calibration recall data system, and provide a monthly report to the Metrology Manager listing all instruments due and their status.

1.5.4 At the conclusion of each month the INFOPC system creates a file containing the records for all IWO's completed during that month. The Contractor shall provide file transfer *from* INFOPC to the Instrument Scoring and Tracking Program (ISTP). This file is used by the ISTP to calculate timeliness and quality scores and to generate monthly reports for review by the TAMs.

1.6 Configuration and Quality Control Management: The Contractor shall establish and maintain documented procedures for identifying, collecting, indexing, accessing, filing, storing, preserving, maintaining, and recording the disposition of records. The Contractor may use the existing configuration control process or may implement their own with Government approval. The Contractor's configuration management process shall insure that all modification/changes of shared modules at like Data Acquisition Systems (DAS) facilities are universally correct and run the same revision levels. Pertinent records from any subcontractor shall be an element of these data. All records shall be legible and shall be stored and retained in such a way that they are readily retrievable in facilities that provide a suitable environment to prevent their loss, damage or deterioration. The master configuration

controlled media shall be maintained in a secure area (protected against fire, water, physical hazards, etc.) with data records of all hardware and software revisions/modifications and traceable histories back to Government official work requests. The configuration and quality control process shall insure protection/backup for catastrophic failure with no more than 4 hours down time after all hardware has been successfully restored. Records shall be made available for evaluation by the Government representative for the length of the contract. The Contractor shall be responsible for the configuration management of approximately 35 research facility data acquisition and support systems.

1.7 Metrology Engineering Support: Metrology Engineering Services consists of ongoing services in support of the maintenance, calibration, and repair function. These services contribute to the integrity of measurements, involves the design of tests and methods by which the measurement and comparisons are made, and analysis of the results of the tests. The Contractor shall provide Metrology Engineering Support which shall include the following:

1.7.1 Consuitation regarding measurement practices, instrument application and providing specialized calibration capabilities as required.

1.7.2 Oversight and management of the development, modification, and documentation of required calibration procedures including software programs.

1.7.3 Oversight and management of the Contractor's participation in the NASA Measurement Assurance Programs (MAP)' as outlined in the NASA Metrology and Calibration Program Plan.

1.7.4 Participation in Metrology and Calibration Working Group (MCWG) - This group is composed of representatives of all calibration Contractors at NASA centers. The Contractor shall travel to participate in the annual meetings at NASA's direction.

[*MAP is a technique in which the user measures, using well defined procedures, an artifact sent by the Map's 'pivot' lab. After comparing the artifact to local laboratory standards, the participant assigns it a characteristic value. The pivot laboratory then compares the participants' results to the pivot laboratory's own measurement results for that artifact. The participating laboratory receives a report stating the systematic and random error components of its measurement process.]

2. CLIN 2 - Instrument Support Services: Work includes new instrument acceptance testing, instrument maintenance, calibration, and repair. Work under this CLIN will be performed (normally at Contractor facility) as equipment is tendered for maintenance, calibration, and/or repair by the various end-users at LaRC. The specific requirements for each of these work areas are as follows:

2.1 Acceptance Testing of New Instruments Purchased by LaRC: Selected new instruments purchased by NASA, Langley Research Center, will be delivered to the Contractor's facility. A list of the representative types of equipment and the total number acceptance tested in 1996 is listed in Attachment 6. The Contractor shall inspect these instruments within 10 calendar days of receipt to insure compliance with the NASA procurement specifications for that specific procurement (contract or purchase order). The Contractor shall use standard techniques for instrument testing; devise new test techniques when no existing test standards apply; and analyze and document test results. If so directed by the COTR or TAM, the Contractor shall return instruments failing to comply with the NASA procurement specifications to the vendor.

2.2 Repair, Calibration, and Maintenance: LaRC will require approximately 14,000 instruments to be serviced yearly under this contract. The Contractor shall maintain adequate calibration

procedures to ensure instruments are properly certified according to the design specifications and stated manufacturer's accuracy. As a minimum, each instrument serviced or calibrated will be in accordance with standard calibration policies, procedures and practices described in ANSI/NCSL Z540-1-1994 and LHB 5330.9 (1996). The Contractor shall repair, modify, assemble, and maintain Government research instrumentation to meet manufacturer's or Government's specifications. The Contractor shall acquire repair parts and maintain an inventory of common usage items (spares) for performance of the above services. The Contractor shall contact the instrument manufacturer or authorized representative to provide repair of defective instrumentation that is under warranty. The Contractor shall provide services which consist of the following actions:

2.2.1 The Contractor shall prepare and affix the appropriate NASA/LaRC calibration label to each instrument serviced. Calibration labels shall be furnished by the Contractor in accordance with LHB 5330.9 (1996).

2.2.2 The Contractor shall affix seals where needed on calibrated instruments to inhibit or detect unauthorized entry into an instrument.

2.2.3 The Contractor shall maintain calibration procedures and maintenance manuals at the Contractor's facility, and shall provide LaRC with an electronic index of this information. These procedures and manuals shall be the property of the Government, and shall be turned over to the Government at the conclusion of contract.

2.2.4 The Contractor shall evaluate IWO's to determine economy of repairs; those exceeding forty percent (40%) of the replacement costs of an instrument shall constitute the point at which the decision shall be made as to whether the unit is "beyond economical repair" (BER). At this point the COTR or the TAM shall be notified to determine the disposition *of* the instrument.

2.2.5 The Contractor shall obtain prior written approval from the COTR for all repairs where costs are estimated to exceed $800. The Contractor shall be responsible for informing the customer, and providing the necessary information to the COTR for repairs above $800.

2.2.6 The Contractor shall design and fabricate unique test devices, setups, accessories, or equipment, including software development for automated test stands.

3. **CLIN 3 - Data Systems Development and Instrumentation Engineering:** Work shall be performed in the following areas: Application of Sensors, Transducers, and Instruments; Evaluation of Measurement Requirements for Sensors, Transducers, Instruments and Data Acquisition Systems; Design, Furnish, and Install Data Acquisition Systems; Modify and Upgrade Data Acquisition Systems; Test Techniques Development; Analysis of Measurement Data; Off-Site Data Acquisition and Analysis; On-Site Data Acquisition and Instrumentation Systems Operations; System Administration; Documentation of Hardware and Software Configurations, System Operational Procedures, Test Procedures and Results; and Training. Work under this CLIN may take place at ANY on-site facility at LaRC (including the National Transonic Facility), and at off-site locations. Work under this CLIN with an estimated labor cost of $10,000 or less and an estimated parts/materials cost of $20,000 or less shall be issued via an ESR approved by the COTR or one *of* the TAMs. Work under this CLIN that exceeds these limits shall be issued under a Task Order signed by the Contracting Officer. The specific requirements for each of these work areas are as follows:

3.1 Application of Sensors, Transducers, and Instruments: The Contractor shall design, fabricate, select, assemble, install, test, calibrate and verify correct operation of Sensors, Transducers, and Instruments (STI) required to meet research instrumentation requirements, in accordance with manufacturer and Langley approved procedures. Specific requirements under this work element will be delineated in performance-based ESR/Task Orders.

3.2 Evaluation of Measurement Requirements for Sensors, Transducers, Instruments and Data Acquisition Systems: The Contractor shall evaluate measurement and test requirements obtained from LaRC documentation, meetings, user-specifications, and work requests that define the research test objectives for STI and data acquisition systems (DAS). The Contractor shall synthesize these requirements and develop recommendations for best STI and DAS solutions. Recommendations may require data on purchase, delivery, installation, application, maintenance, and test techniques required to meet the specified measurement objectives. Recommendations may require tradeoff analysis and cost/benefits comparisons. Recommendations may require analysis of measurement error and measurement uncertainty. Recommendations shall be written and in accordance with specified NASA documentation standards. The Contractor shall provide the most cost effective, reliable, and accurate recommendations to accomplish this work element. Specific requirements under this work element will be delineated in performance-based ESR/Task Orders

3.3 Design, Furnish, and install Data Acquisition Systems: The Contractor shall design, furnish, ana instaii DAS ana associated interfaces *to* faciiity controi systems instrumentation *to* meet the schedule, cost, and performance requirements delineated in performance-based ESR's/Task Orders. The design shall include the delivery of design documentation to all specified levels (e.g. detail design level) and standards (e.g. NASA Software Documentation Standard), inclusive of acceptance and integration/test plans. The design shall include the delivery of a detailed work breakdown structure itemizing the resources, schedule, and dependencies of all work elements. The design shall conform to all initial conditions, constraints, and/or design approaches. The Contractor may be required to furnish operational prototypes and/or final products. The Contractor may be required to procure any/all hardware and/or software for Government-accepted designs. The Contractor may be required to remove any existing systems and install any new systems and/or components, in accordance with manufacturer and NASA procedures. The Contractor shall verify the correct operation and performance level of the delivered systems and all other affected systems, in accordance with applicable testfintegration plans and schedule. The Contractor shall also attend regularly scheduled design/status review meetings to report work accomplished under this element.

3.4 Modify and Upgrade Data Acquisition Systems: The Contractor shall modify and upgrade DAS, including the INFOPC System, and associated DAS interfaces to facility control systems instrumentation to meet the schedule, cost, and performance requirements delineated in performance-based ESR's/Task Orders. The system upgrades/modifications shall include the delivery of design documentation to all specified levels (e.g. detail design level), standards (e.g. NASA Software Documentation Standard) and integration/test plans. The upgrades/modifications shall include the delivery of a detailed work breakdown structure itemizing the resources, schedule, and dependencies of all work elements. The upgrades/modifications shall conform to all initial conditions, constraints, and/or design approaches. The Contractor may be required to furnish operational prototypes and/or final products. The Contractor may be required to procure any/all hardware and/or software for Govemment-accepted designs. The Contractor may be required to remove any existing systems and install any upgraded/modified systems and/or components, in accordance with manufacturer and NASA procedures. The Contractor shall verify the correct operation and performance level of the delivered systems and all other affected systems, in accordance with applicable testfintegration plans and schedules. The Contractor shall also attend regularly scheduled design/status review meetings to report work accomplished under this element.

3.5 Test Techniques Development: The Contractor shall provide advanced engineering and experimental systems development expertise for the design and implementation of specialized instrumentation system prototypes for special test techniques. Such work will require feasibility studies, conceptual through detailed design, prototype development, integration and adaptation of prototypes to existing systems, development of test and calibration procedures, operation/application of prototypes and procedures, and analysis of results. Data collection and analysis may be to the level required for publication of formal papers. This work element applies to areas such as advanced data systems architecture development, optical systems development, sensor/system calibration techniques

development, acoustic measurement techniques, temperature and pressure sensitive paint technologies, and general sensor development in support of new testing capabilities. Specific requirements under this work element will be delineated in performance-based ESR's/Task Orders.

3.6 Analysis of Measurement Data: The Contractor shall perform data analysis of aeronautical, acoustics, and structural test data (and related disciplines) as delineated in performance-based ESR'S/Task Orders. The Contractor shall analyze research data according to stated or derived research specifications and shall optimize all data analysis processes for cost effectiveness and accuracy The Contractor shall provide complete documentation of the analysis of data to include: data records, processes, calculation/equations, calibrations, results, and methods used for verifying data accuracy and for determining measurement uncertainty. The Contractor shall establish and maintain documented procedures to control, calibrate, and maintain equipment and systems required to perform the data analysis function.

3.7 Off-site Data Acquisition and Analysis: The Contractor shall perform data acquisition systems development, operation, calibration, data analysis, hardware/software maintenance, configuration control, and upgrades for off-site research measurement systems and instrumentation in a cost effective, efficient, and responsive manner as delineated in performance-based ESR's/Task Orders. This work will primarily be in support of acoustics field tests, Light, Distance and Ranging **(LIDAR)** operations, and other related field tests where portable data acquisition systems, instrumentation systems, and special analysis software will be developed, operated, and maintained. The Contractor shall develop, maintain, and execute documented procedures for setup, calibration, operation, data analysis, testing and maintenance of field test hardware and software systems, including software applications (operating systems, acquisition and computational software), to insure optimum productivity, security and system readiness.

3.8 On-Site Data Acquisition and Instrumentation Systems Operations: The Contractor shall perform on-site operation of data acquisition and measurement systems. Some systems will be of a prototype or unique nature where initial performance analysis is required to perform desired system enhancements. Other situations will require single or multiple shift operation *of* data acquisition and measurement systems. Specific requirements under this work element will be delineated in performance-based ESR/Task Orders.

3.9 System Administration: The Contractor shall provide operating system software maintenance, technical support and consulting, performance measurements and tuning, and access control associated with all supported and developed system(s) software. The Contractor shall provide system administration for approximately 35 research data acquisition and support systems.

3.9.1 Operating System Software Maintenance: The Contractor shall perform all required planning, associated training, and testing of operating system software releases prior to implementation. **All** operational software release/software upgrade shall be accomplished by the Contractor through planning, scheduling, and implementation activities.

The Contractor shall diagnose operating system software failures; formulate and execute bypass procedures; communicate diagnostic findings to the appropriate vendor; receive, test, and apply fixes; and record the changes in the configuration management system. The Contractor shall formulate, test, and apply fixes for all in-house developed and maintained software. Operating system software failures and impacts shall be appropriately documented and tracked in a problem reporting system.

The Contractor shall notify the Government of the availability of updates and successor products to the installed system software. The Contractor shall provide updates of the current licensed and installed system software for all applicable systems. This update shall also include corrective action and enhancements to system software.

The Contractor shall provide a convenient method of accessing readable source code, if available, for all software products for which the Government has obtained source code licenses. The source code shall be readily available to Government and other Contractor personnel.

The Contractor shall acquire and maintain reference documentation and/or arrange for reference services appropriate to accomplishing the operating system software maintenance function.

The Contractor shall implement all configuration management and security controls associated with or affected by operating system software maintenance functions.

3.9.2 Technical Support and Consulting: The Contractor shall provide technical support, consulting, and coordination to ensure orderly system implementation, integration, and operation of operating system software.

The Contractor shall conduct performance analysis and tuning on each of the operating system software components, and shall implement changes to meet performance requirements.

The Contractor shall administer user accounts and provide password services as required. The Contractor shall collect, analyze, and report information relevant to the management of system access. The Contractor shall implement access security control processes that shall be periodically reviewed and validated.

3.10 Documentation of Hardware and Software Configurations, System Operational Procedures, Test Procedures and Results: The Contractor shall provide complete and formal documentation, in a timely manner, for all facets of work performed under this contract. All documentation shall be concise, complete and easy to use in the maintenance and operation of research data systems and test procedures. All documentation shall be provided in conformance with specified NASA documentation standards (Contract Exhibit G). The Contractor shall maintain documentation records (i.e., database or equivalent) associated with past or current work requests and shall provide to the Government ESR/Task Order related documentation upon request as specified in performance-based ESR/Task Orders.

The Contractor shall establish and maintain documented procedures to document, control and verify that the Contractor's products and deliverables meet the specified work requirements. The Contractor shall establish and maintain documented procedures to control all documents and data that relate to the requirements of the NASA standards including to the extent applicable, documents of external origin such as standards and NASA drawings. Documents and data shall be in the type of media specified in performance-based ESR's/Task Orders.

The documents and data shall be reviewed and approved for adequacy by authorized Government personnel prior to issue. A master list or equivalent document control procedure identifying the current revision status of documents shall be established and be readily available to preclude the use of invalid and/or obsolete documentation. The control shall ensure that:

(a) The pertinent issues of appropriate documents are available at all locations where operations essential to the effective functioning of the quality system are performed.

(b) Invalid and/or obsolete documents are promptly removed from all points of issue or use, or otherwise assured against unintended use.

(c) Any obsolete documents retained for legal and/or knowledge-preservation purposes are suitably identified.

Changes to documents and data shall be reviewed and approved by the same functions/organizations that performed the original review and approval, unless specifically designated otherwise. The designated functions/organizations shall have pertinent background information upon which to base their review and approval. Where practicable, the nature of the change shall be identified in the document or the appropriate attachments.

The Contractor shall establish, maintain, and apply acceptable procedures for the identification, verification, configuration management, storage, and quick access to hardware and software documentation required for the operation and maintenance of designated facility data acquisition and facility instrumentation systems. Where appropriate the Contractor shall establish and maintain documented procedures for identifying the product by suitable means from receipts and during all stages of production, delivery, and installation.

3.11 Training: The Contractor shall provide, as requested in performance-based ESR's/Task Orders, user training in support of all systems and services for all applications, products, and services delivered under this contract. This training shall include user and operational training on data acquisition and instrumentation systems.

4. CLIN 4 - On-site Instrument Services and Digital Systems Support Services: The Contractor shall provide on site service for emergencies, short duration tasks, or services that require immediate attention on equipment that is not readily transportable or that must be serviced on-site. Specific tasks shall be initiated when a service call is received and documented on an IWO. When the work is complete, an evaluation form shall be left with the user requesting the service. Multiple shift and off-hours support shall be provided. The Contractor shall provide 30 minute on-site priority response during first and second shifts (7:30 a.m. - 12:00 midnight Mon. - Fri.), and 60 minute on-site priority response during third shift (12:00 midnight to 7:30 a.m.), weekends (12:00 midnight Friday to 12:00 midnight Sunday) and Government holidays. A list of priority facilities will be provided quarterly. The Contractor shall provide on-site maintenance service and emergency repair, for digital systems, computer systems, and instruments as described below:

4.1 Digital Systems Maintenance and Repair: The Contractor shall provide hardware and software maintenance and repair of approximately 1000 computer systems used for scientific and research applications. The systems include approximately 5000 peripherals. The current inventory includes 35 MODCOMP-based data acquisition systems, 70 graphics/high end workstations from various manufactures (DEC, HP, SUN, and others), 125 Mini/Micro computer-based systems from various manufactures (HP, DEC, Concurrent, and others), 750 personal computer systems from various manufacturer's (PC/MAC) used for data acquisition, controls and other scientific applications. The required maintenance includes hardware/software diagnosis and repairs, and hardware/software upgrades to current revision levels, when required. The Contractor shall repair the hardware onsite, when practical, to minimize system downtime. The Contractor shall respond to routine (non-priority) service requests within 24 hours of service request initiation.

4.2 Computer Systems Services: The Contractor shall provide computer system services including receipt and inspection, installation, configuration control, maintenance of diagnostics, systems integration, performance testing, and system documentation (hardware and software).

4.3 On-Site Instrument Service and Emergency Repair: On-site service and emergency repair includes, but is not limited to, magnetic tape and chart recorders, Electronically Scanned Pressure (ESP) systems, Neff DAS and DAS sub-systems, and the effective usage of *two* Government-provided mobile calibration carts to perform on-site calibrations of facility test equipment. This will involve between 3000-4000 instruments per year, which are included in the total estimated

number of 14,000 instruments serviced annually. The Contractor shall schedule and utilize mobile calibration carts to maximize service to major facilities and minimize interruptions of normal tunnel operations.

SECTION D - PACKAGING AND MARKING

D.1 PACKAGING AND MARKING

The Contractor shall package, handle, and transport all items under this contract in an appropriate manner based on the fragility and/or sensitivity of each individual item. Particular care shall be taken to ensure that shipping or handling does not compromise the accuracy of instruments being transported under the contract.

SECTION E - INSPECTION AND ACCEPTANCE

E.3 FINAL INSPECTION AND ACCEPTANCE (LARC 52.246-94) (OCT 1992)

Final inspection and acceptance of all items specified for delivery under this contract shall be accomplished by the Contracting Officer or his duly authorized representative at destination.

SECTION F - DELIVERIES OR PERFORMANCE

F.1 PERIOD OF PERFORMANCE

The period of performance of this contract shall be 12 months from the effective date of the contract.

F.2 PLACE OF DELIVERY (LARC 52.211-92) (OCT 1992)

Delivery shall be f.o.b. destination:

As specified in Task Orders and ESR's.

F.3 PLACE(S) OF PERFORMANCE (LARC 52.211-98) (OCT 1992)

The place(s) of performance shall be:

NASA, Langley Research Center, Hampton, Virginia; the Contractor's facilities; and other sites as may be designated by Task Order or ESR.

SECTION G - CONTRACT ADMINISTRATION DATA

G.1 DESIGNATION OF NEW TECHNOLOGY REPRESENTATIVE AND PATENT REPRESENTATIVE (NASA 1852.227-72) (APR 1984)

(a) For purposes of administration of the clause of this contract entitled "New Technology" or "Patent Rights - Retention by the Contractor (Short Form)", whichever is included, the following named representatives are hereby designated by the Contracting Officer to administer such clause:

Title	Office Code	Address (including zip code)
New Technology Representative	212	NASA, Langley Research Center Hampton, VA 23681-0001
Patent Representative	212	NASA, Langley Research Center Hampton, VA 23681-0001

(b) Reports of reportable items, and disclosure of subject inventions, interim reports, final reports, utilization reports, and other reports required by the clause, as well as any correspondence with respect to such matters, should be directed to the New Technology Representative unless transmitted in response to correspondence or request from the Patent Representative. Inquiries or requests regarding disposition of rights, election of rights, or related matters should be directed to the Patent Representative. This clause shall be included in any subcontract hereunder requiring a "New Technology" clause or "Patent Rights - Retention by the Contractor (Short Form)" clause, unless otherwise authorized or directed by the Contracting Officer. The respective responsibilities and authorities of the above-named representatives are set forth in 18-27.375-3 of the NASA FAR Supplement.

G.2 SUBMISSION OF VOUCHERS FOR PAYMENT (NASA 18-52.216-87) (DEC 1988)

(a) Public vouchers for payment of costs shall include a reference to this contract NAS1-____, your Taxpayer Identification Number and be forwarded through:

NASA Langley Research Center
Attn: Financial Management Division, MS 175
Hampton, VA 23681-0001

This is the designated billing office for cost vouchers for purposes of the Prompt Payment clause of this contract.

(b) The Contractor shall prepare vouchers as follows:

(1) One original Standard Form (SF) 1034, SF 1035, or equivalent Contractor's attachment.

(2) Seven copies of SF 1034A, SF 1035A, or equivalent Contractor's attachment.

(3) The Contractor shall mark SF 1034A copies 1, 2, 3, 4, and such other copies as may be directed by the Contracting Officer by insertion in the memorandum block the names and addresses as follows:

(i) Copy 1 NASA Contracting Officer;
(ii) Copy 2 Auditor;
(iii) Copy 3 Contractor
(iv) Copy 4 Contract administration office; and
(v) Copy 5 Project management office (when required by the NASA Contracting Officer).

(c) Public vouchers for payment of fee shall be prepared similarly and be forwarded through:

NASA Langley Research Center
Attn: Financial Management Division, MS 175
Hampton, VA 23681-0001

This is the designated billing of fee for fee vouchers for purposes of the prompt payment clause of this contract.

G.3 LIST OF GOVERNMENT-FURNISHED PROPERTY (NASA 18-52.245-76) (OCT 1988)

For the performance of work under this contract, the Government will make available Government property identified in Exhibit C of this contract on a no-charge-for-use basis. The Contractor shall use this property in the performance of this contract at the Contractor's facilities and at other location(s) as may be approved by the Contracting Officer. Under the FAR 52.245-2 Government Property clause of this contract, the Contractor is accountable for the identified property.

G.4 LIST OF INSTALLATION-PROVIDED PROPERTY AND SERVICES (NASA 18-52.245-77) (MAR 1989)

In accordance with the Installation Provided Government Property clause of this contract, the Contractor is authorized use of the types of property and services listed below, to the extent they are available, while on-site at the NASA installation.

(a) Office space, work area space, utilities and existing furniture. The Contractor shall use Government telephones for official purposes only.

(b) Existing general- and special-purpose equipment.

(1) Existing equipment to be made available to the Contractor for use in performance of this contract on-site and at such other locations as approved by the Contracting Officer is listed in Exhibit B. The Government retains accountability for this property under the Installation-Provided Government Property clause, regardless of its authorized location.

(2) The Contractor shall not acquire property as a direct cost under this contract unless expressly authorized by the Contracting Officer. When authorized, this property also shall become accountable to the Government upon its entry into the NASA Equipment Management System (NEMS) in accordance with the property-reporting requirements of this contract.

(3) If the Contractor brings property owned or leased by the Contractor on-site for use under this contract, such property shall be tagged or otherwise marked to identify the owner.

(c) Institutional fire and security protection on-site at LaRC.

(d) Medical treatment of a first-aid nature for Contractor personnel injuries or illnesses sustained during on-site duty.

(e) Cafeteria privileges for Contractor employees during normal operating hours.

(9 Building maintenance for on-site facilities occupied by Contractor personnel.

(g) Moving and hauling of Government Furnished Equipment.

(h) Liquid Nitrogen (LN2) as required for the performance of work under the contract.

(i) The responsibilities of the Contractor as contemplated by paragraph (a) of the Installation-Provided Government Property clause are defined in the following property management directives and installation supplements to these Directives:

(1) NHB 4200.1, NASA Equipment Management Manual.
(2) NHB 4200.2, NASA Equipment Management System (NEMS) User's Guide for Property Custodians.
(3) NHB 4300.1, NASA Personal Property Disposal Manual.
(4) NHB 4100.1, NASA Materials Inventory Management Manual.

G.5 PROVIDING FACILITIES TO CONTRACTORS

A. In accordance with FAR 45.302-1, it is policy of the Government that Contractors shall furnish all facilities required for performing Government contracts. "Facilities" include real property and plant equipment including personal property such as general purpose off-the-shelf equipment machine tools, test equipment, furniture and vehicles. "Facilities" do not include material, special test equipment, special tooling or agency-peculiar property.

B. In keeping with the policy set forth in FAR 45.302-1, the Government will not provide NEW "facilities," except as provided for in the Statement of Work.

C. However, the Government will provide EXISTING facilities as listed in G.3 and Exhibit C, as well as G.4 and Exhibit B. (Please note that Exhibit C also lists Special Test Equipment, which is not included in the definition of "facilities".) Any of these existing facilities that reach the end of their useful life during the contract period, or which are beyond economical repair, shall be replaced by the Contractor, if the facilities are still needed for contract performance.

D. The equipment which comprises the Equipment Loan Pool (CLIN 1) will be provided by the Government, including any new or replacement items. The Government will determine if and when new or replacement items are needed for the Equipment Loan Pool. The Contractor may make suggestions concerning new or replacement items based on their working knowledge of user demand, and shall keep the Government informed as to the condition of the Loan Pool items.

G.6 ORDERING PROCEDURES

A. Instrument Work Orders

All work under CLIN 2 is initiated, tracked, and documented on an IWO **NASA** Form 165 or an electronic equivalent. **All** IWO's will be initiated by user request, either written or verbal, and then documented by the Contractor in the INFOPC system for COTR or TAM review. Most work under CLIN 2 will consist of the placement of an instrument at a designated pick-up point with a NASA FORM 145 filled out by the end user and attached. In facilities with daily scheduled visits, pick-up is automatic; in others, pick-up is initiated by calling the Contractor's dispatcher service. IWO initiation occurs when the item arrives at the Contractor's facility. Under CLIN 4, IWO initiation occurs when a service call is received. The Contractor is responsible for obtaining and entering the proper information into the INFOPC system for all IWO'S generated. The information for all IWO's shall include, but not be limited to: equipment identification, customer name, initiation date, priority, service requested, required completion date, and job order number.

B. Engineering Service Requests

All work under CLIN 3 with a loaded labor cost estimate of 910,000 or less **AND** an estimate for parts and materials of $20,000 or less is initiated, tracked, and documented on an Engineering Service Request (ESR). The Contractor will identify the customer, document the

requirements, initiation date, priority, delivery schedule and estimated resources required to accomplish the work. The Contractor will enter information for quick turn around work under CLIN 3 into the INFOPC system for review and approval by the COTR or TAM prior to commencing work. Work in this category that is deemed urgent/emergency (e.g., work stoppage in the facility) may begin without a formal ESR, provided the COTR or TAM is informed within one working day.

C. Task Orders

All work under CLIN 3 that exceeds the limits of an ESR will be issued by the Contracting Officer via a written Task Order. Task Orders will be accomplished in two phases. The first phase will involve a planning Task Order or ESR, depending upon the size of the planning and estimating effort, to determine preliminary requirements, staffing requirements, preliminary top level design, schedule, proposed costs, and other factors. The output of the planning Task Order will be a project proposal. The second phase will be the actual implementation Task Order for the designing, furnishing, installing, and maintaining of the product or services.

Work of this type will be initiated on a Task Order Request Information Form, which will be prepared jointly by the customer and TAM. The form will then be submitted to the Contractor for preparation of a project proposal. During development of the Task Order Request (TOR), the Government and the Contractor shall discuss the following: task requirements, top level design, Contractor's proposal to accomplish the task, and required schedule. The Contractor's project proposal will address these factors and shall be completed by the Contractor within a schedule agreed to by the customer, TAM, and Contractor and submitted to the TAM for review.

After the customer and TAM review and approve the project proposal, a TOR approval page with appropriate signatures for the project will be submitted along with the Task Order proposal for Contracting Officer approval. The TOR will include the Task Order Fee Arrangement (TOFA) and designation of Task Criticality. Each Task Order will identify the work to be performed, performance metrics, the location of the work, a delivery schedule, a cost limitation, and an appropriate amount of award fee based on the ESTIMATED (not actual) cost of the Task Order (See **B.3,** Award Fee Availability Schedule), and will include the Contracting Officer's signature. The Contractor shall acknowledge receipt and acceptance of each Task Order within three working days after receipt. If the Contractor cannot comply with a Task Order requirement, the Contractor shall so indicate in the receipt acknowledgment, and shall noted the changes required for acceptance. Any differences must be resolved between the parties and the order modified to reflect the agreement. Any required modifications to the Task Order during the performance period will approved through the same process described above, except that a separate planning Task Order or ESR will not be required.

Two copies of each Task Order will be furnished to the Contractor, one shall be retained by the Contractor and one shall be returned to the Contracting Officer Technical Representative upon completion of the work specified therein, containing, as applicable, actual completion dates and/or delivery dates, actual man-hours expended, actual material and labor costs incurred, and any remarks which the Contractor may wish to make with respect to his performance thereunder.

D. Contract Scope

If any work issued is considered by the Contractor to be outside the scope of this contract, or if the Contractor has reason to believe that he will exceed the scope of his contractual obligation (e.g. contract funding, contract estimated cost) in the performance thereof, the Contractor shall immediately notify the Contracting Officer in writing, and shall not perform any work pending resolution by the Contracting Officer.

G.7 INVOICES AND PAYMENTS (LARC 52.232-96) (OCT 1992)

A. General--Invoices shall be addressed as shown in Block 25 on page 1 of this contract and shall be identified by the contract number. Cost and fee invoices shall be submitted separately.

B. Cost–Payments of cost shall be made in monthly installments.

C. Cost invoices shall be submitted through the delegated Government Audit Agency.

D. Payments of award fee shall be made in response to and in the amount of the Fee Determination Official's written Notice of Award Fee as set forth in paragraph I.16. Payments of award fee (and base fee, as applicable) are subject *to* the withholding provisions of the Section I clause entitled "Award Fee."

G.8 CONTRACT CLOSEOUT (LARC 52.242-90) (JUN 1988)

A. Reassignment–Afterreceipt, inspection, and acceptance by the Government of all required articles and/or services, and resolution of any pending issues raised during the Period of Performance, this contract will be reassigned to the NASA Langley Research Center Contracting Officer for Contract Closeout. All transactions subsequent to the physical completion of the contract should, therefore, be addressed to the said Contracting Officer at NASA Langley Research Center, Mail Stop 126, who may be reached by telephone at (757) 864-7765.

B. "Quick Closeout"–Paragraph (f) of the Allowable Cost and Payment clause of this contract addresses the "Quick Closeout Procedure" delineated by Subpart 42.7 of the Federal Acquisition Regulation (FAR). It should be understood that the said procedure applies to the settlement of indirect costs for a specific contract in advance of the determination of final indirect cost rates when the amount of unsettled indirect cost to be allocated to the contract is relatively insignificant. Therefore, the "Quick Closeout" procedure does not preclude the provisions of paragraph (d) of the Allowable Cost and Payment clause nor does it constitute a waiver of final audit of the Contractor's Completion Voucher.

C. Completion Voucher Submittal–Notwithstanding the provisions of the Allowable Cost and Payment clause, as soon as practicable after settlement of the Contractor's indirect cost rates applicable to performance of the contract, the Contractor shall submit a Completion Voucher as required by the aforesaid clause. The Completion Voucher shall be supported by a cumulative claim and reconciliation statement and executed NASA Forms 778, Contractor's Release, and 780, Contractor's Assignment of Refunds, Rebates, Credits, and Other Amounts. Unless directed otherwise by the Contracting Officer for Contract Closeout, the Contractor shall forward the said Completion Voucher directly to the cognizant Government Agency to which audit functions under the contract have been delegated.

SECTION H - SPECIAL CONTRACT REQUIREMENTS

H.1 RIGHTS TO PROPOSAL DATA (TECHNICAL) (FAR 52.227-23) (JUN 1987)

Except for data contained on pages ____, it is agreed that *as* a condition of award of this contract, and notwithstanding the conditions of any notice appearing thereon, the Government shall have unlimited rights (as defined in the "Rights in Data - General" clause contained in this contract) in and to the technical data contained in the proposal dated _____, upon which this contract is based.

H.2 LIMITATION OF FUTURE CONTRACTING (NASA 1852.209-71) (DEC 1988)

(a) The Contracting Officer has determined that this acquisition may give rise to a potential organizational conflict of interest. Accordingly, the attention of all prospective offerors is invited to FAR Subpart 9.5—Organizational Conflicts of Interest.

(b) The nature of this conflict in the performance of work under the contract involves the participation by the Contractor in the development of requirements and specifications for both software and hardware systems.

(c) The restrictions upon future contracting are as follows:

(1) If the Contractor, under the terms of this contract, or through the performance of tasks pursuant to this contract, is required to develop specifications or statements of work that are to be incorporated into a solicitation, the Contractor shall be ineligible to perform the work described in that solicitation as a prime or first-tier subcontractor under an ensuing NASA contract. This restriction shall remain in effect for a reasonable time, as agreed to by the Contracting Officer and the Contractor, sufficient to avoid unfair competitive advantage or potential bias (this time shall in no case be less than the duration of the initial production contract). NASA shall not unilaterally require the Contractor to prepare such specifications or statements of work under this contract.

(2) To the extent that the work under this contract requires access to proprietary, business confidential, or financial data of other companies, and as long as such data remains proprietary or confidential, the Contractor shall protect these data from unauthorized use and disclosure and agrees not to use them to compete with those other companies.

H.3 COMMERCIAL COMPUTER SOFTWARE AND SYSTEMS

The Contractor warrants that the items delivered under this contract/order are merchantable and fit for the particular purpose described in the contract/order, to include accurate performance in the processing of date and date related data (including but not limited to calculating, comparing and sequencing) by all hardware and software products delivered, individually and in combination, upon installation. This performance includes the manipulation of this data with dates prior to, through, and beyond January 1,2000, and shall be transparent to the user.

Hardware and software products, individually and in combination, shall successfully transition into the Year 2000 with the correct system date without human intervention, including leap year calculations. Hardware and software products, individually and in combination, shall also provide correct results when moving forward or backward in time across the Year 2000.

H.4 STATEMENT OF EQUIVALENT RATES FOR FEDERAL HIRES (FAR 52.22242) (MAY 1989)

In compliance with the Service Contract Act of 1965, as amended, and the regulations of the Secretary of Labor (29 CFR Part 4), this clause identifies the classes of service employees expected to be employed under the contract and states the wages and fringe benefits payable to each if they were employed by the contracting agency subject to the provisions of 5 U.S.C. 5341 or 5332.

THIS STATEMENT IS FOR INFORMATION ONLY: IT IS NOT A WAGE DETERMINATION

Employee Class	Monetary Wane
Contract Manager	$30.27/hr.
Metrology Engineer	$25.61/hr.
Engineer	$25.61/hr.
Acoustical Engineer	$25.61/hr.
Laser Optical Engineer	$25.61/hr.

Digital Systems Engineer	$21.59/hr.
Systems Analyst/Programmer	$21.59/hr.
	$17.97/hr.
	$14.85/hr.
Senior Engineering Technician	$17.97/hr.
Engineering Technician	$12.14/hr.
Calibration Technician	$10.93/hr.
Electronics Technician	$16.36/hr.
Machinist	$14.52/hr.
Production Control Specialist	$14.85/hr.
Clerk	$11.46/hr.
Technical Editor	$14.85/hr.

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Annual Leave - Receives 13 days paid leave for service up to 3 years; 20 days for 3 to 15 years service; and 26 days for 15 years service or over.

Sick Leave - Receives 13 days paid leave per year.

Holidavs - Receives 10 paid holidays per year.

Health Insurance - Government pays up to 60% of health insurance.

Group Life Insurance - Government pays two-thirds of life insurance rate premiums.

Retirement - The Government provides three retirement plans identified as the Civil Service Retirement System (CSRS), the Federal Employees Retirement System (FERS), and the CSRS Offset. Under the CSRS, the Government contributes 7% of the employees' base pay towards the retirement benefit and 1.45% towards Medicare. Under the FERS, the Government contributes 11.4% of the employees' base pay towards a basic benefit plan, 6.2% to Social Security, 1.45% towards Medicare, and 1% (plus matching contributions of up to 4% of basic pay, depending on employees' contributions) to a thrift savings plan. Under the CSRS Offset, the Government contributes 0.8% of the employees' base pay towards the retirement benefit, 6.2% to Social Security, and 1.45% towards Medicare.

Part-time Federal employees receive pro rata annual leave, sick leave, holiday leave, health insurance, and group life insurance benefits based on the number of hours worked.

H.5 OPTION TO EXTEND THE TERM OF THE CONTRACT (FAR 52.217-9) (MAR 1989)

(a) The Government may extend the term of this contract by unilateral written notice to the Contractor within the current contract period of performance.

(b) If the Government exercises this option, the extended contract shall be considered to include this option provision.

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed 60 months.

H.6 OPTIONS

A. Priced Options/Extended Term

Pursuant *to* H.5, "Option to Extend the Term of the Contract (MAR 1989)", the Contractor hereby grants to the Government options to extend the term of the contract for 4 additional periods of 12 months each. Such options are to be exercisable by issuance of a unilateral modification. Upon exercise of such option(s) by the Government, the following items will be increased by the amount specified **below** for each option period.

Item	First Option Period	Second Option Period	Third Option Period	Fourth Option Period
Period of Performance (Ref. **F.1)**	12 Months	12 Months	12 Months	12 Months
Estimated Cost (Ref. B.2)				
CLIN 1	$	$	$	$
CLIN 2	$	$	$	$
CLIN 3	$	$	$	$
CLIN **4**	$	$	$	$
Award Fee (Ref. B.2)				
CLIN 1	$	$	$	$
CLIN 2	$	$	$	$
CLIN 3	$	$	$	$
CLIN **4**	$	$	$	$
Award Fee Availability (Ref. B.3)				
Period 3 (4/1/99 - 9/30/99)				
CLIN 1	$			
CLIN 2	$			
CLIN 3	TBD			
CLIN **4**	$			

Item	First Option Period	Second Option Period	Third Option Period	Fourth Option Period
Period 4 (10/1/99 - 3/31/00)				
CLIN 1	$			
CLIN 2	$			
CLIN 3	TBD			
CLIN 4	$			
Period 5 (4/1/00 - 9/30/00)				
CLIN 1		$		
CLIN 2		$		
CLIN 3		TBD		
CLIN 4		$		
Period 6 (10/1/00 - 3/31/01)				
CLIN 1		$		
CLIN 2		$		
CLIN 3		TBD		
CLIN 4		$		
Period 7 (4/1/01 - 9/30/01)				
CLIN 1			$	
CLIN 2			$	
CLIN 3			TBD	
CLIN 4			$	

Item	First Option Period	Second Option Period	Third Option Period	Fourth Option Period
Period 8 (10/1/01 - 3/31/02)				
CLIN 1			$	
CLIN 2			$	
CLIN 3			TBD	
CLIN 4			$	
Period 8 (4/1/02 - 9/30/02)				
CLIN 1				$
CLIN 2				$
CLIN 3				TBD
CLIN 4				$
Period 10 (10/1/02 - 3/31/03)				
CLIN 1				$
CLIN 2				$
CLIN 3				TBD
CLIN 4				$

H.7 CONTRACTOR EMPLOYEE'S SECURITY CLEARANCE (LARC 52.204-90) (OCT 1992)

By virtue of their particular work assignment, certain Contractor employees, may be required to have a security clearance granted in accordance with the National Industry Security Program Operating Manual (NISPOM) dated March 14, 1996. Clearances will be issued by the Department of Defense (DOD). Within 10 working days after an employee is identified by the Government and/or the Contractor as requiring a SECRET or higher clearance, *the* Contractor shall submit to the Contracting Officer evidence of the submittal of a request for clearance to DOD for such employee. If the clearance for an employee has not been issued by DOD within 120 calendar days of the submittal of the request for clearance to DOD, the Contractor may be required to remove the employee from the contract.

H.8 SECURITY PROGRAM/FOREIGN NATIONAL EMPLOYEE INVESTIGATIVE REQUIREMENTS (LARC 52.204-91)(NOV 1991)

Prior to reporting to Langley Research Center (LaRC) to perform under a contract or grant, each Foreign National shall have approval for access to LaRC facilities from NASA Headquarters, International Relations Division (Code XID). A copy of the access authorization request shall be provided to the LaRC Chief of Security. Additionally, an investigation by the Government shall be completed on each Foreign National Contractor prior to reporting to LaRC to perform under a contract or grant. A properly executed "Name Check Request" (NASA Form 531) and a completed "applicant" fingerprint card shall be submitted to the LaRC Security Office, Mail Stop 182, for each Foreign National Contractor at least 75 days prior to the estimated entry on duty date. The NF 531 and fingerprint card may be obtained from the LaRC Security Office. If the access approval is obtained from NASA Headquarters prior to completion of the investigation, and the Contracting Officer requires a Foreign National to work on LaRC, an escort request may be considered by the LaRC Chief of Security.

H.9 OBSERVATION OF REGULATIONS AND IDENTIFICATION OF CONTRACTORS EMPLOYEES (IARC 52.211-104) (MAR 1992)

A. Observation of Regulations--In performance of that part of the contract work which may be performed at Langley Research Center or other Government installation, the Contractor shall require its employees to observe the rules and regulations as prescribed by the authorities at Langley Research Center or other installation.

B. identification Badges--At all times while on LaRC property, the Contractor shall require its employees, subcontractors and agents to wear badges which will be issued by the NASA Contract Badge and Pass Office, located at 1 Langley Boulevard (Building No. 1228). Badges shall be issued only between the hours of 6:30 a.m. and 4:30 p.m., Monday through Friday. Contractors will be held accountable for these badges, and may be required to validate outstanding badges on an annual basis with the NASA LaRC Security Office. Immediately after employee termination or contract completion, badges shall be returned *to* the NASA Contract Badge and Pass Office.

H.10 INCORPORATION OF SECTION K OF THE PROPOSAL BY REFERENCE (LARC 52.215-107) (MAR 1989)

Pursuant to FAR 15.406-1(b), the completed Section K of the proposal dated _____ is hereby incorporated herein by reference.

H.11 VIRGINIA AND LOCAL SALES TAXES (LARC 52.229-92)(APR 1392)

To perform this contract, the Contractor must be knowledgeable of relevant state and local taxes when making purchases of tangible personal property. The Contractor shall refrain from paying inapplicable taxes or taxes where an exemption exists, but shall pay applicable taxes that are reimbursable pursuant to FAR 31.205-41, Taxes. Even though title to property purchased under this contract may pass to the Government and the price is reimbursable under contract cost principles, such transactions do not in themselves provide tax immunity to the Contractor. Therefore, within 30 days after the effective date of this contract, the Contractor shall request from the Virginia State Tax Commission a ruling on any tax exemptions that may be applicable to purchases made under this contract. The Contractor shall provide all facts relevant to the situation and shall pursue an interpretation of the law that is most favorable to both the Contractor and the Government.

H.12 ADVANCE AGREEMENT ON INDIRECT RATE(S) (LARC 52.231-90) (JUN 1988)

A. Notwithstanding the provisions of the Section I clause entitled "Allowable Cost and Payment," the Contractor will be reimbursed at the indirect ceiling rates* specified below or the actual rates, whichever are less, for each of the Contractor's fiscal years applicable to this contract. The Contractor's fiscal year is _____. Any costs that are not reimbursed due to the ceilings shall be deemed unallowable costs. These unallowable costs shall not be recovered under this or any other Government contract.

Indirect Cost Pool	Ceiling Percentage	Allocation Base

B. The above rate ceilings are predicated upon the bases listed above and the accounting practices and accounting system in effect on _____. If the Contractor changes its accounting practices or accounting system in any way, the Contractor will immediately notify the Government. Within 30 days of such change the Contractor shall present to the Contracting Officer information that demonstrates that the change will not impact the allowable cost computed using the above rates or shall submit a proposal for adjustment of the ceilings so that the total costs allowable will not exceed the total costs that would have been allowable had the Contractor not changed its accounting practices or accounting system. In the event that the parties cannot agree on new ceilings using the Contractor's new accounting practices or system and the Contractor does not agree to return to the previous accounting practices and system, the Contracting Officer may equitably adjust the ceilings.

(*Rate Ceilings are not required, but may be proposed.)

H.13 QUALITY MANAGEMENT SYSTEM (ISO-9000) REQUIREMENTS

A. ISO Certification

No later than 12 months after award of the contract, the Contractor and all major subcontractors, as applicable, shall be certified by a third-party registrar as compliant with the appropriate standard contained in the current version of the ISO 9000 Standard Series or the American National Standards Institute/American Society for Quality Control's "Q9000 Series" and associated documentation. The Contractor and all Major Subcontractors, as applicable, shall maintain their registration during the contract term, including any extensions. Failure to maintain the appropriate ISO registration will be considered grounds for a default termination under the "Termination (Cost-Reimbursement)" clause in Section I. Any Subcontractor performing 5 percent or more of the estimated contract dollar value will be considered a Major Subcontractor for the purpose of this clause. The requirements of this clause apply to Major Subcontractors performing in the areas of design, development, production, installation and servicing performed under this contract.

The prime Contractor and major subcontractor(s), as applicable, shall be certified as compliant with ISO 9001 for design, development, production, installation and servicing performed under this contract; or, as applicable, shall be certified as compliant with ISO 9002 for production, installation and servicing performed under this contract if the prime Contractor or subcontractor in question does not perform design and development work under the contract.

PART II - CONTRACT CLAUSES

SECTION I - CONTRACT CLAUSES

I.1 LISTING OF CLAUSES INCORPORATED BY REFERENCE:

NOTICE: The following solicitation provisions and/or contract clauses pertinent to this section are hereby incorporated by reference.

FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

CLAUSE NUMBER	TITLE AND DATE
52.202-1	Definitions (OCT 1995)
52.203-3	Gratuities (APR 1984)
52.203-5	Covenant Against Contingent Fees (APR 1984)
52.203-6	Restrictions on Subcontractor Sales to the Government (JUL 1995)
52.203-7	Anti-Kickback Procedures (JUL 1995)
52.203-10	Price or Fee Adjustment for Illegal or Improper Activity (JAN 1997)
52.204-2	Security Requirements (AUG 1996)
52.204-4	Printing/Copying Double-Sided on Recycled Paper (JUN 1996)
52.207-3	Right of First Refusal of Employment (NOV 1991)
52.209-6	Protecting the Government's Interest when Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment (JUL 1995)
52.211-15	Defense Priority and Allocation Requirements (SEP 1990)
52.215-2	Audit and Records—Negotiation (AUG 1996)
52.215-23	Price Reduction for Defective Cost or Pricing Data—Modifications (OCT 1995)
52.215-25	Subcontractor Cost or Pricing Data—Modifications (OCT 1995)
52.215-26	Integrity of Unit Prices (JAN 1997)
52.215-33	Order of Precedence (JAN 1986)
52.216-7	Allowable Cost and Payment (MAR 1997)
52.219-8	Utilization of Small, Small Disadvantaged, and Women-Owned Small Business Concerns (JUN 1997)
52.219-9	Small, Small Disadvantaged, and Women-Owned Small Business Subcontracting Plan (AUG 1996) Alternate II (MAR 1996)
52.222-1	Notice to the Government of Labor Disputes (FEB 1997)
52.222-3	Convict Labor (AUG 1996)
52.222-4	Contract Work Hours and Safety Standards Act--Overtime Compensation (JUL 1995)
52.222-26	Equal Opportunity (APR 1984)
52.222-28	Equal Opportunity Preaward Clearance of Subcontracts (APR 1984)
52.222-35	Affirmative Action for Special Disabled and Vietnam Era Veterans (APR 1984)
52.222-36	Affirmative Action for Handicapped Workers (APR 1984)
52.222-37	Employment Reports on Special Disabled Veterans and Veterans of the Vietnam Era (JAN 1988)
52.223-2	Clean Air and Water (APR 1984)
52.223-3	Hazardous Material Identification and Material Safety Data (JAN 1997)--Alternate I (JUL 1995)
52.223-2	Clean Air and Water (APR 1984)
52.223-5	Pollution Prevention and Right-To-Know Information (MAR 1997)
52.223-6	Drug-Free Workplace (JAN 1997)
52.223-12	Refrigeration Equipment and Air Conditioners (MAY 1995)
52.223-14	Toxic Chemical Release Reporting (OCT 1996)
52.225-11	Restrictions on Certain Foreign Purchases (OCT 1996)
52.227-1	Authorization and Consent (JUL 1995)

52.227-2	Notice and Assistance Regarding Patent and Copyright Infringement (AUG 1996)
52.227-3	Patent Indemnity (APR 1984)
52.227-14	Rights in Data–General (JUN 1987)–as modified by NASA FAR Supplement 1852.227-14
52.227-19	Commercial Computer Software – Restricted Rights (JUN 1987) – as modified by NASA FAR Supplement 1852.227-19
52.228-7	Insurance–Liability to Third Persons (MAR 1996)
52.230-2	Cost Accounting Standards (APR 1996)
52.232-9	Limitation on Withholding of Payments (APR 1984)
52.232-17	Interest (JUN 1996)
52.232-22	Limitation of Funds (APR 1984)
52.232-23	Assignment of Claims (JAN 1986)
52.232-33	Mandatory Information for Electronic Funds Transfer Payment (AUG 1996)
52.233-1	Disputes (OCT 1995)–Alternate I (DEC 1991)
52.233-3	Protest After Award (AUG 1996)–Alternate I (JUN 1985)
52.237-2	Protection of Government Buildings, Equipment and Vegetation (APR 1984)
52.237-3	Continuity of Services (JAN 1991)
52.237-8	Restrictions on Severance Payments to Foreign Nationals (OCT 1995)
52.239-1	Privacy or Security Safeguards (AUG 1996)
52.242-1	Notice of Intent to Disallow Costs (APR 1984)
52.242-3	Penalties for Unallowable Costs (OCT 1995)
52.242-15	Stop-Work Order (AUG 1989)–Alternate I (APR 1984)
52.243-2	Changes--Cost-Reimbursement (AUG 1987)–Alternate II (APR 1984)
52.244-2	Subcontracts (Cost-Reimbursement and Letter Contracts) (FEB 1997)–Alternate I (AUG 1996)
52.244-5	Competition in Subcontracting (DEC 1996)
52.245-5	Government Property (Cost-Reimbursement, Time-and-Material, or Labor-Hour Contracts) (JAN 1986)(DEVIATION) (JUL 1995)
52.246-3	Inspection of Supplies--Cost-Reimbursement (APR 1984)
52.246-5	Inspection of Services--Cost-Reimbursement (APR 1984)
52.246-25	Limitation of Liability–Services (FEB 1997)
52.247-35	F.O.B. Destination, Within Consignee's Premises (APR 1984)
52.248-1	Value Engineering (MAR 1989)
52.249-6	Termination (Cost-Reimbursement) (SEP 1996)
52.249-14	Excusable Delays (APR 1984)
52.251-1	Government Supply Sources (APR 1984)
52.253-1	Computer Generated Forms (JAN 1991)

NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES

CLAUSE NUMBER	TITLE AND DATE
1852.219-74	Use of Rural Area Small Businesses (SEP 1990)
1852.219-75	Small Business and Small Disadvantaged Business Subcontracting Reporting (JUL 1997)
1852.219-76	NASA 8 Percent Goal (JUL 1997)
1852.219-77	NASA Mentor-Protege Program (JUL 1997)
1852.219-79	Mentor Requirements and Evaluations (JUL 1997)
1852.223-70	Safety and Health (MAR 1997)
1852.223-73	Safety and Health Plan (DEC 1988)
1852.223-74	Drug and Alcohol-Free Workforce (MAR 1996)
1852.227-70	New Technology (JUL 1995)
1852.228-75	Minimum Insurance Coverage (OCT 1988)
1852.237-70	Emergency Evacuation Procedures (DEC 1988)
1852.242-71	Travel Outside of the United States (DEC 1988)

1852.242-72	Observance of Legal Holidays (AUG 1992)–Alternate II (SEP 1989)
1852.242-73	NASA Contractor Financial Management Reporting (JUL 1997)
1852.245-70	Acquisition of Centrally Reportable Equipment (JUL 1997)
1852.245-71	Installation-Provided Government Property (MAR 1989)—Alternate I (MAR 1989)

1.2 CLAUSES IN FULL TEXT

The clauses listed below follow in full text:

CLAUSE NUMBER	TITLE AND DATE
52.252-2	Clauses Incorporated by Reference (JUN 1988)
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity (JAN 1997)
52.203-12	Limitation on Payments to Influence Certain Federal Transactions (JUN 1997)
52.222-2	Payment for Overtime Premiums (JUL 1990)
52.222-41	Service Contract Act of 1965, As Amended (MAY 1989)
52.223-7	Notice of Radioactive Materials (JAN 1997)
52.232-25	Prompt Payment (JUN 1997)
52.242-13	Bankruptcy (JUL 1995)
52.244-6	Subcontracts for Commercial Items and Commercial Components (OCT 1995)
52.252-6	Authorized Deviations in Clauses (APR 1984)
1852.204-75	Security Classification Requirements (SEP 1989)
1852.204-76	Security Requirements for Unclassified Automated Information Resources (SEP 1993)
1852.215-84	Ombudsman (OCT 1996)
1852.216-76	Award Fee for Service Contracts (OCT 1996)
1852.245-73	Financial Reporting of NASA Property in the Custody of Contractors (SEP 1996)

1.3 CLAUSES INCORPORATED BY REFERENCE (FAR 52.252-2) (JUN 1988)

This contract incorporates one or more clauses by reference, with the same force and effect *as* if they were given in full text. Upon request, the Contracting Officer will make their full text available.

1.4 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (52.203-8) (JAN 1997)

(a) If the Government receives information that a Contractor or a person has engaged in conduct constituting a violation of subsection (a), (b), (c), or (d) of Section 27 of the Office of Federal Procurement Policy Act (41 U.S.C. 423) (the Act), as amended by section 4304 of the 1996 National Defense Authorization Act for Fiscal Year 1996 (Pub. L. 104-106), the Government may–

(1) Cancel the solicitation, if the contract has not yet been awarded or issued; or

(2) Rescind the contract with respect to which–

(i) The Contractor or someone acting for the Contractor has been convicted for an offense where the conduct constitutes a violation of subsection 27 (a) or (b) of the Act for the purpose of either–

(A) Exchanging the information covered by such subsections for anything of value; or

(B) Obtaining or giving anyone a competitive advantage in the award of a Federal agency procurement contract; or

(ii) The head of the contracting activity has determined, based upon a preponderance of the evidence, that the Contractor or someone acting for the Contractor has engaged in conduct constituting an offense punishable under subsections 27(e)(1) of the Act.

(b) If the Government rescinds the contract under paragraph (a) of this clause, the Government is entitled to recover, in addition to any penalty prescribed by law, the amount expended under the contract.

(c) The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law, regulation, or under this contract.

15 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (FAR 52.203-12) (JUN 1997)

(a) Definitions.

"Agency," as used in this clause, means executive agency as defined in 2.101.

"Covered Federal action," as used in this clause, means any of the following Federal actions:

(1) The awarding of any Federal contract.

(2) The making of any Federal grant.

(3) The making of any Federal loan.

(4) The entering into of any cooperative agreement.

(5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

"Indian tribe" and "tribal organization," as used in this clause, have the meaning provided in section **4** of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) and include Alaskan Natives.

"Influencing or attempting to influence," as used in this clause, means making, with the intent to influence, any communication to or appearance before an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.

"Local Government," as used in this clause, means a unit of Government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a Governmental duty, including a local public authority, a special district, an intrastate district, a council of Governments, a sponsor group representative organization, and any other instrumentality of a local Government.

"Officer or employee of an agency," as used in this clause, includes the following individuals who are employed by an agency:

(1) An individual who is appointed to a position in the Government under Title 5, United States Code, including a position under a temporary appointment.

(2) A member of the uniformed services, as defined in subsection 101(3), Title 37, United States Code.

(3) A special Government employee, as defined in section 202, Title 18, United States Code.

(4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, Title 5, United States Code, appendix 2.

"Person," as used in this clause, means an individual, corporation, company, association, authority, firm, partnership, society, State, and local Government, regardless of whether such entity is operated for profit, or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Reasonable compensation," as used in this clause, means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

"Reasonable payment," as used in this clause, means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

"Recipient," as used in this clause, includes the Contractor and all subcontractors. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly employed," as used in this clause, means, with respect to an officer or employee of a person requesting or receiving a Federal contract, an officer or employee who is employed by such person for at least 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

"State," as used in this clause, means a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, a territory or possession of the United States, an agency or instrumentality of a State, and multi-State, regional, or interstate entity having Governmental duties and powers.

(b) Prohibitions. (1) Section 1352 of Title 31, United States Code, among other things, prohibits a recipient of a Federal contract, grant, loan, or cooperative agreement from using appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(2) The Act also requires Contractors to furnish a disclosure if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

(3) The prohibitions of the Act do not apply under the following conditions:

(i) Agency and legislative liaison by own employees.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, dues not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action if the payment is for agency and legislative liaison activities not directly related to a covered Federal action.

(B) For purposes of subdivision (b)(3)(i)(A) of this clause, providing any information specifically requested by an agency or Congress is permitted at any time.

(C) The following agency and legislative liaison activities are permitted at any time where they are not related to a specific solicitation for any covered Federal action:

(1) Discussing with an agency the qualities and characteristics (including individual demonstrations) of the person's products or services, conditions or terms of sale, and service capabilities.

(2) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(D) The following agency and legislative liaison activities are permitted where they are prior to formal solicitation of any covered Federal action—

(1) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(2) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(3) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Pub. L. 95-507, and subsequent amendments.

(E) Only those services expressly authorized by subdivision (b)(3)(i)(A) of this clause are permitted under this clause.

(ii) Professional and technical services.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of--

(1) A payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action, if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action.

(2) Any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action. Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(B) For purposes of subdivision (b)(3)(ii)(A) of this clause, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(C) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation and any other requirements in the actual award documents.

(D) Only those services expressly authorized by subdivisions (b)(3)(ii)(A)(1) and (2) of this clause are permitted under this clause.

(E) The reporting requirements of FAR 3.803(a) shall not apply with respect to payments of reasonable compensation made to regularly employed officers or employees of a person.

(c) Disclosure. (1) The Contractor who requests or receives from an agency a Federal contract shall file with that agency a disclosure form, OMB standard form LLL, Disclosure of Lobbying Activities, if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under subparagraph (b)(1) of this clause, if paid for with appropriated funds.

(2) The Contractor shall file a disclosure form at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under subparagraph (c)(1) of this clause. An event that materially affects the accuracy of the information reported includes--

(i) A cumulative increase of $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(ii) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(iii) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(3) The Contractor shall require the submittal of a certification, and if required, a disclosure form by any person who requests or receives any subcontract exceeding $100,000 under the Federal contract.

(4) All subcontractor disclosure forms (but not certifications) shall be forwarded from tier to tier until received by the prime Contractor. The prime Contractor shall submit all disclosures to the Contracting Officer at the end of the calendar quarter in which the disclosure form is-submitted by the subcontractor. Each subcontractor certification shall be retained in the subcontract file of the awarding Contractor.

(d) Agreement. The Contractor agrees not to make any payment prohibited by this clause.

(e) Penalties. (1) Any person who makes an expenditure prohibited under paragraph (a) of this clause or who fails to file or amend the disclosure form to be filed or amended by paragraph (b) of this clause shall be subject to civil penalties as provided for by 31 U.S.C. 1352. An imposition of a civil penalty does not prevent the Government from seeking any other remedy that may be applicable.

(2) Contractors may rely without liability on the representation made by their subcontractors in the certification and disclosure form.

(9 Cost allowability. Nothing in this clause makes allowable or reasonable any costs which would otherwise be unallowable or unreasonable. Conversely, costs made specifically unallowable by the requirements in this clause wi!! net be made allowable under any ether provision.

16 PAYMENT FOR OVERTIME PREMIUMS (FAR 52.222-2) (JUL 1990)

(a) The use of overtime is authorized under this contract if the overtime premium cost does not exceed $0 or the overtime premium is paid for work -

(1) Necessary to cope with emergencies such as those resulting from accidents, natural disasters, breakdowns of production equipment, or occasional production bottlenecks *of* a sporadic nature;

(2) By indirect-labor employees such as those performing duties in connection with administration, protection, transportation, maintenance, standby plant protection, operation of utilities, or accounting;

(3) To perform tests, industrial processes, laboratory procedures, loading or unloading of transportation conveyances, and operations in flight or afloat that are continuous in nature and cannot reasonably be interrupted or completed otherwise; or

(4) That will result in lower overall costs to the Government.

(b) Any request for estimated overtime premiums that exceeds the amount specified above shall include all estimated overtime for contract completion and shall -

(1) Identify the work unit; e.g., department or section in which the requested overtime will be used, together with present workload, staffing, and other data of the affected unit sufficient to permit the Contracting Officer to evaluate the necessity for the overtime;

(2) Demonstrate the effect that denial of the request will have on the contract delivery or performance schedule;

(3) Identify the extent to which approval of overtime would affect the performance or payments in connection with other Government contracts, together with identification of each affected contract; and

(4) Provide reasons why the required work cannot be performed by using rnultishift operations or by employing additional personnel.

17 SERVICE CONTRACT ACT OF 1965, AS AMENDED (FAR 52.222-41) (MAY 1989)

(a) **Definitions.** "Act," as used in this clause, means the Service Contract Act of 1965, as amended **(41** U.S.C. 351, et seq.).

"Contractor," as used in this clause or in any subcontract, shall be deemed to refer to the subcontractor, except in the term "Government Prime Contractor."

"Service employee," as used in this clause, means any person engaged in the performance of this contract other than any person employed in a bona fide executive, administrative, or professional capacity, as these terms are defined in Part 541 of Title 29, Code of Federal Regulations, as revised. It includes all such persons regardless of any contractual relationship that may be alleged to exist between a Contractor or subcontractor and such persons.

(b) **Applicability.** This contract is subject to the following provisions and to all other applicable provisions of the Act and regulations of the Secretary of Labor (29 CFR Part **4).** This clause does not

apply to contracts or subcontracts administratively exempted by the Secretary of Labor or exempted by 41 U.S.C. 356, as interpreted in Subpart C of 29 CFR Part 4.

(c) **Compensation.**

(1) Each service employee employed in the performance of this contract by the Contractor or any subcontractor shall be paid not less than the minimum monetary wages and shall be furnished fringe benefits in accordance with the wages and fringe benefits determined by the Secretary of Labor, or authorized representative, as specified in any wage determination attached to this contract.

(2) (i) If a wage determination is attached to this contract, the Contractor shall classify any class of service employee which is not listed therein and which is to be employed under this contract (i.e., the work to be performed is not performed by any classification listed in the wage determination) so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed class of employees shall be paid the monetary wages and furnished the fringe benefits as are determined pursuant to the procedures in this paragraph (c).

(ii) This conforming procedure shall be initiated by the Contractor prior to the performance of contract work by the unlisted class of employee. The Contractor shall submit Standard Form (SF) 1444, Request For Authorization of Additional Classification and Rate, to the Contracting Officer no later than 30 days after the unlisted class of employee performs any contract work. The Contracting Officer shall review the proposed classification and rate and promptly submit the completed SF 1444 (which must include information regarding the agreement or disagreement of the employees' authorized representatives or the employees themselves together with the agency recommendation), and all pertinent information to the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor. The Wage and Hour Division will approve, modify, or disapprove the action or render a final determination in the event of disagreement within 30 days of receipt or will notify the Contracting Officer within 30 days of receipt that additional time is necessary.

(iii) The final determination of the conformance action by the Wage and Hour Division shall be transmitted to the Contracting Officer who shall promptly notify the Contractor of the action taken. Each affected employee shall be furnished by the Contractor with a written copy of such determination or it shall be posted as a part of the wage determination.

(iv) (A) The process of establishing wage and fringe benefit rates that bear a reasonable relationship to those listed in a wage determination cannot be reduced to any single formula. The approach used may vary from wage determination to wage determination depending on the circumstances. Standard wage and salary administration practices which rank various job classifications by pay grade pursuant to point schemes or other job factors may, for example, be relied upon. Guidance may also be obtained from the way different jobs are rated under Federal pay systems (Federal Wage Board Pay System and the General Schedule) or from other wage determinations issued in the same locality. Basic to the establishment of any conformable wage rate(s) is the concept that a pay relationship should be maintained between job classifications based on the skill required and the duties performed.

(B) In the case of a contract modification, an exercise of an option, or extension of an existing contract, or in any other case where a Contractor succeeds a contract under which the classification in question was previously conformed pursuant to paragraph (c) of this clause, a new conformed wage rate and fringe benefits may be assigned to the conformed classification by indexing (i.e., adjusting) the previous conformed rate and fringe benefits by an amount equal to the average (mean) percentage increase (or decrease, where appropriate) between the wages and fringe benefits specified for all classifications to be used on the contract which are listed in the current wage determination, and those specified for the corresponding classifications in the previously applicable wage determination. Where conforming actions are accomplished in accordance with this paragraph prior to the performance of contract work by the unlisted class of employees, the Contractor shall advise the Contracting Officer of the action taken but the other procedures in subdivision (c)(ii) of this clause need not be followed.

(C) No employee engaged in performing work on this contract shall in any event be paid less than the currently applicable minimum wage specified under section 6(a)(1) of the Fair Labor Standards Act of 1938, as amended.

(v) The wage rate and fringe benefits finally determined under this subparagraph (c)(2) of this clause shall be paid to all employees performing in the classification from the

first day on which contract work is performed by them in the classification. Failure to pay the unlisted employees the compensation agreed upon by the interested parties and/or finally determined by the Wage and Hour Division retroactive to the date such class of employees commenced contract work shall be a violation of the Act and this contract.

(vi) Upon discovery of failure to comply with subparagraph (c)(2) of this clause, the Wage and Hour Division shall make a final determination of conformed classification, wage rate, and/or fringe benefits which shall be retroactive to the date such class or classes of employees commenced contract work.

(3) **Adjustment of Compensation.** If the term of this contract is more than 1 year, the minimum monetary wages and fringe benefits required to be paid or furnished thereunder to service employees under this contract shall be subject to adjustment after 1 year and not less often than once every 2 years, under wage determinations issued by the Wage and Hour Division.

(d) **Obligation to Furnish Fringe Benefits.** The Contractor or subcontractor may discharge the obligation to fumish fringe benefits specified in the attachment or determined under subparagraph (c)(2) of this clause by furnishing equivalent combinations of bona fide fringe benefits, or by making equivalent or differential cash payments, only in accordance with Subpart D of 29 CFR Part 4.

(e) **Minimum Wage.** In the absence of a minimum wage attachment for this contract, neither the Contractor nor any subcontractor under this contract shall pay any person performing work under this contract (regardless of whether the person is a service employee) less than the minimum wage specified by section 6(a)(1) of the Fair Labor Standards Act of 1938. Nothing in this clause shall relieve the Contractor or any subcontractor of any other obligation under law or contract for the payment of a higher wage to any employee.

(9 **Successor Contracts.** If this contract succeeds a contract subject to the Act under which substantially the same services were furnished in the same locality and service employees were paid wages and fringe benefits provided for in a collective bargaining agreement, in the absence of the minimum wage attachment for this contract setting forth such collectively bargained wage rates and fringe benefits, neither the Contractor nor any subcontractor under this contract shall pay any service employee performing any of the contract work (regardless of whether or not such employee was employed under the predecessor contract), less than the wages and fringe benefits provided for in such collective bargaining agreement, to which such employee would have been entitled if employed under the predecessor contract, including accrued wages and fringe benefits and any prospective increases in wages and fringe benefits provided for under such agreement. No Contractor or subcontractor under this contract may be relieved of the foregoing obligation unless the limitations of 29 CFR 4.lb(b) apply or unless the Secretary of Labor or the Secretary's authorized representative finds, after a hearing as provided in 29 CFR 4.10 that the wages and/or fringe benefits provided for in such agreement are substantially at variance with those which prevail for services of a character similar in the locality, or determines, as provided in 29 CFR 4.11, that the collective bargaining agreement applicable to service employees employed under the predecessor contract was not entered into as a result of arm's length negotiations. Where it is found in accordance with the review procedures provided in 29 CFR 4.10 and/or 4.11 and Parts 6 and *8* that some or all of the wages and/or fringe benefits contained in a predecessor Contractor's collective bargaining agreement are substantially at variance with those which prevail for services of a character similar in the locality, and/or that the collective bargaining agreement applicable to service employees employed under the predecessor contract was not entered into as a result of arm's length negotiations, the Department will issue a new or revised wage determination setting forth the applicable wage rates and fringe benefits. Such determination shall be made part of the contract or subcontract, in accordance with the decision of the Administrator, the Administrative Law Judge, or the Board of Service Contract Appeals, as the case may be, irrespective of whether such issuance occurs prior to or after the award of a contract or subcontract (53 Comp. Gen. 401 (1973)). In the case of a wage determination issued solely as a result of a finding *of* substantial variance, such determination shall be effective as of the date of the final administrative decision.

(g) **Notification to Employees.** The Contractor and any subcontractor under this contract shall notify each service employee commencing work on this contract of the minimum monetary wage and any fringe benefits required to be paid pursuant to this contract, or shall post the wage determination attached to this contract. The poster provided by the Department of Labor (Publication WH 1313) shall be posted in

a prominent and accessible place at the worksite. Failure to comply with this requirement is a violation of Section 2(a)(4) of the Act and of this contract.

(h) **Safe and Sanitary Working Conditions.** The Contractor or subcontractor shall not permit any part of the services called for by this contract to be performed in buildings or surroundings or under working conditions provided by or under the control or supervision of the Contractor or subcontractor which are unsanitary, hazardous, or dangerous to the health or safety of the service employees. The Contractor or subcontractor shall comply-with the safety and health standards applied under 29 CFR Part 1925.

(i) **Records.** (1) The Contractor and each subcontractor performing work subject to the Act shall make and maintain for 3 years from the completion of the work, and make them available for inspection and transcription by authorized representatives of the Wage and Hour Division, Employment Standards Administration, a record of the following:

(i) For each employee subject to the Act -

(A) Name and address and social security number;

(B) Correct work classification or classifications, rate or rates of monetary wages paid and fringe benefits provided, rate or rates of payments in lieu of fringe benefits, and total daily and weekly compensation;

(C) Daily and weekly hours worked by each employee; and

(D) Any deductions, rebates, or refunds from the total daily or weekly compensation of each employee.

(ii) For those classes of service employees not included in any wage determination attached to this contract, wage rates or fringe benefits determined by the interested parties or by the Administrator or authorized representative, under the terms of paragraph (c) of this clause. A copy of the report required by subdivision (c)(2)(ii) of this clause will fulfill this requirement.

(iii) Any list of the predecessor Contractor's employees which had been furnished to the Contractor as prescribed by paragraph (n) of this clause.

(2) The Contractor shall also make available a copy of this contract for inspection or transcription by authorized representatives of the Wage and Hour Division.

(3) Failure to make and maintain or to make available these records for inspection and transcription shall be a violation of the regulations and this contract, and in the case of failure to produce these records, the Contracting Officer, upon direction of the Department of Labor and notification to the Contractor, shall take action to cause suspension of any further payment or advance of funds until such violation ceases.

(4) The Contractor shall permit authorized representatives of the Wage and Hour Division to conduct interviews with employees at the worksite during normal working hours.

(j) **Pay Periods.** The Contractor shall unconditionally pay to each employee subject to the Act all wages due free and clear and without subsequent deduction (except as otherwise provided by law or Regulations, 29 CFR Part **4),** rebate, or kickback on any account. These payments shall be made no later than one pay period following the end of the regular pay period in which the wages were earned or accrued. **A** pay period under this Act may not be of any duration longer than semi-monthly.

(k) **Withholding of Payment and Termination of Contract.** The Contracting Officer shall withhold or cause to be withheld from the Government Prime Contractor under this or any other Government contract with the Prime Contractor such sums as an appropriate official of the Department of Labor requests or such sums as the Contracting Officer decides may be necessary to pay underpaid employees employed by the Contractor or subcontractor. In the event of failure to pay any employees subject to the Act all or part of the wages or fringe benefits due under the Act, the Contracting Officer may, after authorization or by direction of the Department of Labor and written notification to the Contractor, take action to cause suspension of any further payment or advance of funds until such violations have ceased. Additionally, any failure to comply with the requirements of this clause may be grounds for termination of the right to proceed with the contract work. In such event, the Government may enter into other contracts or arrangements for completion of the work, charging the Contractor in default with any additional cost.

(l) **Subcontracts.** The Contractor agrees to insert this clause in all subcontracts subject to the Act.

(m) **Collective Bargaining Agreements Applicable to Service Employees.** If wages to be paid or fringe benefits to be furnished any service employees employed by the Government Prime Contractor or any subcontractor under the contract are provided for in a collective bargaining agreement which is or will be effective during any period in which the contract is being performed, the Government Prime Contractor shall report this fact to the Contracting Officer, together with full information as to the application and accrual of such wages and fringe benefits, including any prospective increases, to service employees engaged in work on the contract, and a copy of the collective bargaining agreement. Such report shall be made upon commencing performance of the contract, in the case of collective bargaining agreements effective at such time, and in the case of such agreements or provisions or amendments thereof effective at a later time during the period of contract performance such agreements shall be reported promptly after negotiation thereof.

(n) **Seniority List.** Not less than 10 days prior to completion of any contract being performed at a Federal facility where service employees may be retained in the Performance of the succeeding contract and subject to a wage determination which contains vacation or other benefit provisions based upon length of service with a Contractor (predecessor) or successor (29 CFR Part 4.173), the incumbent Prime Contractor shall furnish the Contracting Officer a certified list of the names of all service employees on the Contractor's or subcontractor's payroll during the last month of contract performance. Such list shall also contain anniversary dates of employment on the contract either with the current or predecessor Contractors of each such service employee. The Contracting Officer shall turn over such list to the successor Contractor at the commencement of the succeeding contract.

(o) **Rulings and Interpretations.** Rulings and interpretations of the Act are contained in Regulations, 29 CFR Part 4.

(p) **Contractor's Certification.**

(1) By entering into this contract, the Contractor (and officials thereof) certifies that neither it (nor he or she) nor any person or firm who has substantial interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of the sanctions imposed under section 5 of the Act.

(2) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract under section 5 of the Act.

(3) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

(q) **Variations, Tolerances, and Exemptions Involving Employment.** Notwithstanding any of the provisions in paragraphs (b) through (o) of this clause, the following employees may be employed in accordance with the following variations, tolerances, and exemptions, which the Secretary of Labor, pursuant to section 4(b) of the Act prior to its amendment by Public L. 92-473, found to be necessary and proper in the public interest or to avoid serious impairment of the conduct of Government business.

(1) Apprentices, student-learners, and workers whose earning capacity is impaired by age, physical or mental deficiency, or injury may be employed at wages lower than the minimum wages otherwise required by section 2(a)(1) or 2(b)(1) of the Act without diminishing any fringe benefits or cash payments in lieu thereof required under section 2(a)(2) of the Act, in accordance with the conditions and procedures prescribed for the employment of apprentices, student-learners, handicapped persons, and handicapped clients of sheltered workshops under Section 14 of the Fair Labor Standards Act *of* 1938, in the regulations issued by the Administrator (29 CFR Parts 520, 521, 524, and 525).

(2) The Administrator will issue certificates under the Act for the employment of apprentices, student-learners, handicapped persons, or handicapped clients of sheltered workshops not subject to the Fair Labor Standards Act of 1938, or subject to different minimum rates of pay under the two acts, authorizing appropriate rates of minimum wages (but without changing requirements concerning fringe benefits or supplementary cash payments in lieu thereof), applying procedures prescribed by the applicable regulations issued under the Fair Labor Standards Act of 1938 (29 CFR Parts 520, 521, 524, and 525).

(3) The Administrator will also withdraw, annul, or cancel such certificates in accordance with the regulations in 29 CFR Parts 525 and 528.

(r) **Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed and individually registered in a bona fide apprenticeship

program registered with a State Apprenticeship Agency which is recognized by the U.S. Department of Labor, or if no such recognized agency exists in a State, under a program registered with the Bureau of Apprenticeship and Training, Employment and Training Administration, U.S. Department of Labor. Any employee who is not registered as an apprentice in an approved program shall be paid the wage rate and fringe benefits contained in the applicable wage determination for the journeyman classification of work actually performed. The wage rates paid apprentices shall not be less than the wage rate for their level of progress set forth in the registered program, expressed as the appropriate percentage of the journeyman's rate contained in the applicable wage determination. The allowable ratio of apprentices to journeymen employed on the contract work in any craft classification shall not be greater than the ratio permitted to the Contractor as to his entire work force under the registered program.

(s) **Tips.** An employee engaged in an occupation in which the employee customarily and regularly receives more than $30 a month in tips may have the amount of tips credited by the employer against the minimum wage required by section 2(a)(1) or section 2(b)(1) of the Act, in accordance with section 3(m) of the Fair Labor Standards Act and Regulations 29 CFR Part 531. However, that the amount of credit shall not exceed $1.24 per hour beginning January 1, 1981. To use this provision -

(1) The employer must inform tipped employees about this tip credit allowance before the credit is utilized;

(2) The employees must be allowed to retain all tips (individually or through a pooling arrangement and regardless of whether the employer elects to take a credit for tips received);

(3) The employer must be able to show by records that the employee receives at least the applicable Service Contract Act minimum wage through the combination of direct wages and tip credit; and

(4) The use of such tip credit must have been permitted under any predecessor collective bargaining agreement applicable by virtue of section 4(c) of the Act.

(t) **Disputes Concerning Labor Standards.** The U.S. Department of Labor has set forth in 29 CFR Parts 4, 6, and 8 procedures for resolving disputes concerning labor standards requirements. Such disputes shall be resolved in accordance with those procedures and not the Disputes clause of this contract. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

18 NOTICE OF RADIOACTIVE MATERIALS (FAR 52.223-7) (JAN 1997)

(a) The Contractor shall notify the Contracting Officer or designee, in writing, 5 days prior to the delivery of, or prior to completion of any servicing required by this contract of, items containing either (1) radioactive material requiring specific licensing under the regulations issued pursuant to the Atomic Energy Act of 1954, as amended, as set forth in title 10 of the Code of Federal Regulations, in effect on the date of this contract, or (2) other radioactive material not requiring specific licensing in which the specific activity is greater than 0.002 microcuries per gram or the activity per item equals or exceeds 0.01 microcuries. Such notice shall specify the part or parts of the items which contain radioactive materials, a description of the materials, the name and activity of the isotope, the manufacturer of the materials, and any other information known to the Contractor which will put users of the items on notice as to the hazards involved (OMB No. 9000-0107).

(b) If there has been no change affecting the quantity of activity, or the characteristics and composition of the radioactive material from deliveries under this contract or prior contracts, the Contractor may request that the Contracting Officer or designee waive the notice requirement in paragraph (a) of this clause. Any such request shall –

(1) Be submitted in writing;

(2) State that the quantity of activity, characteristics, and composition of the radioactive material have not changed; and

(3) Cite the contract number on which the prior notification was submitted and the contracting office to which it was submitted.

(c) All items, parts, or subassemblies which contain radioactive materials in which the specific activity is greater than 0.002 microcuries per gram or activity per item equals or exceeds 0.01 microcuries, and all containers in which such items, parts or subassemblies are delivered to the Government shall be clearly marked and labeled as required by the latest revision of MIL-STD 129 in effect on the date of the contract.
(d) This clause, including this paragraph (d), shall be inserted in all subcontracts for radioactive materials meeting the criteria in paragraph (a) of this clause.

19 PROMPT PAYMENT (FAR 52.232-25) (JUN 1997)

Notwithstanding any other payment clause in this contract, the Government will make invoice payments and contract financing payments under the terms and conditions specified in this clause. Payment shall be considered as being made on the day a check is dated or the date of an electronic funds transfer. Definitions of pertinent terms are set forth in section 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see subparagraph (a)(4) of this clause concerning payments due on Saturdays, Sundays, and legal holidays.)
(a) Invoice payments--(1) Due date. (i) Except as indicated in subparagraph (a)(2) and paragraph (c) of this clause, the due date for making invoice payments by the designated payment office shall be the later of the following *two* events:

(A) The 30th day after the designated billing office has received a proper invoice from the Contractor (except as provided in subdivision (a)(1)(ii) of this clause).

(B) The 30th day after Government acceptance of supplies delivered or services performed by the Contractor. On a final invoice where the payment amount is subject to contract settlement actions, acceptance shall be deemed to have occurred on the effective date of the contract Settlement.

(ii) If the designated billing office fails to annotate the invoice with the actual date of receipt at the time *of* receipt, the invoice payment due date shall be the 30th day after the date of the Contractor's invoice; provided a proper invoice is received and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(2) Certain food products and other payments. (i) Due dates on Contractor invoices for meat, meat food products, or fish; perishable agricultural commodities; and dairy products, edible fats or oils, and food products prepared from edible fats or oils are--

(A) For meat or meat food products, as defined in section 2(a)(3) of the Packers and Stockyard Act of 1921 *(7* U.S.C. 182(3)), and as further defined in Pub. L. 98-181, including any edible fresh or frozen poultry meat, any perishable poultry meat food product, fresh eggs, and any perishable egg product, as close as possible to, but not later than, the 7th day after product delivery.

(B) For fresh or frozen fish, as defined in section 204(3) of the Fish and Seafood Promotion Act of 1986 (16 U.S.C. 4003(3)), as close as possible to, but not later than, the 7th day after product delivery.

(C) For perishable agricultural commodities, as defined in section 1(4) *of* the Perishable Agricultural Commodities Act of 1930 (7 U.S.C. 499a(4)), as close as possible to, but not later than, the 10th day after product delivery, unless another date is specified in the contract.

(D) For dairy products, as defined in section 111(e) of the Dairy Production Stabilization Act of 1983 (7 U.S.C. 4502(e)), edible fats or oils, and food products prepared from edible fats or oils, as close as possible to, but not later than, the 10th day after the date on which a proper invoice has been received. Liquid milk, cheese, certain processed cheese products, butter, yogurt, ice cream, mayonnaise, salad dressings, and other similar products, fall within this classification. Nothing in the Act limits this classification to refrigerated products. When questions arise regarding the proper classification of a specific product, prevailing industry practices will be followed in specifying a contract payment due date. The burden of proof that a classification of a specific product is, in fact, prevailing industry practice is upon the Contractor making the representation.

(ii) If the contract does not require submission of an invoice for payment (e.g., periodic lease payments), the due date will be as specified in the contract.

(3) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in subdivisions (a)(3)(i) through (a)(3)(viii) of this clause. If the invoice does not comply with these requirements, it shall be returned within 7 days after the date the designated billing office received the invoice (3 days for meat, meat food products, or fish; 5 days for perishable agricultural commodities, edible fats or oils, and food products prepared from edible fats or oils), with a statement of the reasons why it is not a proper invoice. Untimely notification will be taken into account in computing any interest penalty owed the Contractor in the manner described in subparagraph (a)(5) of this clause.

(i) Name and address of the Contractor.

(ii) Invoice date. (The Contractor is encouraged to date invoices as close as possible to the date of the mailing *or* transmission.)

(iii) Contract number or other authorization for supplies delivered or services performed (including order number and contract line item number).

(iv) Description, quantity, unit of measure, unit price, and extended price of supplies delivered or services performed.

(v) Shipping and payment terms (e.g., shipment number and date of shipment, prompt payment discount terms). Bill of lading number and weight of shipment will be shown for shipments on Government bills of lading.

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to be notified in the event of a defective invoice.

(viii) Any other information or documentation required by the contract (such as evidence of shipment).

(ix) While not required, the Contractor is strongly encouraged to assign an identification number to each invoice.

(4) Interest penalty. An interest penalty shall be paid automatically by the designated payment office, without request from the Contractor, if payment is not made by the due date and the conditions listed in subdivisions (a)(4)(i) through (a)(4)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday when Federal Government offices are closed and Government business is not expected to be conducted, payment may be made on the following business day without incurring a late payment interest penalty.

(i) A proper invoice was received by the designated billing office.

(ii) A receiving report or other Government documentation authorizing payment was processed, and there was no disagreement over quantity, quality, or Contractor compliance with any contract term or condition.

(iii) In the case of a final invoice for any balance of funds due the Contractor for supplies delivered or services performed, the amount was not subject to further contract settlement actions between the Government and the Contractor.

(5) Computing penalty amount. The interest penalty shall be at the rate established by the Secretary of the Treasury under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) that is in effect on the day after the due date, except where the interest penalty is prescribed by other governmental authority (e.g., tariffs). This rate is referred to as the "Renegotiation Board Interest Rate," and it is published in the Federal Register semiannually on or about January 1 and July 1. The interest penalty shall accrue daily on the invoice principal payment amount approved by the Government until the payment date of such approved principal amount; and will be compounded in 30-day increments inclusive from the first day after the due date through the payment date. That is, interest accrued at the end of any 30-day period will be added to the approved invoice principal payment amount and will be subject to interest penalties if not paid in the succeeding 30-day period. If the designated billing office failed to notify the Contractor of a defective invoice within the periods prescribed in subparagraph (a)(3) of this clause, the due date on the corrected invoice will be adjusted by subtracting from such date the number of days taken beyond the prescribed notification of defects period. Any interest penalty owed the Contractor will be based on this adjusted due date. Adjustments will be made by the designated payment office for errors in calculating interest penalties.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor, Government acceptance shall be deemed to have occurred constructively on the 7th day (unless otherwise specified in this contract) after the Contractor delivered the supplies or performed the services in accordance with the terms and conditions of the contract, unless there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. In the event that actual acceptance occurs within the constructive acceptance period, the determination of an interest penalty shall be based on the actual date *of* acceptance. The constructive acceptance requirement does not, however, compel Government officials to accept supplies or services, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The following periods of time will not be included in the determination of an interest penalty:

(A) The period taken to notify the Contractor of defects in invoices submitted to the Government, but this may not exceed 7 days (3 days for meat, meat food products, or fish; 5 days for perishable agricultural commodities, dairy products, edible fats or oils, and food products prepared from edible fats or oils).

(B) The period between the defects notice and resubmission of the corrected invoice by the Contractor.

(C) For incorrect electronic funds transfer (EFT) information, in accordance with the EFT clause of this contract.

(iii) Interest penalties will not continue to accrue after the filing of a claim for such penalties under the clause at 52.233-1, Disputes, or for more than 1 year. Interest penalties of less than $1 need not be paid.

(iv) Interest penalties are not required on payment delays due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance or on amounts temporarily withheld or retained in accordance with the terms of the contract. Claims involving disputes, and any interest that may be payable, will be resolved in accordance with the clause at 52.233-1, Disputes.

(6) Prompt payment discounts. An interest penalty also shall be paid automatically by the designated payment office, without request from the Contractor, if a discount for prompt payment is taken improperly. The interest penalty will be calculated as described in subparagraph (a)(5) of this clause on the amount of discount taken for the period beginning with the first day after the end of the discount period through the date when the Contractor is paid.

(7) Additional in'terest penalty. (i) A penalty amount, calculated in accordance with subdivision (a)(7)(iii) of this clause, shall be paid in addition to the interest penalty amount if the Contractor–

(A) Is owed an interest penalty of $1 or more;

(B) Is not paid the interest penalty within 10 days after the date the invoice amount is paid; and

(C) Makes a written demand to the designated payment office for additional penalty payment, in accordance with subdivision (a)(7)(ii) of this clause, postmarked not later than 40 days after the invoice amount is paid.

(ii)(A) Contractors shall support written demands for additional penalty payments with the following data. No additional data shall be required. Contractors shall–

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) Demands must be postmarked on or before the 40th day after payment was made, except that–

(1) If the postmark is illegible or nonexistent, the demand must have been received and annotated with the date *of* receipt by the designated payment office on or before the 40th day after payment was made; or

(2) If the postmark is illegible or nonexistent and the designated payment office fails to make the required annotation, the demand's validity will be determined by the date the Contractor has placed on the demand; provided such date is no later than the 40th day after payment was made.

(iii)(A) The additional penalty shall be equal to 100 percent of any original late payment interest penalty except–

(1) The additional penalty shall not exceed $5,000;

(2) The additional penalty shall never be less than $25; and

(3) No additional penalty is owed if the amount of the underlying interest penalty is less than $1.

(B) If the interest penalty ceases to accrue in accordance with the limits stated in subdivision (a)(5)(iii) of this clause, the amount of the additional penalty shall be calculated on the amount of interest penalty that would have accrued in the absence of these limits, subject to the overall limits on the additional penalty specified in subdivision (a)(7)(iii)(A) of this clause.

(C) For determining the maximum and minimum additional penalties, the test shall be the interest penalty due on each separate payment made for each separate contract. The maximum and minimum additional penalty shall not be based upon individual invoices unless the invoices are paid separately. Where payments are consolidated for disbursing purposes, the maximum and minimum additional penalty determination shall be made separately for each contract therein.

(D) The additional penalty does not apply to payments regulated by other Government regulations (e.g., payments under utility contracts subject to tariffs and regulation).

(b) Contract financing payments--(1) Due dates for recurring financing payments. If this contract provides for contract financing, requests for payment shall be submitted to the designated billing office as specified in this contract or as directed by the Contracting Officer. Contract financing payments shall be made on the [insert day as prescribed by Agency head; if not prescribed, insert 30th day] day after receipt of a proper contract financing request by the designated billing office. In the event that an audit or other review of a specific financing request is required to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the due date specified.

(2) Due dates for other contract financing. For advance payments, loans, or other arrangements that do not involve recurring submissions of contract financing requests, payment shall be made in accordance with the corresponding contract terms or as directed by the Contracting Officer.

(3) Interest penalty not applicable. Contract financing payments shall not be assessed an interest penalty for payment delays.

(c) Fast payment procedure due dates. If this contract contains the clause at 52.213-1, Fast Payment Procedure, payments will be made within 15 days after the date of receipt of the invoice.

1.10 BANKRUPTCY (FAR 52.242-13) (JUL 1995)

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish, by certified mail or electronic commerce method authorized by the contract, written notification of the bankruptcy to the Contracting Officer responsible for administering the contract This notification shall be furnished within five days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition *was* filed, and a listing of Government contract numbers and contracting offices for all Government contracts against which final payment has not been made. This obligation remains in effect until final payment under this contract.

1.11 SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS (FAR 52.244-6) (OCT 1995)

(a) Definition.

"Commercial item," as used in this clause, has the meaning contained in the clause at 52.202-1, Definitions.

"Subcontract," as used in this clause, includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.
(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.
(c) Notwithstanding any other clause of this contract, the Contractor is not required to include any FAR provision or clause, other than those listed below to the extent they are applicable and as may be required to establish the reasonableness of prices under Part 15, in a subcontract at any tier for commercial items or commercial components:
(1) 52.222-26, Equal Opportunity (E.O. 11246);
(2) 52.222-35, Affirmative Action for Special Disabled and Vietnam Era Veterans (38 U.S.C. 4212(a));
(3) 52.222-36, Affirmative Action for Handicapped Workers (29 U.S.C. 793); and
(4) 52.247-64, Preference for Privately-Owned US.-Flagged Commercial Vessels (46 U.S.C. 1241) (flow down not required for subcontracts awarded beginning May 1, 1996).
(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

I.12 AUTHORIZED DEVIATIONS IN CLAUSES (FAR 52.252-6) (APR 1984)

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.
(b) The use in this solicitation or contract of any NASA/FAR Supplement (48 CFR Chapter 18) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

I. 13 SECURITY CLASSIFICATION REQUIREMENTS (NASA 1852.204-75) (SEP 1989)

Performance under this contract will involve access to and/or generation of classified information, work in a security area, or both, up to the level of TOP SECRET. See Federal Acquisition Regulation clause 52.204-2 in this contract and DD Form 254, Contract Security Classification Specification, Exhibit A.

1.14 SECURITY REQUIREMENTS FOR UNCLASSIFIED AUTOMATED INFORMATION RESOURCES (NASA 1852.204-76) (SEP 1993)

(a) In addition to complying with any functional and technical security requirements set forth in the schedule and the clauses of this contract, the Contractor shall initiate personnel screening checks and obtain user responsibility agreements, as required by this clause, for each Contractor employee requiring unescorted or unsupewised physical access or electronic access to the following limited or controlled areas, systems, programs and data:

Central Scientific Computing Complex (Bldg. 1268)

(1) The Contractor shall submit a personnel security questionnaire (NASA Form 531, Name Check Request, for National Agency Check (NAC) investigations and Standard Form 85P, Questionnaire for Public Trust Positions, for specified sensitive positions) and a Fingerprint Card (FD-258 with NASA overprint in Origin Block) to the installation Security Officer for each Contractor employee who requires access. The required forms may be obtained from the installation security office. Employees may have finger-prints taken at the NASA Contract Badge and Pass Office, located at 1 Langley Boulevard (Building No. 1228), only between the hours of 6:30 a.m. and 4:30 p.m., Monday through Friday, or at any police department.

(i) Several months may be required for completion of complex personnel screening investigations. Background screening may not be required for employees with recent or current Federal Government investigations.

(ii) When employee access is necessary prior to completion of personnel screening, each Contractor employee requiring access may be considered for escorted access. The installation Security Officer will establish the eligibility of proposed escorts.

(2) The Contractor shall ensure that each Contractor employee requiring access executes any user responsibility agreements required by the Government prior to access. The Contractor shall provide signed copies of the agreements to the installation Security Officer for inclusion in the employee's security file. Unauthorized access is a violation of law and punishable under the provisions of 18 U.S.C. 1029, 18 U.S.C. 1030 and other applicable statutes.

(3) The Contractor shall notify the installation AIS Manager no later than the end of **the** day of the termination for cause of an authorized employee's access. The Contractor shall notify the COTR no later than I 0 days after an authorized employee no longer requires access for any other type of termination. Verbal notifications shall be confirmed in writing within 30 days.

(b) The Contractor shall incorporate this clause in all subcontracts where the requirements identified in paragraph (a) of this clause are applicable to performance of the subcontract.

1.15 OMBUDSMAN (NASA 1852.215-84) (OCT 1996)

An ombudsman has been appointed to hear and facilitate the resolution of concerns from offerors, potential offerors, and Contractors during the preaward and postaward phases of this acquisition. When requested, the ombudsman will maintain strict confidentiality as to the source of the concern. The existence of the ombudsman is not to diminish the authority of the Contracting Officer, the Source Evaluation Board, or the selection official. Further, the ombudsman does not participate in the evaluation of proposals, the source selection process, or the adjudication of formal contract disputes. Therefore, before consulting with an ombudsman, interested parties must first address their concerns, issues, disagreements, and/or recommendations to the Contracting Officer for resolution. If resolution cannot be made by the Contracting Officer, interested parties may contact the installation ombudsman, Sandra ***S.*** Ray at (757) 864-2428. Concerns, issues, disagreements, and recommendations which cannot be resolved at the installation may be referred to the **NASA** ombudsman, the Deputy Administrator for Procurement, at 202-358-2090. Please do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the Contracting Officer or as specified elsewhere in this document.

I.16 AWARD FEE **FOR** SERVICE CONTRACTS (NASA 1852.216-76) **(OCT** 1996)

(a) The Contractor can earn award fee from a minimum of zero dollars to the maximum stated in NASA FAR Supplement Clause 1852.216-85, "Estimated Cost and Award Fee" in this contract.

(b) Beginning 6 months after the effective date of this contract, the Government shall evaluate the Contractor's performance every 6 months to determine the amount of award fee earned by the contractor during the period. The Contractor may submit a self-evaluation of performance for each evaluation period under consideration. These self-evaluations will be considered by the Government in its evaluation. The Government's Fee Determination Official (FDO) will determine the award fee amounts based on the Contractor's performance in accordance with the Award Fee Plan dated October 31, 1997. The plan may be revised unilaterally by the Government prior to the beginning of any rating period to redirect emphasis.

(c) The Government will advise the Contractor in writing of the evaluation results. The Financial Management Division will make payment based on issuance of unilateral modification by Contracting Officer.

(d) After 85% of the potential award fee has been paid, the Contracting Officer may direct the withholding of further payment of award fee until a reserve is set aside in an amount that the Contracting Officer considers necessary to protect the Government's interest. This reserve shall not exceed 15 percent of the total potential award fee.

(e) The amount of award fee which can be awarded in each evaluation period is limited to the amounts set forth at B.3, Award Fee Availability Schedule. Award fee which is not earned in an evaluation period cannot be reallocated to future evaluation periods.

(9 Award fee determinations made by the Government under this contract are not subject to the Disputes clause.

1.17 FINANCIAL REPORTING OF NASA PROPERTY IN THE CUSTODY OF CONTRACTORS (NASA 1852.245-73) (SEP 1996)

(a) The Contractor shall submit annually a NASA Form 1018, NASA Property in the Custody of Contractors, in accordance with 18-45.505-14, the instructions on the form, and subpart 1845-71. Subcontractor use of NF 1018 is not required by this clause; however, the Contractor shall include data on property in the possession of subcontractors in the annual NF 1018.

(b) If administration of this contract has beer: **delegated** to the Department of Defense, the original of NASA Form 1018 shall be submitted to the NASA, LaRC Financial Management Officer, Mail Stop 175 and three copies shall be sent concurrently through the DOD Property Administrator to the address below. If the contract is administered by NASA, the original of NF 1018 shall be submitted to the LaRC Financial Management Office and three copies shall be sent concurrently and directly to the following office:

ATTN: INDUSTRIAL PROPERTY OFFICE
NASA LANGLEY RESEARCH CENTER
MAIL STOP 377
HAMPTON VA 23681-0001

(c) The annual reporting period shall be from October 1 of each year to September 30 of the following year. The report shall be submitted by October 31. The information contained in these reports is entered into the NASA accounting system to reflect current asset values for agency financial statement purposes. Therefore, it is essential that required reports be received no later than October 31. The Contracting Officer may, in the Government's interest, withhold payment until a reserve not exceeding $25,000 or 5 percent of the amount of the contract, whichever is less, has been set-aside. If the Contractor fails to submit annual NF 1018 reports when due, such reserve shall be withheld until the Contracting Officer has determined that the required reports have been received by the Government. The withholding of any amount or the subsequent payment thereof shall not be construed as a waiver of any Government right.

(d) A final report is required within 30 days after disposition of all property subject to reporting when the contract performance period is complete.

PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

SECTION J - LIST OF ATTACHMENTS

Exhibit A	Contract Security Classification Specification, DD Form 254, 2 pages
Exhibit B	Installation-Provided Government Property, 4 pages
Exhibit C	List of Govemment-Furnished Property, 87 pages
Exhibit D	Register of Wage Determination and Fringe Benefits #94-2544, Rev. 14, July 2, 1997, 10 pages
Exhibit E	Contract Documentation Requirements, 5 pages
Exhibit F	Information Management System for ETTD Support Services, 1 page
Exhibit G	List of NASA Software Documentation Standards, 1 page
Exhibit H	List of Acronyms, 1 page
Exhibit I	Subcontracting Pian dated _____, 1997, ___ pages

The following are located after the last section of this solicitation:

Attachment 1	Relevant Experience and Past Performance Evaluation Instructions/Questionnaire, 4 pages
Attachment 2	Monthly Progress Report for Socioeconomic Goals (Sample), 1 page
Attachment 3	Standard Form 1448, Contract Pricing Proposal Cover Sheet, 1 page
Attachment 4	Award Fee Plan, 17 pages
Attachment 5	Instruments Calibrated/Repaired 1996, 1 page
Attachment 6	Equipment to be Delivered for Receipt, Inspection, and Acceptance at Contractor's Facility, 1 page
Attachment 7	Sample Engineering Service Request, 1 page
Attachment 8	Sample Statement of Requirements, 1 page
Attachment 9	Task Order Request Information Format (Sample), 2 pages
Attachment 10	Bidders Library Contents, 1 page
Attachment 11	Cost Forms and Instructions, 10 pages (one spreadsheet)
Attachment 12	Draft RFP Questions and Answers, 7 pages
Attachment 13	RIMS Presolicitation Conference - Attendees List, 1 page
Attachment 14	RIMS Presolicitation Conference Charts, 38 pages

EXHIBIT A

DEPARTMENT OF DEFENSE
CONTRACT SECURITY CLASSIFICATION SPECIFICATION

(The requirements of the DoD Industrial Security Manual apply to all security aspects of this effort.)

1. CLEARANCE AND SAFEGUARDING	
a. Facility Clearance Required	SECRET
b. Level Of Safeguarding Required	

	2. THIS SPECIFICATION IS FOR: (X and complete as applicable)			3. THIS SPECIFICATION IS: (X and complete as applicable)		
	a. Prime Contract Number		X	a. Original (Complete Date In All Cases)		Date (YYMMDD) 97/06/27
	b. Subcontract Number			b. Revised (Supersedes All Previous Specs)	Revision No	Date (YYMMDD)
X	c. Solicitation Or Other Number: RFP - 1-137-GH.2959	Due Date (YYMMDD): 97/10/01		c. Final (Complete Item 5 In All Cases)		Date (YYMMDD)

4. IS THIS A FOLLOW-ON CONTRACT?	X	YES		NO If Yes complete the following
5. IS THIS A FINAL DD FORM 254?		YES	X	NO If Yes complete the following

Location	b. Cage Code	c. Cognizant Security Office (Name, Address, And Zip Code)
TBD	TBD	TBD

Name, Address, And Zip Code	b. Cage Code	c. Cognizant Security Office (Name, Address, And Zip Code)
TBD	TBD	TBD

Location	b. Cage Code	c. Cognizant Security Office (Name, Address, And Zip Code)
NASA LANGLEY RESEARCH CENTER HAMPTON, VA 23681-0001	N/A	N/A

10. CONTRACTOR WILL REQUIRE ACCESS TO:	YES	NO	11. IN PERFORMING THIS CONTRACT, THE CONTRACTOR WILL:	YES	NO
a. Communications Security (Comsec) Information		X	a. Have Access To Classified Information Only At Another Contractor's Facility Or A Government Activity		X
b. Restricted Data		X	b. Receive Classified Documents Only		X
c. Critical Nuclear Weapon Design Information		X	c. Receive And Generate Classified Material	X	
d. Formerly Restricted Data		X	d. Fabricate, Modify, Or Store Classified Hardware	X	
e. Intelligence Information			e. Perform Services Only		X
(1) Sensitive Compartmented Information (Sci)		X	f. Have Access To U.S. Classified Information Outside The U.S., Puerto Rico, U.S. Possessions And Trust Territories		X
(2) Non-Sci		X	g. Be Authorized To Use The Services Of Defense Technical Information Center (Dtic) Or Other Secondary Distribution Center		X
f. Special Access Information	X		h. Require A Comsec Account		X
g. Nato Information		X	i. Have Tempest Requirements		X
h. Foreign Government Information		X	j. Have Operations Security (Opsec) Requirements		X
i. Limited Dissemination Information		X	k. Be Authorized To Use The Defense Courier Service		X
j. For Official Use Only Information		X	l. Other (Specify)		
k. Other (Specify) N/A			SEE ATTACHMENT		

DD Form 254, DEC 90 (EG) *Previous editions are obsolete* (MS Word 4/96)

EXHIBIT A

EXHIBIT A

12. PUBLIC RELEASE Any information *(classified or unclassified)* pertaining to this contract shall not be released for public dissemination except as provided by the Industrial Security Manual unless it has been approved for public release by appropriate U S Government authority Proposed public releases shall be submitted for approval prior to release

[ ] Direct [X] Through *(Specify)*

"NASA LANGLEY RESEARCH CENTER, M/S 235, HAMPTOK. VA 23681-001" ATTN: ROBERT HEDGEPETH

to the Directorate for Freedom of Information and Security Review, Office of the Assistant Secretary of Defense (Public Affairs)* for review *In the case of non-DoD User Agencies, requests for disclosure shall be submitted to that agency.

13. SECURITY GUIDANCE. The security classification guidance needed for this classified effort is identified below If any difficulty is encountered in applying this guidance or if any other contributing factor indicates a need for changes in this guidance, the contractor is authorized and encouraged to pmvidc recommended changes; to challenge the guidance or the classification assigned to any information or material furnished or generated under this contract, and to submit any questions for interpretation of this guidance to the official identified below Pmding final decision, the information involved shall bc handled and protected at the highest level of classification assigned or recommended. *(Fill in as appropriate for the classified effort. Attach, or forward under separate correspondence, any documents/guides/extracts referenced herein. Add additional pages as needed to provide complete guidance.)*

ALL APPLICABLE CLASSIFICATION GUIDANCE WILL BE PROVIDED TO THE CONTRACTOR UNDER SEPARATE COVER:

THE CONTRACTOR WILL BE INVOLVED WITH ONGOING RESEARCH AND DEVELOPMENT PROGRAMS THAT WILL REQUIRE INDIVIDUALS, DESIGSATED BY GOVERNMENT, TO HAVE A TOP SECRET CLEARANCE.

14. ADDITIONAL SECURITY REQUIREMENTS. Requirements, in addition to ISM requirements, are established for this contract. *(If Yes, identify the pertinent contractual clauses in the contract document itself, or provide an appropriate statement which identifies the additional requirements. Provide a copy of the requirements to the cognizant security office. Use Item 13 if additional space is needed.)*

[ ] Yes [X] No

15. INSPECTIONS. Elements of this contract are outside the inspection responsibility of the cognizant security office. *(If Yes, explain and identify specific areas or elements carved out and the activity responsible for inspections. Use Item 13 if additional space is needed.)*

[ ] Yes [X] No

a TYPED NAME OF CERTIFYING OFFICIAL	b TITLE	c TELEPHONE *(Include Area Code)*
Sam A. Harvey	Program Security Team Leader	757-864-6507

d ADDRESS *(Include Zip Code)*	17. REQUIRED DISTRIBUTION	
NASA LANGLEY RESEARCH CENTER M/S 182 HAMPTON, VA 23681-0001	[X]	A Contractor
	[ ]	B Subcontractor
	[X]	C Cognizant Security Office For Pnmc And Subcontractor
e SIGNATURE	[ ]	D U S Activity Responsible For Overseas Security Administration
	[X]	E Administrative Contracting Officer
	[ ]	F Others As Necessary

EXHIBIT B

INSTALLATION-PROVIDED GOVERNMENT PROPERTY

ECN	DESCRIPTION MANUFACTURER	SERIAL NO. MODEL NO.	ACQ. DATE	BLDG. ROOM	COST
1084258	COMPUTER, MICRO NORTHGATE COMPUTER SYSTEMS INC	NONE 386/25	91/02/26	648 325	3,891
1084260	DISPLAY UNIT MATSUSHITA ELEC INDUS CO	KB06J1750 C1381	91/02/26	648 325	400
1085542	TERMINAL, DATA PROCESSING HUMAN DESIGN SYSTEMS INC	WA0510032 HDS2000	91/05/10	648 325	754
1262152	COMPUTER, MINI SILICON GRAPHICS INC	0B0069907ADDB CMNBOOG	94/05/25	648 325	5,895
1262156	DISPLAY UNIT SONY CORP	7000160 GDM17E11	94/05/25	648 325	400
0221802	PRINTER, ADP INTERNATIONAL BUSINESS MACHINE	2605897 4201-001	86/03/18	1221C 123	373
0281462	COMPUTER, MICRO INTERNATIONAL BUSINESS MACHINE	5016112 5170-068	85/04/02	1221C 123D	3,598
0281821	DISPLAY UNIT INTERNATIONAL BUSINESS MACHINE	0893624 5151-001	85/04/18	1221D 123D	192
0281922	DISPLAY UNIT INTERNATIONAL BUSINESS MACHINE	0359172 5151-001	85/04/24	1221C 123	192
1422736	COMPOSING MACHINE KROY INC F-GRAPHIC SYS DIV	206159 290S	86/09/04	1221C SHOP	2,305
0143143	DISK DRIVE UNIT RODIME INC	8002 S20+	87/02/02	648 325	925
1085345	COMPUTER, MICRO APPLE COMPUTER INC	F2111HS4 M0350	91/04/25	548 325	2,453
1085348	DISPLAY UNIT APPLE COMPUTER INC	7010281 M0401	91/04/25	648 325	628
1085540	TERMINAL, DATA PROCESSING HUMAN DESIGN SYSTEMS INC	WA0510026 HDS2000	91/05/10	648 325	754
1262155	COMPUTER, MINI SILICON GRAPHICS INC	08006907ADC1 CMNB006	94/05/25	648 325	5,895
1262158	DISPLAY UNIT SONY CORP	7000932 GDM17E11	94/05/25	648 325	400

ECN	DESCRIPTION MANUFACTURER	SERIAL NO. MODEL NO.	ACQ. DATE	BLDG. ROOM	COST
G073592	DISPLAY UNIT COMPAQ COMPUTER CORP	93914544A518 420	90/02/14	1230 124	487
G073594	COMPUTER, MICRO COMPAQ COMPUTER CORP	495OHZ3H0976 286E2570	90/02/14	1230 124	2,145
G073766	COMPUTER, MICRO COMPAQ COMPUTER CORP	4942HZ3H0837 2520 (286E)	90103107	1230 123	2,240
	MATSUSHITA ELEC INDUS CO	LF5010		140	
G074000	PRINTER, ADP HEWLETT-PACKARD CO	3003JGDELC 33471A	90/03/28	1230 140	1,486
G078574	DISPLAY UNIT COMPAQ COMPUTER CORP	03133646A059 420T	90/10/04	1230 123	496
2078920	COMPUTER, MICRO MICROSERVE	61212177 386SX	90/11/05	1230 140	1,114
G078921	DISPLAY UNIT QUME CORP	MA6105526 GM835	90/10/22	1230 140	535
0054920	PRINTER, ADP HEWLETT-PACKARD CO	2803J22532 33440A	88/04/14	1230 124	1,671
0059905	PRINTER, ADP EPSON AMERICA INC	45416 FX850	89/01/10	1230 124	339
0061679	COMPUTER, MICRO TRI-STAR COMPUTER CORPORATION	823066 286/12	89/04/24	1230 123	1,436
0259555	COMPOSING MACHINE MERLIN MACHINE CORP	512107 35-00	86/09/03	1230 140	1,456
0547811	READER/PRINTER, MICROFICHE CANNON INSTRUMENT CO	32102123 PC70	85/01/08	1230 015	2,836
0549218	MONITOR, TELEVISION, COLOR SONY CORP	501757 PVM8000	84/06/29	1230 140	628
0801367	CAMERA, DIGITIZING CANNON USA INC	101118 RC470	92/04/14	1230 140	1,122
0801368	DISK DRIVE UNIT CANNON USA INC	910950124 FV540N	92/04/14	1230 140	2,300
0801834	DISK DRIVE UNIT SONY CORP	801608 7211	92/08/25	1230 140	599

ECN	DESCRIPTION MANUFACTURER	SERIAL NO MODEL NO.	ACQ DATE	BLDG. ROOM	COST
1084335	DISPLAY UNIT MAGNA-PLAN DIV L D BLEHART CO	NONE PC9600	91/03/04	1230 140	1,388
1085223	PRINTER, ADP HEWLETT-PACKARD CO	3112A23171 33449A	91/04/23	1230 140	1,418
1085703	COMPUTER, MICRO GATEWAY 2000	199543 386/25C	91/06/04	1230 140	2,299
1085704	DISPLAY UNIT GATEWAY 2000	T9731322 PMV1448	91/06/04	1230 140	640
1085910	SCANNER, COMPUTER FUJITSU LTD	1499 M3093E	91/06/13	1230 123	4,380
1087773	COMPUTER, MICRO GATEWAY 2000	262610 386-25	91/08/26	1230 140	1,545
1087774	DISPLAY UNIT GATEWAY 2000	T9758731 PMV1448	91/08/26	1230 140	400
10088645	COMPUTER, MICRO GATEWAY 2000	281934 386/25	91/09/24	1230 140	1,395
1088646	COMPUTER, MICRO GATEWAY 2000	281932 386/25	91/09/24	1230 140	1.395
1090495	TRANSPORT, MAGNETIC TAPE VALITEK INC	221933 PST250F	92/03/05	1230 140	2,095
1159688	DISPLAY UNIT COMPAQ COMPUTER CORP	249145440696 420K	93/01/22	1230 123	380
1159728	PRINTER, ADP HEWLETT-PACKARD CO	USBC036369 C2001A	93/02/02	1230 140	1,582
1159749	DISPLAY UNIT NEC INFORMATION SYSTEMS INC	2ZD00254D JC1741UMA	93/02/09	1230 140	1,249
1160114	SCANNER, COMPUTER HEWLETT-PACKARD CO	3265A14647 C1750A	93/02/26	1230 140	1,385
1254987	COMPUTER, MICRO GATEWAY 2000	1325336 DESKTOP	93/04/27	1230 124	2,095
1254988	DISPLAY UNIT GATEWAY 2000	MMHL162896 CS1572FS	93/04/27	1230 124	400

ECN	DESCRIPTION MANUFACTURER	SERIAL NO. MODEL NO.	ACQ. DATE	BLDG. ROOM	COST
1260696	DISPLAY UNIT NEC AMERICA INC BROADCASTING	3X21039DA JC1741UMA3	94/03/01	1230 140	1,228
1261275	JUKEBOX, OPTICAL DISK PIONEER ELECTRONIC CORP	OA8503056 DRM1804X	94/03/28	1230 140	2.195
1262533	SCANNER, OPTICAL MICROSEAL CORP	1295 VS1000	94/007/06	1230 124	3,995
1262730	PRINTER, ADP HEWLETT-PACKARD CO	JPFL005708 C2039A	94/08/11	1230 140	2,253
0848127	COMPUTER, MICRO BLUE CIRCLE GROUP, INC	3551 386	89/10/11	648 317B	2.831
1085541	TERMINAL, DATA PROCESSING HUMAN DESIGN SYSTEMS INC	WA0510031 HDS2000	91/05/10	648 317B	754
1262153	COMPUTER, MINI SILICON GRAPHICS INC	08006907ADBB CMNB006	94/05/25	648 317B	5,895
1262159	DISPLAY UNIT SONY CORP	7000931 GDM17E11	94/05/25	317B	400
0061825	COMPUTER, MICRO APPLE COMPUTER INC	F912AXU M5650	89/05/01	1293B 106A	6,933
0061826	DISPLAY UNIT APPLE COMPUTER INC	5191556 M0401	89/05/01	1293B 106A	714
1258103	COMPUTER, MICRO ZENON COMPUTER SYSTEMS	93-4346-03 486DX	93/11/03	1268A 1156	2,685
1258144	DISPLAY UNIT HITACHI MFG CO	Y3G001044 2997	93/11/04	1268A 1156	1,749

EXHIBIT C

LIST OF GOVERNMENT-FURNISHED PROPERTY

EXHIBIT C - LIST OF GOVERNMENT FURNISHED PROPERTY

SPECIAL TEST EQUIPMENT

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
A G DAVIS	HPRC-2000	POWER SUPPLY	2,500.00	9/1/93
A G DAVIS	PRC-2000	CENTRIFUGE	114,230.00	9/1/93
ADI	SM-5514B	DISPLAY	450.00	1/1/92
ADS	486/50	COMPUTER W/KEYBOARD	3,180.00	3/1/94
ADS	NS1183	COMPUTER	1,876.00	3/1/94
ADVANCED LOGIC	100	COMPUTER W/KEYBOARD	8,338.00	11/1/88
AEROTECH	U11R-2-A	POSITION-CONTROLLER	3,095.00	5/1/91
AHE	2525	MAG TAPE, CASSETTE	525.00	10/1/93
AHE	4350XT	MAG TAPE, CASSETTE	2,147.00	10/1/93
ALCATEL	325	VACUUM PUMP	1,500.00	1/1/92
ALCATEL	2004A	VACUUM PUMP	1,500.00	1/1/92
ALCATEL	CFF450	PUMP CONTROLLER	1,500.00	1/1/92
ALLIED TELESYN INTERNATIONAL	AT-MR820TR	NETWORK INTERFACE	135.00	9/3/96
ALUMA TOWER	TM51-207T1100	TRAILER, TOWER	8,270.00	11/9/89
ALUMA TOWER	TM51-20T1100	TRAILER, TOWER	8,270.00	11/9/89
ALUMA TOWER	TM51-20T1100	TRAILER, TOWER	8,270.00	11/9/89
AMERICAN POWER CONVERSION	BP420C	POWER SUPPLY	224.00	9/12/96
ANDATACO	X81CH31-A3282X	TAPE DRIVE	1,143.00	4/1/96
APC	800RT	POWER SUPPLY	602.10	
APM	HD205C	DISK-WINCHESTER	1,075.00	12/1/86
APM	M3021	DISK-OPTICAL	549.00	3/1/92
APM	MAC2CI	COMPUTER, PERSONAL	3,820.00	4/1/92
APM	MAC2FX	COMPUTER, PERSONAL	6,546.00	10/1/88
APM	MC2RGB	CRT DISPLAY	500.00	4/1/92
APM	MC2RGB	CRT DISPLAY	679.00	8/1/89
APM	MC2RGB	CRT DISPLAY	648.00	3/1/94
APPLE	M5000	COMPUTER WIKEYBOARD	3,853.00	10/1/87
APPLIED TECH	SWS-211/3CKNY	ANEMOMETER/THERMOMETER	11,147.00	11/1/92
ARGO	AS210-01A	CONTROLLER	5,147.00	11/1/90
ARGO	AS210-02	FREQUENCY COMPARATOR	3,125.00	11/1/90

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
ARGO	AS210-03	FREQUENCY GENERATOR	5,845.00	11/1/90
ARGO	AS210-04	DIGITAL DELAY GENERATOR	5,390.00	11/1/90
ARGO	AS210-05	STANDBY BATTERY	1,678.00	11/1/90
ARGO	AS210-RM	POWER MODULE	14,295.00	11/1/90
ARGO SYSTEMS	AS210-01A	MODULE CONTROLLER	5,090.00	2/6/86
ARGO SYSTEMS	AS210-02	FREQUENCY COMPARATOR	2,640.00	2/6/86
ARGO SYSTEMS	AS210-03	FREQUENCY GENERATOR	5,295.00	2/6/86
ARGO SYSTEMS	AS210-04	DIGITAL DELAY GENERATOR	4,775.00	2/6/86
ARGO SYSTEMS	AS210-RM	MAINFRAME	13,525.00	5/1/85
ARH	AST286	COMPUTER, PERSONAL	2,970.00	4/1/88
ARTECON	DSU2-301J3-32H	MASS STORAGE DISK DRIVE	14,153.00	4/1/96
ATHENA	91Z-126	POWER PACKAGE	235.00	
AUTOCLAVE ENG	DLA5	COMPRESSOR, AIR/GAS	15,000.00	5/1/93
B & K	2426	AUTORANGING ELECTRONIC VOLTMETER	1,600.00	9/1/77
B & K	2426	VOLTMETER	1,600.00	5/1/79
B & K	2639	PREAMP	593.00	
B & K	2639	PRE AMP	593.00	
B & K	2639	PREAMP	593.00	
B & K	2639	PREAMP	593.00	
B & K	2639	PREAMP	593.00	
B & K	2639	PRE AMP	593.00	
B & K	2639	PREAMP	593.00	
B & K	2639	PRE AMP	593.00	
B & K	2639	PRE AMP	593.00	
B & K	2639	PRE AMP	593.00	
B & K	2639	PRE AMP	593.00	
B & K	2639	PREAMPLIFIER	600.00	
B & K	2639	PREAMPLIFIER	600.00	
B & K	2639	PREAMPLIFIER	600.00	
B & K	2639	PREAMPLIFIER	600.00	
B & K	2804	POWER SUPPLY	1,309.00	7/2/92
B & K	2804	POWER SUPPLY	1,309.00	7/2/92
B & K	2804	POWER SUPPLY	1,309.00	7/2/92
B & K	2804	POWER SUPPLY	1,309.00	7/2/92
B & K	2804	POWER SUPPLY	1,309.00	7/17/92
B & K	2804	POWER SUPPLY	1,309.00	7/17/92
B & K	4133	MICROPHONE	900.00	
B & K	4133	MICROPHONE	900.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
B & K	4133	MICROPHONE	900.00	
B & K	4133	MICROPHONE	900.00	
B & K	4133	MICROPHONE	900.00	
B & K	4133	MICROPHONE	900.00	
B & K	4133	MICROPHONE	900.00	
B & K	4133	MICROPHONE	900.00	
B & K	4133	MICROPHONE	900.00	
B & K	4134	MICROPHONE	908.00	
B & K	4134	MICROPHONE	908.00	
B & K	4134	MICROPHONE	908.00	
B & K	4134	MICROPHONE	908.00	
B & K	4134	MICROPHONE	908.00	
B & K	4134	MICROPHONE	908.00	
B & K	4134	MICROPHONE	908.00	
B & K	4134	MICROPHONE	908.00	
B & K	4134	MICROPHONE	908.00	
B & K	4134	MICROPHONE	908.00	
B & K	4134	MICROPHONE	908.00	
B & K	4134	MICROPHONE	908.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4134	MICROPHONE	900.00	
B & K	4136	MICROPHONE	900.00	
B & K	4136	MICROPHONE	900.00	
B & K	4145	MICROPHONE	900.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
B & K	4145	MICROPHONE	900.00	
B & K	4145	MICROPHONE	900.00	
B & K	4145	MICROPHONE	900.00	
B & K	4228	SOUND LEVEL CALIBRATOR	5,174.00	10/1/91
B & K	4228	SOUND LEVEL CALIBRATOR	5,174.00	10/1/91
B & K	4228	PISTON PHONE	2,046.00	5/1192
B & K	4228	PISTON PHONE	2,046.00	5/1/92
B & K	4228	PISTON PHONE	2,046.00	5/1/92
B & K	4228	PISTON PHONE	2,046.00	5/1/92
B & K	4228	PISTON PHONE	2,046.00	5/1/92
B & K	4228	PISTON PHONE	2,046.00	5/1/92
B & K	4231	SOUND LEVEL CALIBRATOR	558.00	
B & K	4231	SOUND LEVEL CALIBRATOR	558.00	
B & K	4231	SOUND LEVEL CALIBRATOR	558.00	
B & K	5908	METER,EXPANDED	16,074.00	7/1/90
B & K	9545	TRANSDUCER ASSEMBLY	3,753.00	
B & K	WB-0981	JUNCTION BOX	714.00	
B & K INSTRUMENTS INC	2425	ELECTRONIC VOLTMETER	724.80	
B & K INSTRUMENTS INC	2426	VOLTMETER AC	1,600.00	9/1/77
B & K INSTRUMENTS INC	2426	VOLTMETER AC	1,600.00	9/1/77
B & K INSTRUMENTS INC	2426	VOLTMETER AC	1.600.00	9/1/77
B & K INSTRUMENTS INC	2426	AUTORANGING ELECTRONIC VOLTMETER	1,600.00	9/1/77
B & K INSTRUMENTS INC	2426	VOLTMETER AC	1,600.00	9/1/77
B & K INSTRUMENTS INC	2426	VOLTMETER AC	1,600.00	9/1/77
B & K INSTRUMENTS INC	2426	VOLTMETER AC	1,600.00	9/1/77
B & K INSTRUMENTS INC	2426	AUTORANGING ELECTRONIC VOLTMETER	1,600.00	9/1/77
B & K INSTRUMENTS INC	2426	AUTORANGING ELECTRONIC VOLTMETER	1,600.00	9/1/77
B & K INSTRUMENTS INC	2426	AUTORANGING ELECTRONIC VOLTMETER	1,600.00	9/1/77
B & K INSTRUMENTS INC	2426	VOLTMETER AC	1,600.00	9/1/77
B & K	2426	VOLTMETER AC	1,600.00	9/1/77

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
INSTRUMENTS INC				
B & K INSTRUMENTS INC	2426	AUTORANGING ELECTRONIC VOLTMETER	1,600.00	10/1/77
B & K INSTRUMENTS INC	2426	VOLTMETER AC	1,600.00	9/1/77
B & K INSTRUMENTS INC	2426	AUTORANGING ELECTRONIC VOLTMETER	1,640.64	8/1/78
B & K INSTRUMENTS INC	2426	RMS VOLTMETER	1,640.64	8/1/78
B & K INSTRUMENTS INC	2426	RMS VOLTMETER	1,640.64	8/1/78
B & K INSTRUMENTS INC	2426	RMS VOLTMETER	1,640.64	8/1/78
B & K INSTRUMENTS INC	2426	VOLTMETER	1,657.00	9/1/82
B & K INSTRUMENTS INC	2606	AMPLIFIER	1,168.14	2/1/75
B & K INSTRUMENTS INC	2607	MEASURING AMP.	3,628.60	3/1/76
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	250.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	250.00	
B 8 K INSTRUMENTS INC	2619	PREAMPLIFIER	250.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K	2619	PREAMPLIFIER	442.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
INSTRUMENTS INC				
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2613	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B 8 K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIERS	442.00	
B & K INSTRUMENTS INC	2619	PREAMPLIFIER	442.00	
B & K INSTRUMENTS INC	2636	MEAS.AMPLIFIER	11,149.20	6/1/85
B & K INSTRUMENTS INC	2639	PREAMPLIFIERS	887.00	
B & K INSTRUMENTS INC	2639	PREAMPLIFIERS	887.00	
B & K INSTRUMENTS INC	2639	PREAMPLIFIERS	887.00	
B & K INSTRUMENTS INC	2639	PREAMPLIFIERS	887.00	
B & K INSTRUMENTS INC	2639	PREAMPLIFIERS	887.00	
B & K INSTRUMENTS INC	2639	PREAMPLIFIERS	887.00	
B 8 K INSTRUMENTS INC	2639	PREAMPLIFIERS	887.00	
B & K INSTRUMENTS INC	2639	PREAMPLIFIERS	887.00	
B & K	2639	PREAMPLIFIERS	887.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
INSTRUMENTS INC				
B & K	2639	PREAMPLIFIERS	887.00	
INSTRUMENTS INC				
B & K	2706	SHAKER AMP.	891.10	
INSTRUMENTS INC				
B & K	2801	POWER SUPPLY	321.75	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	733.53	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	962.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	962.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	962.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	962.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	962.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	160.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	160.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	160.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	160.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	160.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	160.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	160.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	160.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	160.00	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	988.95	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	988.95	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	988.95	
INSTRUMENTS INC				
B & K	2804	POWER SUPPLY	988.95	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
INSTRUMENTS INC				
B & K INSTRUMENTS INC	2804	POWER SUPPLY	988.95	
B & K INSTRUMENTS INC	2804	PWR. SUPPLY, MIC	988.95	
B & K INSTRUMENTS INC	2804	PWR. SUPPLY, MIC	988.95	
B & K INSTRUMENTS INC	2804	PWR. SUPPLY, MIC	988.95	
B & K INSTRUMENTS INC	2804	PWR. SUPPLY, MIC	988.95	
B & K INSTRUMENTS INC	2804	PWR. SUPPLY, MIC	988.95	
B & K INSTRUMENTS INC	4132	MICROPHONE	250.00	
B & K INSTRUMENTS INC	4132	MICROPHONE	250.00	
B & K INSTRUMENTS INC	4133	MICROPHONE	195.00	
B & K INSTRUMENTS INC	4134	MICROPHONE	210.00	
B & K INSTRUMENTS INC	4134	MICROPHONE	210.00	
B & K INSTRUMENTS INC	4134	MICROPHONE	210.00	
B & K INSTRUMENTS INC	4134	MICROPHONE	210.00	
B & K INSTRUMENTS INC	4134	MICROPHONE	210.00	
B & K INSTRUMENTS INC	4134	MICROPHONE	210.00	
B & K INSTRUMENTS INC	4134	MICROPHONE	210.00	
B & K INSTRUMENTS INC	4134	MICROPHONE	210.00	
B & K INSTRUMENTS INC	4134	MICROPHONE	210.00	
B & K INSTRUMENTS INC	4134	MICROPHONE	210.00	
B & K INSTRUMENTS INC	4134	MICROPHONE	210.00	
B & K INSTRUMENTS INC	4134	MICROPHONE	210.00	
B & K	4134	MICROPHONE	210.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
B & K INSTRUMENTS INC	4134	MICROPHONE	250.00	
B & K INSTRUMENTS INC	4134	MICROPHONE	590.00	
B & K INSTRUMENTS INC	4135	MICROPHONE	200.00	
B & K INSTRUMENTS INC	4136	MICROPHONE	717.25	
B & K INSTRUMENTS INC	4142	CALIBRATOR	1,032.00	9/1/74
B & K INSTRUMENTS INC	4144	MICROPHONE	250.00	
B & K INSTRUMENTS INC	4145	MICROPHONE	883.00	
B & K INSTRUMENTS INC	4160	MICROPHONE	1,362.00	5/28/85
B & K INSTRUMENTS INC	4165	MICROPHONE	554.00	
B & K INSTRUMENTS INC	4220	PISTONPHONE	245.86	
B & K INSTRUMENTS INC	4220	PISTON PHONE	250.00	
B & K INSTRUMENTS INC	4220	PISTONPHONE	850.00	
B & K INSTRUMENTS INC	4220	PISTONPHONE	1,029.00	4/1/88
B & K INSTRUMENTS INC	1027A	GENERATOR	7,403.04	1/1/79
B & K INSTRUMENTS INC	2307A	LEVEL RECORDER	6,065.53	8/1/78
B & K INSTRUMENTS INC	2619/S	PREAMPLIFIER	250.00	
B & K INSTRUMENTS INC	2619/S	PREAMPLIFIER	250.00	
B & K INSTRUMENTS INC	2619/S	PREAMPLIFIER	250.00	
B & K INSTRUMENTS INC	2619S	MICRO. PREAMP	458.00	
B & K INSTRUMENTS INC	2639S	MICROPHONEAMP	737.00	
B & K INSTRUMENTS INC	2645S	MICROPHONEAMP	996.00	
B & K	4133/S	MICROPHONE	447.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
INSTRUMENTS INC				
B & K INSTRUMENTS INC	41331s	MICROPHONE	447.00	
B & K INSTRUMENTS INC	4133/S	MICROPHONE	447.00	
B & K INSTRUMENTS INC	4133/S	MICROPHONE	447.00	
B & K INSTRUMENTS INC	4133/S	MICROPHONE	447.00	
B & K INSTRUMENTS INC	4133/S	MICROPHONE	447.00	
B & K INSTRUMENTS INC	4133/S	MICROPHONE	447.00	
B & K INSTRUMENTS INC	4133/S	MICROPHONE	447.00	
B & K INSTRUMENTS INC	41331s	MICROPHONE	447.00	
B & K INSTRUMENTS INC	41341s	MICROPHONE	447.00	
B & K INSTRUMENTS INC	4134/S	MICROPHONE	447.00	
B & K INSTRUMENTS INC	4134/S	MICROPHONE	447.00	
B & K INSTRUMENTS INC	4134/S	MICROPHONE	447.00	
B & K INSTRUMENTS INC	4134/S	MICROPHONE	447.00	
B & K INSTRUMENTS INC	41341s	MICROPHONE	447.00	
B & K INSTRUMENTS INC	4134/S	MICROPHONE	447.00	
B & K INSTRUMENTS INC	4134/S	MICROPHONE	447.00	
B & K INSTRUMENTS INC	4134S	MICROPHONE	300.00	
B & K INSTRUMENTS INC	4134S	MICROPHONE	300.00	
B & K INSTRUMENTS INC	4134S	MICROPHONE	300.00	
B & K INSTRUMENTS INC	4134S	MICROPHONE	300.00	
B & K	4134S	MICROPHONE	300.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
INSTRUMENTS INC				
B & K INSTRUMENTS INC	4134S	MICROPHONE	300.00	
B & K INSTRUMENTS INC	4134S	MICROPHONE	300.00	
B & K INSTRUMENTS INC	4134S	MICROPHONE	300.00	
B & K INSTRUMENTS INC	4134S	MICROPHONE	300.00	
B & K INSTRUMENTS INC	4134S	MICROPHONE	300.00	
B & K INSTRUMENTS INC	SQ630	POWER SUPPLY	1,003.00	8/1/82
B&K	4231A	SOUND LEVEL CALIBRATOR	492.00	
B&K	WB.0850	VOLTAGE JUNCTION UNIT	1,490.00	7/1/94
BARTH INDUSTRIES	1990BARTH2 8S44	VAN, MOBILE	99,767.00	5/14/90
BARTH INDUSTRIES	1990BARTH2 8S44	VAN, MOBILE	99,767.00	5/14/90
BAUSCH-LOMB	BVD-73	MICROSCOPE	419.00	
BECKMAN	905	WWV RECEIVER	555.00	
BEHLMAN	3-10A	POWER SUPPLY	1,690.00	1/1176
BELL & HOWELL	117226	GALVO DRIVEAMP	875.00	
BELL & HOWELL	1-172	GALVO AMP	875.00	
BEST POWER	FE850VA	POWER SUPPLY	1,036.00	3/1/94
BEST POWER	MD1KVA	POWER SUPPLY	1,487.00	3/12/90
BEST POWER	MDIKVA	POWER SUPPLY	1,487.00	3/1/90
BEST POWER TECHNOLOGY	FE3.1KVA	UPS POWER SUPPLY	2,012.00	4/2/96
BLACK & WEBSTER	P10-10-2	POWER SUPPLY, P.S.	1,485.00	5/31/88
BLACK & WEBSTER	WHD-47	WELDER, ELECTRONIC	638.00	
BLACK BOX	LE673A	BNC CONCENTRATOR	465.00	2/1/94
BLACK BOX	LE673A	BNC CONCENTRATOR	465.00	2/1/94
BLACK BOX CORP	LE8004A	THINNET REPEATER	1,238.00	4/2/96
BRUEL & KJAER	2426	VOLTMETER	1,600.00	7/1179
BRUEL & KJAER	2426	VOLTMETER	1,600.00	5/1/79
BRUEL & KJAER	2426	VOLTMETER	1,600.00	5/1/79
BRUEL & KJAER	2426	VOLTMETER	1,600.00	5/1/79
BRUEL & KJAER	2426	VOLTMETER	1,600.00	5/1/79
BRUEL & KJAER	2426	VOLTMETER	1,600.00	5/1/79

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
BRUEL & KJAER	2426	VOLTMETER	1,600.00	7/1I79
BRUEL & KJAER	2426	VOLTMETER	1,600.00	5/1/79
BRUEL & KJAER	2426	VOLTMETER	1,600.00	7/1I79
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2619	PRE-AMP	600.00	
BRUEL & KJAER	2807	POWER SUPPLY	1,328.00	
BRUEL & KJAER	2807	POWER SUPPLY	1,328.00	
C M FURNACE	1725HT	FURNACE	5,295.00	10/1/91
C M FURNACE	1725HT	CONTROLLER	4,995.00	10/1/91
CAL	1025	PLOTTER	5,673.00	3/1/92
CALI. INST.	751T	POWER SOURCEAC	2,056.40	10/1/73
CALZONE CASE	NONE	RUGGEDIZED CRT	2,494.00	6120186
CALZONE CASE	NONE	RUGGEDIZED CRT	2,494.00	6/20/86
CDC	BK7A1V	DISK-REMOVABLE	42,000.00	2/1/81
CDC	PA3A1A	DISK-REMOVABLE	7,159.00	10/1/87
CDC	PA3A1A	DISK-REMOVABLE	7,159.00	10/1/87
CDC	PA3A1A	DISK-REMOVABLE	7,159.00	10/1/87
CDC	PA5A1A	DISK-WINCHESTER	6,480.00	4/1/87
CEI	M990	MAG TAPE 9 TRACK	19,505.00	1/1/87
CEI	M990	MAG TAPE 9 TRACK	23,500.00	12/1/85
CEL INSTRUMENTS	213	NOISE GENERATOR	611.13	
CEL INSTRUMENTS	213	NOISE GENERATOR	611.13	
CEL INSTRUMENTS	213	NOISE GENERATOR	611.13	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
CEL INSTRUMENTS	213	NOISE GENERATOR	611.13	
CEL INSTRUMENTS	213	NOISE GENERATOR	611.13	
CEL INSTRUMENTS	213	NOISE GENERATOR	611.13	
CLAROSTAT	240C	DECADERESISTOR	350.00	
CLIMATRONICS	101484	WEATHER RECORDING SYSTEM	13,675.00	11/21/89
CLON	386	COMPUTER, PERSONAL	800.00	1/1/92
CLON	486	COMPUTER, PERSONAL	2,327.00	7/1/94
COLLINS	390A/UR	RECEIVER	100.00	
COMPUADD	51118	DISPLAY	500.00	9/1/93
COMPUADD	A002	COMPUTER WIKEYBOARD	4,000.00	9/1/93
CONSOLIDATED CONTROL CORP	124A	OSCILLOGRAPH	2,390.00	10/1/85
CONSOLIDATED CONTROL CORP	5-124	OSCILLOGRAPH	5,967.30	8/1/82
CTX INTNL	CVP5468A	DISPLAY	625.00	10/1/91
CWV	H212/D	DISK-FIXED	6,068.00	9/1/93
CYBERNETIC	D210E-51	EMULATOR	1,900.00	
CZD	286	COMPUTER, PERSONAL	1,583.00	3/1/89
CZD	386	COMPUTER, PERSONAL	2,400.00	8/1/90
CZD	51070	CRT DISPLAY	328.00	1/1/93
CZD	51070	CRT DISPLAY	328.00	1/1/93
CZD	ST286	COMPUTER, PERSONAL	1,128.00	9/1/88
CZD	ST286	COMPUTER, PERSONAL	1,128.00	9/1/88
CZD	ST286	COMPUTER, PERSONAL	1,663.00	10/1/88
CZD	ST286	COMPUTER, PERSONAL	1,128.00	9/1/88
D & H INST	PG-102	GENERATOR, PRESSURE	3,365.00	
D & H INSTRUMENT	5306	DEAD WEIGHT TESTER	29,046.00	4/1/87
DATA PROOF	160A	SCANNER	3,650.00	11/13/86
DATAMETRICS	700	POWER SUPPLY	2,220.00	10/1/90
DATUM	9390-2000M	TIME CODE GENERATOR	3,789.00	8/1/96
DATUM	9390-2000M	TIME CODE GENERATOR	3,789.00	8/1/96
DATUM	9390-2000M	TIME CODE GENERATOR	3,789.00	8/1/96
DATUM	9390-2000M	TIME CODE GENERATOR	3,789.00	8/1/96
DATUM	9390-2000M	TIME CODE GENERATOR	3,789.00	8/1/96
DCA	120	MULTIPLEXOR	2,804.00	10/1/84
DEC	PE40A-CC	COMPUTER WIKEYBOARD	14,678.00	4/29/93
DEC	PE40A-CC	COMPUTER W/KEYBOARD	9,472.00	8/10193
DEC	VRTI9-HA	DISPLAY	5,000.00	4/29/93
DEC	VRTI9-HA	DISPLAY	5,000.00	8/10/93
DELL	286	COMPUTER, PERSONAL	1,200.00	10/1/87

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
DELL	286	COMPUTER, PERSONAL	1,200.00	10/1/87
DELL	286	COMPUTER, PERSONAL	1,200.00	10/1/87
DELL	316LT	COMPUTER, PERSONAL	1,973.00	8/1/91
DELL	316LT	COMPUTER, PERSONAL	1,973.00	8/1/91
DELL	316LT	COMPUTER, PERSONAL	1,973.00	8/1/91
DELL	PC100	COMPUTER, PERSONAL	830.00	911/87
DELL	vc-3	CRT DISPLAY	1,700.00	9/1/89
DELTA DESIGN	9023	TEMPERATURE TEST CHAMBER	4,170.00	6/1/94
DELTA DESIGN	9059	TEST CHAMBER	4,890.00	7/1/87
DELTA DESIGN	902319010	TEST CHAMBER, TEMP	4,035.00	7/1/87
DEQ	3100	GRAPHICS/HIGH END WORKSTATIONS	12,407.00	9/1/91
DEQ	RA60	DISK-REMOVABLE	18,700.00	11/1/83
DEQ	RA60	DISK-REMOVABLE	12,750.00	11/1/83
DEQ	RA81	DISK-MNCHESTER	13,140.00	6/1/86
DEQ	VR299	CRT DISPLAY	400.00	9/1/91
DNX	150	PRINTER, CHARACTER	357.00	10/1/91
DODGE	KARYVAN	TRUCK	8,040.00	1/2/79
DODGE	KARYVAN	TRUCK	8,040.00	1/2/79
DODGE	KARYVAN	TRUCK	8,040.00	1/2/79
DOLCH COMPUTER SYSTEMS	PAC 586	COMPUTER	9,160.00	11/1/96
DOLCH COMPUTER SYSTEMS	PAC 586	COMPUTER	9,160.00	11/1/96
DOLCH COMPUTER SYSTEMS	PAC 586	COMPUTER	9,160.00	11/1/96
DOMINION	AT	COMPUTER WIKEYBOARD	948.00	7/1/90
DPR	CT1210	PRINTER, LINE	17,323.00	6/1/82
DYNA TECH	116SRL	WELDER T/C	795.00	
E.F. JOHNSON CO.	9600	MODEM	100.00	9/30/96
E.F. JOHNSON CO.	9600	MODEM	100.00	9/30/96
E.F. JOHNSON CO.	9600	MODEM	100.00	10/2/96
E.F. JOHNSON CO.	9600	MODEM	100.00	10/2/96
E.F. JOHNSON CO.	9600	MODEM	100.00	10/2/96
E.F. JOHNSON CO.	DL3420	TELEMETRY MODULE	1,270.00	9/1/96
E.F. JOHNSON CO.	DL3420	TELEMETRY MODULE	1,270.00	9/1/96
E.F. JOHNSON CO.	DL3420	TELEMETRY MODULE	1,270.00	9/1/96
E.F. JOHNSON CO.	DL3420	TELEMETRY MODULE	1,270.00	9/1/96
E.F. JOHNSON CO.	DL3420	TELEMETRY MODULE	1,270.00	9/1/96
E.F. JOHNSON CO.	PA3-1AC-SSR	AMPLIFIER	795.00	12/24/96

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
E.F. JOHNSON CO.	PA3-1AC-SSR	AMPLIFIER	795.00	12/24/96
E.F. JOHNSON CO.	PA3-1AC-SSR	AMPLIFIER	795.00	12/24/96
E.F. JOHNSON CO.	PA3-1AC-SSR	AMPLIFIER	795.00	12/24/96
E.F. JOHNSON CO.	PA3-1AC-SSR	AMPLIFIER	795.00	12/24/96
EATON	1011A	RATIO STANDARD	5,891.00	9/1/90
ECTRON	1120	THERMOCOUPLE CALIBRATOR	4,560.00	5/1/88
ECTRON	1120	T/C SIMULATOR/CALIBRATOR	4,958.00	9/1/90
EG & G FLOW TECH	FTBP-20-T-1-C	FLOW CALIBRATOR	55,830.00	4/1/95
ELECTRIC NAVIGATION	550L	RF POWER AMPLIFIER	6,050.00	6/1/85
ELECTRONIC DEVELOPMENT CORP	501J	VOLTAGE STANDARD	3,720.00	10/1/86
ELGENCO INC.	61OA	GENERATOR	1,969.08	1/1/79
ENDNCO	2718A	AMPLIFIER	800.00	
ENDEVCO	2718A	AMPLIFIER	800.00	
ENGLEHARD	TYPE B	THERMOCOUPLE WIRE	200.00	6/10/96
ENGLEHARD	TYPE R	THERMOCOUPLE WIRE	200.00	6/10/96
EPA	FX1050	PRINTER, CHARACTER	659.00	5/1/89
EPA	FX85	PRINTER, CHARACTER	349.00	8/1/88
EPA	FX86E	PRINTER, CHARACTER	309.00	6/1/87
EPA	LQ950	PRINTER, CHARACTER	512.00	2/1/90
EPA	U800	PRINTER, CHARACTER	300.00	9/1/88
EPA	LX800	PRINTER, CHARACTER	300.00	
EPSON	EX800	PRINTER	425.00	10/1/87
EPSON	P70RA	DIGITAL PRINTER	300.00	9/1/88
EPSON	P70RA	DIGITAL PRINTER	300.00	9/1/88
EPSON	P70RA	PRINTER	200.00	7/1/91
EPSON	P88MA	PRINTER	569.00	12/1/94
ESI	RV722	VOLT DIVIDER	900.00	
ESI	SR104	STD. RESISTOR	3,235.00	4/1/84
EVX	MD2400	MODEM	187.00	1/1/90
N X	MD2400	MODEM	198.00	8/1/86
F & P	10C1516	FLOWMETER	2,400.00	4/1/86
F & P	10C1516DCA CJBFXX	FLOWMETER, TURBINE	1,600.00	
FISHER & PORTER	10C1516D	FLOWMETER	1,559.90	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
FISHER SCIENTIFIC	109611	VAC PUMP	148.00	
FLUKE	23	MULTIMETER	140.00	
FLUKE	77	MULTIMETER	135.00	
FLUKE	77	MULTIMETER	135.00	
FLUKE	77	MULTIMETER	135.00	
FLUKE	77	MULTIMETER	135.00	
FLUKE	79	MULTIMETER	160.00	3/1/94
FLUKE	97	SCOPEMETER	1,561.65	5/1/92
FLUKE	97	SCOPEMETER	1,561.65	5/1/92
FLUKE	97	SCOPEMETER	1,562.00	12/1/92
FLUKE	93 ▮	TRUE RMS VOLT	1,256.15	1/1/76
FLUKE	1952B	FREQ COUNTER	769.16	
FLUKE	332-A	VOLT.STANDARD	2,307.77	4/1/79
FLUKE	45/05	DIGITAL MULTIMETER	628.00	
FLUKE	5101A	CALIBRATOR	10,758.81	4/1/79
FLUKE	5101B	VOLTAGE CALIB	11,746.00	4/1/84
FLUKE	52 K/J	DIGITAL THERMOMETER	169.00	
FLUKE	5205A	POWER AMPLIF	3,390.15	9/1/76
FLUKE	5450A	RESISTANCE CAL	3,755.30	5/1/85
FLUKE	5450A	RESISTANCE CALIBRATOR	4,465.00	10/1/90
FLUKE	5700A	CALIBRATOR	24,623.00	10/1/90
FLUKE	5725A	AMPLIFIER	7,849.00	1011/90
FLUKE	6061A	RF SIGNAL GENERATOR	5,541.00	9/1/90
FLUKE	732A	DCREFERENCESTANDARD	2,845.00	9/1/92
FLUKE	732A	STANDARD, E	3,055.00	7/16/87
FLUKE	732B	DC REFERENCE STANDARD	3,619.00	10/1/94
FLUKE	752A	VOLT. DIVIDER	3,795.25	5/1/83
FLUKE	8000A	DIG MULTIMETER	290.03	
FLUKE	8000A	DIG MULTIMETER	290.03	
FLUKE	8000A	DIG MULTIMETER	290.03	
FLUKE	8000A	DIG MULTIMETER	290.03	
FLUKE	80E	VOLT DIVIDER	225.00	
FLUKE	8506A	MULTIMETER RMS	5,920.42	10/1/84
FLUKE	8800A	MULTIMETER	1,066.03	4/24/75
FLUKE	8800A	DIG MULTIMETER	955.45	
FLUKE	8840A	DIG MULTIMETER	930.00	
FLUKE	8842A	DIGITAL MULTIMETER	1,070.57	5/1/87
FLUKE	8842A	DIGITAL MULTIMETER	1,395.00	1/1/90
FLUKE	8842A	VOLTMETER	909.15	
FLUKE	8842A/05	DIGITAL MULTIMETER	1,145.00	5/24/88

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
FLUKE	8842A/05	DIGITAL MULTIMETER	1,096.00	1/1/93
FLUKE	931B	VOLTMETER	965.15	
FLUKE	931B	TRUE RMS VOLT	1,256.15	1/1/76
FLUKE	Y5000	CAL. INTERFACE	555.00	
FORD MOTOR CO.	F250	82 PICKUP TRUCK	9,644.00	6/7/96
FTS	4060	FREQUENCY STANDARD	31,948.00	3/1/88
FUJ	FKB293	KEYBOARD	99.00	2/1/86
FUJ	FKB293	KEYBOARD	99.00	2/1/86
FUJ	FKB293	KEYBOARD	99.00	2/1/86
FUJ	M2361A	DISK-WINCHESTER	8,375.00	8/1/88
GANDALF	3429A5	DISK DRIVE	4,000.00	10/1/87
GDD	2000	MULTIPLEXOR	14,020.00	10/1/87
GENERAL EASTERN	1311XR	SENSOR, HYGROMETER	8,495.00	5/1/91
GENERAL EASTERN	1311XR	POWER SUPPLY	1,034.00	5/1/91
GENERAL EASTERN	M3	HYGROMETER	5,994.00	5/1/91
GENRAD	1382	GENERATOR	608.85	
GENRAD	1925	MULTIFILTER	3,849.60	4/1/79
GENRAD	1986	CALIBRATOR, SOUND LEVEL	945.25	
GENRAD	1304B	BEAT FREQ OSC	960.00	
GENRAD	13048	OSCILLATOR	960.00	
GENRAD	1304B	OSCILLATOR	960.00	
GENRAD	1304B	BEAT-FREQUENCY AUDIO	960.00	
GENRAD	1403-G	STD CAPACITOR	85.00	
GENRAD	1403-K	STD CAPACITOR	85.00	
GENRAD	1403-N	STD CAPACITOR	115.00	
GENRAD	1404-A	STD. CAPACITOR	500.00	
GENRAD	1409F	STD CAPACITOR	55.00	
GENRAD	1409-F	STD. CAPACITOR	85.00	
GENRAD	1409-G	STD. CAPACITOR	85.00	
GENRAD	1409-K	STD. CAPACITOR	85.00	
GENRAD	1409-L	STD. CAPACITOR	85.00	
GENRAD	1409-M	STD. CAPACITOR	85.00	
GENRAD	1409T	STD CAP	70.00	
GENRAD	1409-T	STD. CAPACITOR	85.00	
GENRAD	1409-U	STD. CAPACITOR	500.00	
GENRAD	1409-X	STD. CAPACITOR	500.00	
GENRAD	1409Y	STD CAP	200.00	
GENRAD	1409-Y	STD. CAPACITOR	500.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
GENRAD	1450TB	DECADE AITENUATOR	375.00	
GENRAD	145OTBR	DECADE AITENUATOR	395.00	
GENRAD	1482A	STD INDUCTOR	150.00	
GENRAD	1482-C	STD. INDUCTOR	110.00	
GENRAD	1482E	STD INDUCTOR	150.00	
GENRAD	1482G	STD INDUCTOR	150.00	
GENRAD	1482-J	STD. INDUCTOR	110.00	
GENRAD	1482L	STD INDUCTOR	150.00	
GENRAD	1482P	STD INDUCTOR	150.00	
GENRAD	1482-R	STD. INDUCTOR	170.00	
GENRAD	1521B	L N E L RECORDER	1,155.00	9/1/73
GENRAD	1521B	GRAPH LEV REC	1,155.00	9/1/73
GENRAD	1521B	RECORDER	1,155.00	9/1/73
GENRAD	1562A	SOUND-LEV CAL	195.00	
GENRAD	1562A	SOUND LEV CAL	195.00	
GERTSCH	1011	DECADE VOLT DI	562.00	
GLOBAL	C5556	COMPUTER CART	213.00	3/4/94
GMO	486	COMPUTER, PERSONAL	2,626.00	3/1/93
GMO	486	COMPUTER, PERSONAL	2,056.00	3/1/93
GMR	486/33	COMPUTER	2,677.00	2/1/93
GOS	1460VG	CRT DISPLAY	395.00	2/1/93
GPH	GO250	TERMINAL, CRT, SMART	2,246.00	10/1/86
GPH	GO250	TERMINAL, CRT, SMART	2,246.00	10/1/86
GRISWOLD		DIVIDING HEAD	3,520.00	10/16/73
GTW	386	COMPUTER, PERSONAL	3,290.00	10/1/90
GTW	386	COMPUTER, PERSONAL	1,465.00	4/1/91
GTW	386	COMPUTER, PERSONAL	1,500.00	8/1/91
GTW	386	COMPUTER, PERSONAL	1,500.00	8/1/91
GTW	386	COMPUTER, PERSONAL	1,500.00	8/1/91
GTW	486	COMPUTER, PERSONAL WIKEYBOARD	1,980.00	6/1/92
GTW	486	COMPUTER, PERSONAL	1,385.00	5/1/93
GTW	386/25	COMPUTER, PERSONAL	1,500.00	8/1/91
GTW	PMV14	CRT DISPLAY	300.00	8/1/91
GTW	PMV14	CRT DISPLAY	300.00	8/1/91
GTW	PMV14	CRT DISPLAY	300.00	8/1/91
GTW	PMV14	CRT DISPLAY	300.00	8/1/91
GTW	PMV14	CRT DISPLAY	400.00	6/1/92
GTW	PMV14	CRT DISPLAY	400.00	5/1/93
GTW	PMV1448	CRT DISPLAY	300.00	8/1/91
GUILDLINE	4410	VOLTAGE STANDARD	7,860.00	12/1/88

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
GUILDLINE	9923	POWER SUPPLY	6,384.00	10/24/81
GUILDLINE	9975	RESIS.BRIDGE	15,355.20	10/1/81
GUILDLINE	65206	STANDARD RESISTOR	720.00	1/1/93
GUILDLINE	95206	STD RESISTOR	325.00	
GUILDLINE	9734120	TEMP. BATH	6,432.00	9/1/82
HART SCIENTIFIC	1535	THERMOMETER SYSTEM	9,995.00	3/1/94
HART SCIENTIFIC	9101	ICE POINT DRYWELL	1,495.00	3/1/92
HART SCIENTIFIC	9113	FURNACE	4,950.00	5/1/92
HASTINGS	vT-6	VACUUMGAUGE	275.00	
HASTINGS	VT6B	VACUUM GAUGE	255.00	
HASTINGS	VT-6B	VACUUM GAGE	215.00	
HEIDENHAIN	ROD 800	ENCODER	5,825.00	5/3/94
HEIDENHAIN	ROD800	ENCODER	4,992.00	6/1/91
HEIDENHAIN	VRZ460	READOUT	1,656.00	6/1/91
HEIDENHAIN	VRZ460	ENCODER READOUT	1,758.00	5/3/94
HEWLET PACKARD	201Œ	CABINET	300.00	
HEWLET PACKARD	30508	DATA ACQ SYST	10,091.42	9/1/76
HEWLET PACKARD	3325A	FREQ SYNTHESIZ	2,970.00	9/10/79
HEWLET PACKARD	33440A	LASER PRINTER	1,545.00	9/1/90
HEWLET PACKARD	334A	ANALYZER	945.50	
HEWLET PACKARD	339A	DISTORTION ANA	1,877.00	4/1/84
HEWLET PACKARD	3455A	DIG VOLTMETER	3,168.00	6/1/77
HEWLET PACKARD	3455A	DIG. VOLTMETER	2,968.00	1/1/79
HEWLET PACKARD	3455A	VOLTMETER	3,666.00	9/1/79
HEWLET PACKARD	3457A	MULTIMETER	2,646.00	4/30/86
HEWLET PACKARD	3457A	MULTIMETER, DIGITAL	2,674.35	5/22/87
HEWLET PACKARD	3457A	MULTIMETER, DIGITAL	2,731.00	6/3/88
HEWLET PACKARD	3457A	DIGITAL MULTIMETER	2,779.00	10/1/88
HEWLET PACKARD	3478A	DIG MULTIMETER	1,248.00	5/1/83

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
HEWLETT PACKARD	3478A	MULTIMETER, DIGITAL	940.27	
HEWLETT PACKARD	3495A	SCANNER	2,821.50	2/1/77
HEWLETT PACKARD	3495A	SCANNER	3,415.50	8/1/78
HEWLETT PACKARD	3497A	DATA ACQUISITION SYSTEM	6,579.87	11/1/88
HEWLETT PACKARD	3590A	ANALYZER, WAVE	3,280.00	9/1/86
HEWLETT PACKARD	3594A	OSCILLATOR, SWEEP	1,640.00	9/1/86
HEWLETT PACKARD	5245L	COUNTER	2,950.00	4/18/84
HEWLETT PACKARD	5254A	CONVERTER FREQ	1,550.00	4/18/84
HEWLETT PACKARD	5300A	FREQ COUNTER	391.05	
HEWLETT PACKARD	5300A	COUNTER	1,183.05	3/4/83
HEWLETT PACKARD	5300B	FREQ. COUNTER	777.15	
HEWLETT PACKARD	5302A	COUNTER	900.00	
HEWLETT PACKARD	5321B	FREQ COUNTER	775.00	
HEWLETT PACKARD	5321B	ELECT COUNTER	775.00	
HEWLETT PACKARD	5321B	FREQ COUNTER	775.00	
HEWLETT PACKARD	5489A	PASS FILTER	425.00	
HEWLETT PACKARD	5489A	FILTER	426.95	
HEWLETT PACKARD	59303A	CONVERTER	1,625.00	6/1/77
HEWLETT PACKARD	6002A	POWER SUPPLY	1,138.50	8/1/78
HEWLETT PACKARD	6102A	DC POWER SUPPLY	362.15	
HEWLETT PACKARD	6102A	POWER SUPPLY	311.85	
HEWLETT PACKARD	6102A	POWER SUPPLY	351.45	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
HEWLETT PACKARD	651A	TESTOSCILLATOR	609.00	
HEWLET PACKARD	651B	OSCILLATOR	654.00	
HEWLETT PACKARD	7550A	PLOTTER GRAPH.	2,613.00	1/1/86
HEWLETT PACKARD	98034B	INTERFACE	465.85	
HEWLETT PACKARD	C2520B	SCANNER	899.00	9/1/96
HEWLETT PACKARD	C3142A	PRINTER	2,679.00	4/1/96
HEWLET PACKARD	C4576A	PRINTER	490.00	911/96
HEWLET-PACKARD	16500A	LOGIC STATE ANALYZER	17,191.50	3/1/90
HEWLETT-PACKARD	3325B	SYNTHESIZER, FREQUENCY	4,563.00	4/1/91
HEWLETT-PACKARD	3325B	FUNCTION GENERATOR	4,677.00	2/1/93
HEWLET-PACKARD	34401A	DIGITAL MULTIMETER	995.00	1/1/93
HEWLET-PACKARD	34401A	MULTIMETER	975.00	3/1/93
HEWLETT-PACKARD	34401A	MULTIMETER	975.00	3/1193
HEWLET-PACKARD	34401A	MULTIMETER	975.00	3/1/93
HEWLETT-PACKARD	34401A	MULTIMETER	975.00	3/1/93
HEWLETT-PACKARD	3457A	MULTIMETER	2,890.50	5/1/91
HEWLETT-PACKARD	3458A	MULTIMETER	5,687.00	11/1/90
HEWLET-PACKARD	3458A	MULTIMETER	5,687.00	11/1/90
HEWLETT-PACKARD	3458A	MULTIMETER	5,687.00	5/1/91
HEWLETT-PACKARD	3458A	MULTIMETER, DIGITAL	6,199.00	1/1/93
HEWLETT-PACKARD	3458A	DIGITAL MULTIMETER	6,199.00	1/1/93
HEWLET-PACKARD	355F	VHF ATTENUATOR	992.00	1/1/93

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
HEWLETT-PACKARD	3852A	DATA ACQUISITION SYSTEM	3,581.00	5/1/93
HEWLETT-PACKARD	53166	FREQUENCY COUNTER	1,389.45	2/19/90
HEWLET-PACKARD	5334B	FREQUENCY COUNTER	3,009.00	1/1/93
HEWLETT-PACKARD	54600A	OSCILLOSCOPE	2,643.00	2/1/93
HEWLETT-PACKARD	54600A	OSCILLOSCOPE	2,643.00	2/1/93
HEWLETT-PACKARD	6205C	POWER SUPPLY	1,360.00	5/1/91
HEWLETT-PACKARD	7440A	PRINTER/PLOTTER	854.70	10/1/90
HEWLETT-PACKARD	7440A	COLORPRO GRAPHICS PLOTTER	854.70	10/1/90
HEWLETT-PACKARD	7440A	GRAPHICS PLOITER	1,046.00	1/1/93
HEWLETT-PACKARD	8902A	RECEIVER,MEASURING	28,217.00	6/1/91
HEWLETT-PACKARD	8904A	MULTIFUNCTION SYNTHESIZER	2,759.00	11/6/90
HEWLETT-PACKARD	8904A	MULTIFUNCTION SYNTHESIZER	2.759.00	11/6/90
HEWLET-PACKARD	9153C	DISK DRIVE	1,672.00	3/1/90
HEWLETT-PACKARD	98561X	COMPUTER	3,971.00	4/1/93
HITACHI	VC6165	DIGITAL STORAGE OSCILLOSCOPE	5,567.50	4/1/90
HITACHI	VC6165	DIGITAL STORAGE OSCILLOSCOPE	5,567.50	4/1/90
HI-TEK	RT-101	KEYBOARD	90.00	
HONDA	EX5500	GASOLINE GENERATOR	2,293.00	5/13/88
HONDA	EX5500	GASOLINE GENERATOR	2,293.00	5/1/88
HONDA	EX5500	GASOLINE GENERATOR	2,293.00	5/1/88
HONDA	EX5500	GASOLINE GENERATOR	2,293.00	5/1/88
HONDA	EZ 2500	GENERATOR	790.00	2/18/97
HONEYWELL	101	TAPE RECORDER	21,061.00	1/1/79
HONEYWELL	101	TAPE RECORDER	21,061.00	1/1/79
HONEYWELL	101	TAPE RECORDER	21,061.00	1/1/79
HONEYWELL	101	TAPE RECORDER	21,061.00	1/1/79
HONEYWELL	1858	OSCILLOGRAPH	16,000.00	4/1/84

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
HONEYWELL	1858	CHART RECORDER, FIBER OPT	19,575.00	10/1/87
HONEYWELL	1858	CHART RECORDER, FIBER OPT	19,575.00	10/1/87
HONEYWELL	1858	VISICORDER	6,905.00	7/1/83
HONEYWELL	300AMP	SHUNT	200.00	
HP	11722A	SENSOR MODULE	2,368.00	6/1/94
HP	33258	FUNCTION GENERATOR	5,296.00	10/1/91
HP	3458A	DIGITAL MULTIMETER	5,687.00	10/1/90
HP	3488A	SWITCH/CONTROL UNIT	3,750.00	10/1/85
HP	5334B	FREQUENCY COUNTER	2,074.00	9/1/90
HP	6060A	DC ELECTRONIC LOAD	1,795.00	9/1/90
HP	70001A	MAINFRAME	8,675.00	6/1/94
HP	70004A	DISPLAY	9,210.00	6/1/94
HP	7031OA	PRECISION FREQ. REF.	4,725.00	6/1/94
HP	709008	LOCAL OSCILLATOR.	15,945.00	6/1/94
HP	70902A	IF SECTION	4,500.00	6/1/94
HP	70903A	IF SECTION.	4,275.00	6/1/94
HP	70909A	RF SECTION.	21,000.00	6/1/94
HP	8902A	MEASURING RECEIVER	28,524.00	6/1/94
HP	8903E	DISTORTION ANALYZER	4,082.00	9/1/90
HP	C2001A	PRINTER	2,086.00	3/1/94
HPC	300	COMPUTER, DESKTOP	2,856.00	7/1/86
HPC	300	COMPUTER, DESKTOP	10,000.00	5/1/93
HPC	9866	PRINTER, THERMAL	3,216.00	211/77
HPC	33449	PRINTER, LASER	1,677.00	11/1/90
HPC	33449	PRINTER, LASER	1,629.00	4/1/91
HPC	33449	PRINTER, LASER	1,514.00	5/1/91
HPC	35731	CRT DISPLAY	796.00	9/1/92
HPC	35741	CRT DISPLAY	800.00	5/1/93
HPC	7570A	PLOTTER	2,924.00	10/1/88
HPC	9122C	DISK-DUAL FLOPPY	981.00	5/1/93
HPC	9122D	DISK-DUAL FLOPPY	1,217.00	4/1/85
HPC	9835A	COMPUTER, DESKTOP	12,013.00	10/1/81
HPC	9876A	PRINTER, THERMAL	3,578.33	9/1/79
HPC	C2106A	PRINTER, CHARACTER	331.00	5/1/93
HPC	LASER4	PRINTER, LASER	1,450.00	3/1194
IBM	5151	CRT DISPLAY	220.00	5/1/85
IBM	5151	CRT DISPLAY	242.00	5/1/84
IBM	5160	COMPUTER, PERSONAL	16,588.00	12/1/87
IBM	5170	COMPUTER, PERSONAL	4,155.00	6/1/86
IBM	5170	COMPUTER. PERSONAL	4.336.00	12/1/85

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
IBM	5170	COMPUTER, PERSONAL	4,973.00	4/1/85
IBM	5170	COMPUTER, PERSONAL	3,603.00	8/1/86
IBM	5170	COMPUTER, PERSONAL	5,364.00	6/1/86
IBUS	4875	COMPUTER, PERSONAL	6,558.00	12/1/90
ICK	TPR206	SIGNAL CONDITIONER	250.00	9/1/93
ICK	TPR206	SIGNAL CONDITIONER	250.00	9/1/93
ICK	TPR206	SIGNAL CONDITIONER	250.00	9/1/93
IDR	8531	COMPUTER, PERSONAL	9,311.00	7/1/92
INDUSTRIAL COMPUTER SOURCE	8531-RV	COMPUTER WITH KEYBOARD	6,736.00	6/1/91
INGERSOLL-RAND	HRM61-6	REGENERATIVE DRYER	2,600.00	7/1/94
INGERSOLL-RAND	SSR-EP30SE	AIR COMPRESSOR	9,284.00	8/1/94
INLAND	403	CONTROL CHASIS	12,000.00	3/13/75
INLAND	823	RATE TABLE	22,396.00	2/1/75
INLAND	1500CP	POWER SUPPLY	7,000.00	3/1/75
INSTRULAB	4202	THERMOMETER, DIGITAL	2,845.25	8/1/87
INTELLICOM	TPAIR 206	HUB INTERFACE	239.00	3/1/94
INTERLAN	MPR110V	MULTPORT REPEATER, LAN	1,798.00	8/1/91
ISO	7408	COMPUTER, PERSONAL	2,051.00	2/1/93
ISOTHERMAL	ITL-M-17701	FURNACE	17,765.00	11/1/90
J.A. KING	DS1-30K	DIGITAL SCALES	1,670.00	1/1/82
JARRETT INST.	NONE	WATER TRIPLE POINT	950.00	
JCWS	286	COMPUTER, PERSONAL	4,323.00	5/1/84
JDR	AT	COMPUTER, PERSONAL	1,121.00	1/1/90
JDR	XT	COMPUTER, PERSONAL	688.00	7/1/86
KAYE INSTRUMENTS	K140-4	ICE POINT REF	594.00	
KEAL	NONE	TRANSPORT CASE	2,995.00	5/17/91
KEAL	NONE	TRANSPORT CASE	2,995.00	5/17/91
KEITHLEY	181	DIG.MULTIMETER	3,463.00	5/20/83
KEITHLEY	181	DIGITAL VOLTMETER	3,067.20	7/1/88
KEITHLEY	199	MULTIMETER	2,500.00	3/1/92
KEITHLEY	5155	MEGOHM STD	525.00	
KEITHLEY	5155	MEGOHM STD	525.00	
KEITHLEY	5155	MEGOHM STD	525.00	
KEITHLEY	5155	MEGOHM STD	525.00	
KEYTRONIC	E03435	KEYBOARD	85.00	
KEYTRONIC	E03435	KEYBOARD	85.00	
KEYTRONIC	E03435	KEYBOARD	85.00	
KEYTRONIC	E03435	KEYBOARD	85.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
KINETIC SYSTEMS	V195-DA21	VXI MAINFRAME	6,206.00	5/1/96
KISTLER	303B	ACCELEROMETER	585.00	
KISTLER	561T	AMPLIFIER	840.00	
KISTLER	808K1	ACCELEROMETER	921.50	
KISTLER	808K1/5	CAL. VIB STD	921.50	
KOEP	VTS6001-1-01	VOLTAGE STANDARD	1,990.00	9/1/91
KROHN HITE	3343	BAND PASS FILTER	1,761.12	8/11/75
KROHN HITE	6400	PHASE METER	1,403.00	5/1/85
KROHN HITE	6620	PHASEMETER, DIGITAL	3,945.00	4/1/94
KROHN HITE	310CR	B P FILTER	975.00	
L & N	4210	STD RESISTOR	500.00	
L & N	4214	STD RESISTOR	650.00	
L & N	4361	SHUNT	250.00	
L & N	8163	SPRT	4,000.00	
L & N	8163	SPRT	4,000.00	
L & N	4030B	STD. RESISTOR	150.00	
L & N	4030B	STD. RESISTOR	150.00	
L & N	4210B	STD RESISTOR	1,100.00	10/1/82
L & N	4210B	STD RESISTOR	1,100.00	10/1/82
L & N	4214B	RESISTOR	2,327.00	
L & N	4214B	RESISTOR	2,327.00	
L & N	4221B	STD RESISTOR	250.00	
L & N	4222B	STD RESISTOR	250.00	
L & N	4223B	STD RESISTOR	550.00	
L & N	4321B	RESIST. STND.	3,903.00	1/21/82
L & N	4323B	RESISTANCE	3,205.00	9/1/82
L & N	6011-3	TEMP. CONTROL.	862.60	8/1/85
L & W	4050B	STD RESISTOR	150.00	
LEEDS & NORTHRUP	4214	RESISTANCE STANDARD	5,015.00	7/1/90
LING	DSC4	SERVO CONTROLLER	6,171.00	8/1/94
LING	DSC4	SERVO CONTROLLER	6,171.00	8/2/94
LITHONIA HI-TEK	TV1000MN5T BHSG	FLOOD LIGHT	260.00	4/23/96
LITHONIA HI-TEK	TV1000MN5T BHSG	FLOOD LIGHT	260.00	4/23/96
LITHONIA HI-TEK	TV1000MN5T BHSG	FLOOD LIGHT	260.00	4/23/96
MAX TECH	MS-401	AUTO DATA SWITCH	239.00	
MAX TECH	PB64	BUFFER PRINTER	99.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
MAX TECH	PB64	BUFFER PRINTER	99.00	
MAYC	286	COMPUTER, PERSONAL	730.00	6/1/88
MDB	DS2000	DISK-WINCHESTER	20,068.00	12/1/90
MENSOR	11900	PRESSINDICATOR	2,780.00	10/1/85
MENSOR	15000	PRESSURE INDICATOR	2,825.00	5/1/94
MENSOR	i4000B	PRESSURE INDICIATOR, DIGITAL	3,260.00	8/1/90
MFT	9914R	MAG TAPE 9 TRACK	7,400.00	3/1/92
MFT	9914R	MAG TAPE 9 TRACK	12,650.00	12/1/90
MGX	7BM623	CRT DISPLAY	500.00	11/1/87
MICRO EXPRESS	REGAL386SX	LAPTOP COMPUTER	2,035.00	8/1/91
MICRON ELECTRONICS	LM-1764	DISPLAY	310.00	9/1/96
MICRON ELECTRONICS	M55HIPLUS-P166-T	COMPUTER W/ KEYBOARD	7,434.00	9/1/96
MINOLTA/LAND	152A	THERMOMETER	2,789.00	6/1/91
MITSUBISHI	AUM1381A	CRT DISPLAY	400.00	12/1/90
MITSUBISHI	HC3925L9ETK	DISPLAY	1,798.00	3/1/94
MKS	288	INTERFACE UNIT	1,100.00	1/1/92
MKS	244c	PRESSURE CONTROLLER	1,145.00	1/1/92
MKS	245-11179	CONTROL VALVE	1,695.00	
MKS	27OC-5	SIGNAL CONDITIONER	2,600.00	1/1/92
MKS	270C-5	SIGNAL CONDITIONER	2,600.00	1/1/92
MKS	270C-5	SIGNAL CONDITIONER	2,600.00	1/1/92
MKS	270C-5	SIGNAL CONDITIONER	2,525.00	2/1/93
MKS	290-04	ION GAUGE CONTROLLER	1,600.00	1/1/92
MKS	390HA	CAPACITANCE GAUGE	2,500.00	1/1/92
MKS	390HA	CAPACITANCE GAUGE	2,500.00	1/1/92
MKS	390HA	CAPACITANCE GAUGE	2,500.00	1/1/92
MKS	PDR-C-1C	POWER SUPPLY	1,625.00	1/1/92
MKS	PDR-C-2C	POWER SUPPLY	1,280.00	1/1/92
MKS	SRG-2-488-SPSH	SR GAUGE CONTROLLER	13,000.00	1/21/92
MKS	VGCS2	VACUUM CONTROLLER	8,200.00	1/1/92
MKS	VGCS-200	VACUUM CAL STATION	33,200.00	1/21/92
MKS INSTRUMENTS	245-S0037-86	CONTROL VALVE	1,695.00	6/8/94
MOD	9230	COMPUTER, SUPERMINI	46,200.00	12/1/90
MOD	9088-4	COMPUTER, SUPERMINI	92,218.00	10/1/91
MONTEREY	516F	ACCEL PROGRAM	20,000.00	10/1/73

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
RESEARCH				
MONTEREY	9MP1336	SHOCK MACHINE	7,613.50	10/16/73
RESEARCH				
MONTGOMERY WARD	8013	FREEZER	229.00	
MOTOROLA	D43LRA77A5CK	RADIO TRANSCEIVER	921.00	10/5/90
MOTOROLA	D43LRA77A5CK	RADIO TRANSCEIVER	921.00	10/5/90
MOTOROLA	H99SA+03H	2-WAY FM RADIO	1,262.00	115/89
MOTOROLA	H99SA+053H	2-WAY FM RADIO	1,262.00	1/5/89
MOTOROLA	H99SA+053H	2-WAY FM RADIO	1,262.00	1/5/89
MOTOROLA	H99SA+053H	2-WAY FM RADIO	1,126.70	1/5/89
MOTOROLA	H99SS+008H	TRANSCEIVER, RADIO	1,974.71	12/10/87
MOTOROLA	H99SS+008H	TRANSCEIVER, RADIO	1,974.71	12/10/87
MOTOROLA	H99SS+008H	TRANSCEIVER, RADIO	1,974.41	12/10/87
MOTOROLA	H99SS+008H	TRANSCEIVER, RADIO	1,974.71	12/10/87
MOTOROLA	HCN1036E9000	CONTROLLER	512.00	
MOTOROLA	HCN1036E9000	CONTROLLER	512.00	
MOTOROLA	HCNI036E9000	CONTROLLER	512.00	
MOTOROLA	HCNI036E9000	CONTROLLER	512.00	
MOTOROLA	MVME187	COMPUTER MODULE	7,995.00	2/1/94
MOTOROLA	T99KE-036W	TRANSCEIVER, RADIO	1,755.40	5/25/90
MOTOROLA	T99KE-036W	TRANSCEIVER, RADIO	1,755.40	5/25/90
MOTOROLA	T99VB-004W	RADIO, FM	2,332.78	1/14/88
MOTOROLA	T99VB-004W	RADIO, FM	2,332.78	1/8/88
MOTOROLA	T99VB-004W	RADIO, FM	2,332.78	1/14/88
MOTOROLA	T99VB-004W	RADIO, FM	2,332.78	1/14/88
MVE CRYOGENICS	HL-190	LIQUID NITROGEN TANK	9,247.00	12/1/94
NASA	1	VARIAC/DM UNIT	700.00	
NASA	4 X 8""	SCREEN ROOM	2,000.00	10/16/73
NASA	NONE	VALVE ASSEMBLY	2,000.00	8/3/95
NASA		VIB. CONSOLE	100.00	
NATIONAL INSTRUMENTS	VXI-MXI-2	COMPUTER INTERFACE	4,500.00	5/1/96
NCZ	386	COMPUTER, PERSONAL	3,226.00	8/1/90
NCZ	486	COMPUTER, PERSONAL	6,027.00	7/1/93
NCZ	486	COMPUTER, PERSONAL	1,103.00	6/1/94

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
NEF	620516	SCANNER	800.00	1/1/94
NEFF	122	AMPLIFIER	565.00	
NEFF	018-17	AMP. RACK	3,695.70	2/8/82
NEFF	122-223	AMPLIFIER	916.65	
NEFF	122-223	AMPLIFIER	916.65	
NEFF	620100AB	DATA ACQUISTION SYSTEM	30,605.00	5/1/83
NEFF	620600AE	DATA ACQUISTION SYSTEM	20,488.00	1/1/90
NEFF	NONE	POWER RACK	271.00	
NEK	17C	CRT DISPLAY	2,625.00	10/1/91
NEMS CLARK	1302A	SPECIAL PURPOSE RECEIVER	400.00	
NEY	CZ805A	CRT DISPLAY	300.00	8/1/90
NEY	JC1403	CRT DISPLAY	440.00	10/1/91
NEY	JC1403	CRT DISPLAY	559.00	4/1/91
NEY	LC890	PRINTER, LASER	3,117.00	11/1/88
NOVATEL	501	GPS ANTENNA	595.00	2/11/97
NOVATEL	511	GPS ANTENNA	365.00	2/11/97
NOVATEL	511	GPS ANTENNA	365.00	
NOVATEL	A031	ANTENNA CHOKE RING	675.00	2/11/97
NOVATEL	PROPAK-RT20	GPS RECEIVER	6,965.00	2/11/97
NOVATEL	PROPAK-RT20	GPS RECEIVER	6,965.00	2/11/97
OMEGA	CN76133-PV	TEMPERATURE CONTROLLER	235.00	2/1/95
ONO SOKKI	CF 920	SPEC. ANALYZER	20,805.00	10/1/84
ONO SOKKI	CF350B	ANALYZER, SPECTRUM	16,530.00	9/1/89
ONO SOKKI	CF360	PORTABLE DUAL CHANNEL	16,055.00	12/1/90
ONO SOKKI	CF360	PORTABLE DUAL CHANNEL	16,055.00	12/1/90
ONO SOKKI	CF940	SPECTRUM ANALYZER	23,560.00	10/1/88
PACIFIC MEASUREMENTS	1038	OSCILLOSCOPE	6,242.00	7/29/86
PACIFIC MEASUREMENTS	1044	X Y RECORDER	2,070.00	7/1/86
PACIFIC MEASUREMENTS	1038-H13	AMPLIFIER	1,375.00	7/29/86
PACIFIC MEASUREMENTS	1038-V12	AMPLIFIER	1,750.00	7/29/86
PACIFIC MEASUREMENTS	1038-V12	AMPLIFIER	1,750.00	7/29/86
PACKARD BELL	1200	MODEM	89.00	
PAN	506	SCANNER	983.00	4/1/91
PAN	P1124	PRINTER, CHARACTER	294.00	1/1/92
PAN	P1124	PRINTER, CHARACTER	293.55	2/1/92

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
PAN	P1124	PRINTER, CHARACTER	279.00	6/1/91
PAN	P2123	PRINTER, CHARACTER	251.00	2/1/93
PANASONIC	KXP1124	PRINTER	340.00	5/1/91
PANASONIC	KXP2123	PRINTER	255.00	3/1/94
PANASONIC	LF5010	DISK DRIVE	2,339.00	6/1/91
PAROSCIENTIFIC	2100A	QUARTZ GAUGE	2,350.00	6/1/84
PAROSCIENTIFIC	215AS	PRESSURETRANSDUCER	2,605.00	
PAROSCIENTIFIC	2200A	DIGIQUARTZ GAUGE	2,460.00	
PAROSCIENTIFIC	2200-AS-002	PRESSURETRANSDUCER	2,460.00	
PAROSCIENTIFIC	230A	DIGI QUARTZ GAUGE	2,800.00	
PAROSCIENTIFIC	5206-D-002	PRESSURETRANSDUCER	4,000.00	
PAROSCIENTIFIC	5220D-101	PRESSURETRANSDUCER	3,800.00	
PCB PiEZONTRONICS	483A02	POWER UNIT	450.00	
PCB PIEZOTRONICS	483A02	POWER UNIT	432.00	
PHILIPS	21	INTERFACE	690.00	9/1/90
PHOTOCON	PC120	MICROPHONE CAL	235.00	
PLANTRONICS	HSB552-1	HEAD PHONES	113.33	
PLANTRONICS	HSB552-1	HEAD PHONES	113.33	
PLANTRONICS	HSB552-1	HEAD PHONES	113.33	
PLANTRONICS	HSB552-1	HEAD PHONES	113.33	
PLANTRONICS	HSB552-1	HEAD PHONES	113.33	
PLANTRONICS	HSB552-1	HEAD PHONES	113.33	
PLANTRONICS	HSB552-1	HEAD PHONES	113.33	
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PLANTRONICS	HSB552-1	HEAD PHONES	113.33	
PLANTRONICS	HSB552-1	HEAD PHONES	113.33	
PLANTRONICS	HSB552-1	HEAD PHONES	113.33	
PLANTRONICS	SUPRA	HEADPHONES	100.00	
PLANTRONICS	SUPRA	HEADPHONES	100.00	
PLANTRONICS	SUPRA	HEADPHONES	100.00	
PLANTRONICS	SUPRA	HEADPHONES	100.00	
PLANTRONICS	SUPRA	HEADPHONES	100.00	
PNC	PENT	COMPUTER, PERSONAL	850.00	
PONY COMPUTERS	PENTIUM	COMPUTER/ KEYBOARD	1,618.00	4/1/96
PONY COMPUTERS	PENTIUM	COMPUTER/ KEYBOARD	1,618.00	4/1/96
PONY COMPUTERS	PENTIUM	COMPUTER/ KEYBOARD	1,618.00	4/2/96
PONY COMPUTERS	PENTIUM	COMPUTER/ KEYBOARD	1,618.00	4/1/96
PONY COMPUTERS	PENTIUM	COMPUTER, PERSONAL	1,618.00	4/1/96

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
PONY COMPUTERS	PENTIUM	PERSONAL COMPUTER	1,618.00	4/1/96
PONY COMPUTERS	PENTIUM	COMPUTER/ KEYBOARD	1,618.00	4/1/96
PONY COMPUTERS	PENTIUM	COMPUTER/ KEYBOARD	1,618.00	4/1/96
PONY COMPUTERS	PENTIUM	COMPUTER/ KEYBOARD	1,618.00	4/1/96
PONY COMPUTERS	PENTIUM	COMPUTER/ KEYBOARD	1,618.00	4/1/96
PONY COMPUTERS	PENTIUM	COMPUTER/ KEYBOARD	1,618.00	4/1/96
PONY COMPUTERS	PENTIUM	COMPUTER/ KEYBOARD	1,618.00	4/1/96
PONY COMPUTERS	PENTIUM	COMPUTER/ KEYBOARD	1,618.00	4/1/96
PONY COMPUTERS	PENTIUM	COMPUTER/ KEYBOARD	1,618.00	4/1/96
PONY COMPUTERS	PENTIUM	COMPUTER/ KEYBOARD	1,618.00	4/1/96
PRECISION FILTERS	MF32-00-01	FILTERS	34,350.00	11/1/87
PRECISION FILTERS	MF32-00-01	FILTERS	21,350.00	11/1/87
PRECISION FILTERS	MF64000M14 6	FILTER/AMP SYSTEM	1,311.00	5/1/94
PSI	8400	INTERFACE PANEL	1,530.00	7/1/94
PSI	8415	INTERFACE	1,402.00	2/4/92
PSI	8425	SCANNER, DIGITIZER	3,740.00	4/16/92
PSI	32RG	PRESSURESCANNER	4,273.00	5/1/93
PSI	780B	PRESS. SYSTEM	4,750.00	6/1/81
PSI	780B/T-02	PRESSURE MEASURE SYSTEM	10,925.00	1/1/81
PSI	780B-02	PRESS MEAS SYS	11,875.00	9/1/82
PSI	780B-200	PRESSURE CALIBRATE UNIT	4,275.00	1/15/81
PSI	78-DSP-HH	PRESSURE DISPLAY UNIT	1,748.00	2/28/92
PSI	81-1FC	INTERFACE UNIT	1,410.00	2/6/86
PSI	8400SP	CONTROLLER, PRESSURE	11,220.00	4/29/92
PSI	8400-SP	PRESSURE MEASURING SYSTEM	11,220.00	11/1/90
PSI	8432-30	PRESSURE CALIBRATOR	5,656.00	4/1/92
PSI	8432-300	PRESSURE CALIBRATOR	5,142.00	10/1/91
PSI	8481-01	PCU EXTENDER	980.00	
PSI	CV-32L	LEAK CHECK VALVE	1,100.00	
PSI	ESP-16	PRESSURE SCANNER	2,350.00	
PSI	ESP-32	ESP MODULE	1,100.00	9/6/95
PSI	PSA-1	ANALYZER, PRESSURE SCANNR	1,700.00	5/15/89
PTX	P600	PRINTER, LINE	7,737.75	10/1/84
QMY	PS800	PRINTER/PLOTTER	2,000.00	3/1/87
QSC	1100	AMPLIFIER	400.00	
QSC	1100	AMPLIFIER	400.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
QSC	1100	AMPLIFIER	400.00	
QSC	1100	AMPLIFIER	400.00	
QSC	1100	AMPLIFIER	398.00	
QSC	1100	AMPLIFIER	398.00	
QUD	CH 8460	CRT DISPLAY	510.00	8/1/87
R C ALLEN	F2880-025	RATE GYRO	500.00	
RACAL DANA	9478	FREQUENCY DISTRIBUTION UNIT	1,872.00	5/1/88
RACAL DANA	9478	FREQUENCY DISTRIBUTION UNIT	1,872.00	6/1188
RACAL DANA	9478	FREQUENCY DISTRIBUTION UNIT	1,872.00	6/1/88
RACAL DANA	9478	FREQUENCY DISTRIBUTION UNIT	1,872.00	6/1/88
RACAL INTERLAN	MPR110V	REPEATER	1,798.00	2/1/92
RLY	9502	CRT DISPLAY	1,500.00	7/1/93
ROSEMOUNT	162D	SPRT CAPSULE	893.60	
ROSEMOUNT	162D	SPRT CAPSULE	2,626.00	
ROSEMOUNT	162D	SPRT CAPSULE	2,500.00	
ROSEMOUNT	912C	FURNACE	17,000.00	12/24/84
ROSEMOUNT	914C2	TEMP BATH	14,000.00	2/1/85
ROSEMOUNT	914C4	TEMP BATH	11,175.00	8/11/75
RUSKA	2465	AIR PISTON GA.	3,690.15	6/20/79
RUSKA	2465	GAUGE, AIR PISTON	10,050.00	2/6/86
RUSKA	2470	AIR PISTON GAGE	2,785.00	10/16/73
RUSKA	5100	DEAD WT TESTER	9,180.00	10/1/73
RUSKA	6000	MANOMETER	6,009.60	9/1/76
RUSKA	6000	MANOMETER	9,883.60	6/1/77
RUSKA	6000	PRESS. GAUGE	3,905.00	4/1/81
RUSKA	6000	MANOMETER	5,775.00	4/1/84
RUSKA	6000801	PRESSURE GAGE	10,715.00	4/1/81
RUSKA	2461-80	BELLOWS	1,200.00	7/1/84
RUSKA	2465-752	AIR PISTON GAUGE BASE	5,600.00	11/13/89
RUSKA	2465-781	WEIGHT SET	4,187.00	3/1/93
RUSKA	6000-15	MANOMETER	5,500.00	5/1/83
RUSKA	6000-150	MANOMETER, QUARTZ	8,445.00	8/1/91
RUSKA	6000-30	MANOMETER	6,385.00	2/1/86
RUSKA	6000-80	MANOMETER	8,135.00	10/1/77
RUSKA	6000-80	MANOMETER	4,483.00	1/1/79
RUSKA	600-801	PRESS MEA SYST	4,027.60	8/1/75
RUSKA	DDR6000	MANOMETER	5,073.00	6/1/79

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
RUSKA	DDR6000	QUARTZ PRESSURE GAGE	1,283.00	7/1/87
RUSKA	NONE	AIR PISTON GA.	2,810.00	6/20/79
RUSKA	S100714	PISTON ASSY.	4,100.00	8/18/82
SAMSUNG	CVM4967	DISPLAY	299.00	2/1/93
SAMSUNG	CVP4237P	DISPLAY	300.00	4/1/95
SBP	286	COMPUTER, PERSONAL	1,128.00	9/1/88
SBP	286	COMPUTER, PERSONAL	1,128.00	9/1/88
SBP	286	COMPUTER, PERSONAL	1,128.00	9/1/88
SBP	4095N	CRT DISPLAY	470.00	9/1/88
SBP	4095N	CRT DISPLAY	470.00	10/1/95
SBP	4095N	CRT DISPLAY	470.00	8/1/92
SBP	4095N	CRT DISPLAY	470.00	8/1/92
SBP	4095N	CRT DISPLAY	475.00	7/1/90
SEAGATE	ST42100N	DISK DRIVE	1,444.00	10/1/93
SETRA SYSTEM	270	TRANSDUCER	850.00	
SHALLCROSS	6860	PRECRESDECAD	135.00	
SHALLCROSS	6860	RESISTANCE BOX	135.00	
SIGMA INFORMATION SYSTEMS	H189-100	DISK DRIVE UNIT	2,040.00	9/1/90
SMU	SM470	CRT DISPLAY	400.00	6/1/94
SNM	3/140	GRAPHICS/HIGH END WORKSTATIONS	66,162.00	2/1/88
SONY	CPD1320	DISPLAY	400.00	6/1/90
SPECTRAL DYNAMICS	SD104	OSCILLATOR	2,989.00	6/1/77
SSU	ST1480N	SEAGATE TECHNOLOGY	3,436.00	4/1/93
STEEL FAB	20-200	AIR TANK	1,166.00	8/1/94
SUN MICROSYSTEMS	A I 1-140	COMPUTER SERVER/ KEYBOARD	12,500.00	3/20/96
SUN MICROSYSTEMS	GDM20E20	DISPLAY	2,000.00	4/1/96
SYSTRON DONNER	8130	TIMECODEREADER	4,434.50	4/1/75
SYSTRON DONNER	8130203	TIME CODE READ	4,694.20	9/1/82
TCX	CM14SBM	CRT DISPLAY	150.00	7/1/94
TCX	MM1222	CRT DISPLAY	400.00	7/1/93
TEKTRONIX	2205	OSCILLOSCOPE	625.00	1/1/93
TEKTRONIX	2215	OSCILLOSCOPE	1,344.00	5/1/83
TEKTRONIX	7623	OSCILLOSCOPE	3,347.00	4/18/84
TEKTRONIX	015-0310-01	COMPARATOR	975.00	
TEKTRONIX	015-0311-01	PROGRAMMABLE PULSE HEAD	1,935.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
TEKTRONIX	7A13	DIFFERENTIAL COMPARATOR	1,922.00	4/1/84
TEKTRONIX	7A26	DUAL TRACE AMPLIFIER	1,388.36	7/1/80
TEKTRONIX	7B53A	DUAL TIME BASE	1,098.11	7/24/80
TEKTRONIX	7B53A	PLUG IN	1,171.00	4/19/84
TEKTRONIX	CG5001	PROGRAMMABLE CALIBRATOR	13,085.00	5/28/85
TEKTRONIX	CG5011	PROGRAMMABLE CALIBRATION GENERATOR	18,072.00	11/1/90
TEKTRONIX	DC505A	FREQ CONVERTER	1,838.00	4/18/84
TEKTRONIX	FG504	FUNCTION GEN	1,497.00	4/1/84
TEKTRONIX	PG506	SQUARE WAVEGEN	1,636.00	4/1/84
TEKTRONIX	SC504	OSCILLOSCOPE	1,838.00	4/18/84
TEKTRONIX	SC504	OSCILLOSCOPE	5,052.00	10/1/91
TEKTRONIX	SG503	SIGNAL GEN	1,279.00	4/18/84
TEKTRONIX	T922	OSCILLOSCOPE	1,301.29	7/1/80
TEKTRONIX	T922	OSCILLOSCOPE	1,301.29	7/1/80
TEKTRONIX	T922	OSCILLOSCOPE	1,301.29	7/1/80
TEKTRONIX	T922R	OSCILLOSCOPE	1,136.81	1/2/79
TEKTRONIX	T922R	OSCILLOSCOPE	1,136.81	1/1/79
TEKTRONIX	T922R	OSCILLOSCOPE	1,180.35	8/1/82
TEKTRONIX	T922R	OSCILLOSCOPE	1,301.29	7/24/80
TEKTRONIX	TG501	TIME MARK GEN	1,475.00	4/1/84
TEKTRONIX	TM5006	POWER SUPPLY M	1,090.00	5/28/85
TEKTRONIX	TM5006A	POWER MODULE	1,267.00	11/1/90
TEKTRONIX	TM506	POWER MODULE	440.00	
TEKTRONIX	XP29	TERMINAL	2,308.00	4/1/92
TEKTRONIX	XP29	GRAPHICS COMPUTER	5,344.00	4/1/92
TELEDYNE	VT-6B	VACUUM GAGE	245.00	
TELEDYNE HASTINGS	310	VACUUM GAUGE &TUBE	918.00	2/25/94
TELEX	cs-75	HEADPHONES	100.00	
TELEX	cs-75	HEADPHONES	100.00	
THUNDER SCIENTIFIC	8500	TEMP/HUMIDITY CHAMBER	92,787.00	5/1/93
TOPCON	CR2	READER/WRITER TRANSPORT	490.00	3/1/94
TOPCON	ITS1	OPTICAL THEODOLITE	10,500.00	3/1/94
TRIPP LITE	LCR2400	VOLTAGE REGULATOR	400.00	
TRIPP LITE	LCR2400	VOLTAGE REGULATOR	400.00	
TROEMNER	65000472	CYLINDER STAND	105.00	
TVI	955	TERMINAL, CRT, SMART	478.50	8/1/92
ULTIMATE COMPUTER	NONE	MICROMANAGER WORKSTATION	130.55	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
SUPPLIES				
ULTIMATE COMPUTER SUPPLIES	NONE	MICROMANAGER WORKSTATION	130.55	
UNHOLTZ DICKIE	1611	CAL STANDARD	1,515.00	2/1/75
UNHOLTZ DICKIE	1611	CAL STANDARD	1,515.00	2/1/75
UNHOLTZ DICKIE	1611	CAL STANDARD	1,515.00	2/1/75
UNHOLTZ DICKIE	1611	STANDARDIZER, CALIBRATION	1,455.00	4/1/87
UNHOLTZ DICKIE	1611	STANDARDIZER, CALIBRATION	1,455.00	4/1/87
UNHOLTZ DICKIE	106A	SHAKER	39,594.00	10/1173
UNHOLTZ DICKIE	106A-1/2	SHAKER, ELECTRODYNAMIC	24,345.00	4/1/87
UNHOLTZ DICKIE	MA311	CONSOLE, CONTROL	7,930.00	4/1/87
UNHOLTZ DICKIE	TA100A	POWER AMPLIFIER	7,235.00	4/1/87
UNION CARBIDE	891-KZ	NITROGEN TANK	1,045.00	10/1/77
VARIAN	V80	VACUUM PUMP SYSTEM	8,800.00	10/2/91
VEECO	MS9	LEAK DETECTOR	5,492.00	7/1/74
VEECO	sc-4	LEAK RATE STANDARD	515.00	
VEECO INSTRUMENTS	SC-4	LEAK RATE STANDARD	745.00	
VIEWSONIC	7033	DISPLAY UNIT	345.00	3/1/92
VIEWSONIC	7033	DISPLAY UNIT	345.00	3/1/92
VOLUMETRICS	V-1R	CONTROLLER	250.00	
VOLUMETRICS	V-1R	CONTROLLER	250.00	
WAVETEK	4920	VOLTAGE STANDARD	10,915.00	4/1/93
WAVETEK	4953	AC/DC SHUNT	450.00	
WAVETEWDAMRON	4950	CALIBRATION STANDARD	18,995.00	7/1/94
WELCH	8915	VACUUM PUMP	1,515.00	6/1/92
WELCH	8915	VACUUM PUMP	1,525.00	6/1/92
WELCH	8814A	VACUUM PUMP	1,140.00	3/15/90
WELCH	8814A	VACUUM PUMP	1,140.00	3/15/90
WELCH	8814A	VACUUM PUMP	1,140.00	3/15/90
WELCH	8814A	VACUUM PUMP	1,140.00	3/1/90
WELCH	8915A	PUMP, VACUUM	1,095.00	8/13/91
WELCH	8915A	PUMP	1,095.00	8/13/91
WELCH	8915A	PUMP, VACUUM	1,095.00	8113/91
WELCH	8915A	VACUUM PUMP	1,525.00	2/1/93
WELCH	8915A	VACUUM PUMP	1,595.00	2/1/94
WEST	2071-02-1127-21	CONTROLLER TEMPERATURE	680.00	9/1/87
WHITELEY	600	FLOW CONSOLE	74.500.00	11/1/82

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
WYLE	13X11	DIVIDING HEAD BRACKET	1,000.00	7/18/95
WYLE	5GPM	LOW FLOW CONS.	500.00	
YELLOW SPRINGS INSTRUMENT	M-17669	TIN FREEZE PT	4,000.00	2/28/85
YELLOW SPRINGS INSTRUMENT	NONE	FREEZE POINT, TEMP. STD.	4,500.00	
YOKOGAWA	SD1050A-1	PRECISION DIVIDING HEAD	3,665.00	6/1/90
	R	THERMOCOUPLE WIRE	300.00	

GENERAL PURPOSE PLANT EQUIPMENT

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
3M	7540	READER/PRINTER	3,889.00	2/1/89
3M COMPANY	6100A	HARMONIC ANALY	3,643.20	2/1/75
3M COMPANY	610A	SWEEP GENERATOR	940.80	
AAMAZING	CM-8484EX	DISPLAY UNIT	200.00	7/1/91
ACOUSTIC POWER SYSTEMS	113	SHAKER	3,430.00	8/1/82
ACOUSTIC POWER SYSTEMS	114	PWR. AMPLIFIER	1,175.00	8/1/82
ACRP	7134T	CRT DISPLAY	150.00	
ADRET	201	GENERATOR	4,326.20	4/1/81
ADRET	210S-B	GENERATOR SYNTHESIZER	2,551.10	8/1/78
AERO VAC	202	GAGE CONT ANAL	2,000.00	9/21/73
AERO VAC	202	VAC GAGE ANALY	3,655.00	9/1/73
AH€	4320	MAG TAPE, CASSETTE	995.00	9/1193
AINSWORTH	CLASS S	WEIGHTS	200.00	
AIR CON	1220000	CLEANING BENCH	1,200.00	10/16/73
AIR PRODUCTS	C	CYLINDER GAS	134.00	
AIR PRODUCTS	NONE C	CYLINDER GAS	134.00	
ALTEC	1591A	AMPLIFIER	589.50	
AMCO ENGINEERING CORP.	SP25	TORQUE WRENCH	12.00	
AMDEK	VIDEO-300	DISPLAY, COMPUTER	180.00	3/1/94
AMPEX	AA620	AMP SPEAKER	240.00	
AMPEX	AA620	AMP. SPEAKER	240.00	
AMPEX	TU-40	FLUTTER METER	2,788.34	10/1/73
AMSLER		INTEG CALIB.	362.50	
AMTHOR	452	TESTER, DEAD WEIGHT	532.00	
AMTHOR	460	TESTER, DEAD WEIGHT	500.00	
AMTHOR		DEAD WEIGHT TE	418.00	
ANDATACO	X266T51-JX2S1X	DISK DRIVE	553.00	4/1/96
APC	AT	COMPUTER, PERSONAL	3,152.00	7/1/86
APCO MOSSBERG	A-100	TORQUE WRENCH	44.00	9/15/95
APM	DUODSK	DISK-DUAL FLOPPY	474.00	6/1/89
APM	HD20SC	DISK-WINCHESTER	966.00	5/1/87
APM	IMWTR	PRINTER, CHARACTER	398.00	8/1/93
APM	IMWTR2	PRINTER, CHARACTER	393.00	1/1/90
APM	MAC2CX	COMPUTER, PERSONAL	6,000.00	8/1/89
APM	MAC2X	COMPUTER, PERSONAL	14,727.00	1/1/90

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
APM	MACSE	COMPUTER, PERSONAL	2,034.00	2/1/90
APM	MC2RGB	CRT DISPLAY	659.00	1/1/90
APM	MC2RGB	CRT DISPLAY	699.00	4/1/89
APM	MC2RGB	DISPLAY	625.00	3/1/90
APM	MC2RGB	CRT DISPLAY	753.00	6/1/88
APM	MC2RGB	CRT DISPLAY	659.00	10/1/89
APPLE	M0115	KEYBOARD	165.00	
APPLE	M0116	KEYBOARD	85.00	
APPLE	M0401	DISPLAY	710.00	11/1/87
APPLE	M3501	KEYBOARD	76.00	
APPLE	M4300	PERSONAL COMPUTER	7,930.00	4/9/93
APPLE	M5011	COMPUTER	2,156.00	10/1/90
APPLIED DIGITAL SYSTEMS	ADLCAN	DISK DRIVE UNIT	999.00	4/1/96
APZ	FT60	TAPE HANDLER	750.00	8/1/92
ARH	ASTECD	CRT DISPLAY	500.00	4/1/88
ARRIFLEX		TORQUE GAGE	50.00	
ASSOCIATED EQUIP. CORP.	R100	CHARGER BATTERY	50.00	
ASTROSYSTEMS	A1202	RESOL STANDARD	1,181.00	9/7/76
AUM	AT	COMPUTER, PERSONAL	2,261.00	10/1/86
AUTOSPERRY	550660P	TRANSDUCER	695.00	
B & K	9554	ACCESSORY KIT	3,988.00	
B & K INSTRUMENTS INC	1616	BANDPASS FILTR	3,355.20	9/1/82
B & K INSTRUMENTS INC	2209	SOUNDLEVEL MTR	2,865.60	8/1/82
B & K INSTRUMENTS INC	2425	RMS VOLTMETER	1,160.64	4/1/79
B & K INSTRUMENTS INC	2606	VOLTMETER	1,632.00	10/1/73
B & K INSTRUMENTS INC	2607	SOUND LEVEL ME	4,346.88	3/1/80
B & K INSTRUMENTS INC	2617	CATHODE FOLLOW	350.86	
B & K INSTRUMENTS INC	2619	AMPLIFIER	535.68	
B & K INSTRUMENTS INC	4230	MIKE CALIBRA	177.00	
B & K PRECISION	510	TRANSISTOR TESTER	110.00	
B & K PRECISION	830	CAPACITANCE METER	300.00	
B&K PRECISION	490	VIDEO ANALYZER	881.00	4/1/94
BALDOR	111	GRINDER-BUFFER	58.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
BALDWIN LIMA HAMILTON	625	LOAD CAL KIT	272.50	
BALDWIN LIMA HAMILTON	626	GAGE CALIB	265.00	
BALDWIN LIMA HAMILTON	626	ST GAGE CALIB	265.00	
BALDWIN LIMA HAMILTON	626	ST GAGE CALIB	265.00	
BALLANTINE	300H	VOLTMETER, AC	500.00	
BALLANTINE	6125C	SCOPE CALIBRATOR	6,500.00	5/1/83
BALLENTINE LAB	6125C	SCOPE CALIBRATOR	7,995.00	5/1/92
BARNES	FCS-1	BLACKBODY	195.00	
BAUSCH-LOMB	NONE	MICROSCOPE	626.40	
BELL & HOWELL	NONE	CABINET	824.00	
BELL & HOWELL	SR 900	MICRO READER	175.00	
BELL & HOWELL	SR VIII	READER	177.00	
BELL & HOWELL	SR VIII	READER	177.00	
BELL & HOWELL	SR900	FILM READER	183.00	
BERGER	NONE	TRIPOD	50.00	
BIDDLE	72-6346	RESISTANCE, BOX, DECADE	2,220.00	6/7/88
BINKS	331030	AIR COMPRESSOR	516.60	
BIRD ELECTRONIC CORP	611	WATTMETER	28.00	
BLACK & DECKER	582-6	SABER SAW	94.00	
BLACK BOX	IC026A	NETWORK INTERFACE	605.00	2/1/94
BLACK BOX	LE1090A-AUI	NETWORK REPEATER	2,045.00	5/1/94
BLACK BOX	PI553A	PRINT SPOOLER	296.00	1/1/93
BLACK BOX	TS286B	INTERFACE TEST SET, CENT	229.00	
BLACK BOX CORP	LE003A	ETHERNET TRANSCEIVER	215.00	4/2/96
BLAKE MFG CO	CO-AX	INDICATOR	160.00	
BOLEY	31047	LATHE	1,107.00	10/16/73
BOLEY		LATHE	3,000.00	2/20/75
BOONTON	102F	SIG GENERATOR	5,359.25	11/1/82
BRIDGEPORT	VBA	MILLING MACH	5,337.75	10/16/73
BROOKLYN	MERCURY	THERMOMETER	15.30	
BROOKLYN		THERMOMETER	15.30	
BROOKS	1052	FLOW CALIB	150.00	
BROOKS	1051A	FLOW CALIBRA.	12,432.42	9/1/74
BROWN & SHARPE	599	MICROMETER	250.00	
BROWN & SHARPE	942	MACHINIST KIT	235.00	
BROWN & SHARPE	C800A	VERN HT GAGE	121.75	
BTC	NT-1412A	DISPLAY	500.00	8/23/94

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
BULOVA	TR50	CLEANER	165.00	
CAMILE	22	SHUTTER ANALY	995.00	2/1/85
CANON	K10144A	PRINTER	480.00	2/3/97
CCS	7712A	INTERFACE BRD	202.00	
CEC	360313-0100	PRESSURE REGULATOR	535.00	10/20/72
CHICAGO MAJ		TRIPOD	75.85	
CLARK	C500-25	FORK LIFT	8,950.00	5/28/85
CLAROSTAT	240	POWER RESISTOR DECADE	70.00	
CLAROSTAT	240C	DECADE RESIST	99.00	
CLAROSTAT	240C	DECADE BOX	115.00	
CLAROSTAT	240-C	POWER RESISTOR DECADE BOX	72.00	
CLAROSTAT	240-C	POWER RESISTOR DECADE BOX	99.00	
CLAROSTAT	240-C	DECADE RESISTOR	350.00	
CLON	286	COMPUTER, PERSONAL	1,400.00	4/1/93
CLON	286	COMPUTER, PERSONAL	2,768.00	2/1/88
CLON	286	COMPUTER, PERSONAL	1,850.00	1/1/88
CLON	MONO	CRT DISPLAY	118.00	12/1/86
CLON	MONO	CRT DISPLAY	1,115.00	8/1/93
CLON	MONO	CRT DISPLAY	1,115.00	7/1/93
CMS	STACK3	DISK-WINCHESTER	489.00	5/1/90
COHERENT	203	POWER METER, LASER	1,950.00	3/1/89
COMPAQ	420	DISPLAY	487.00	3/1/90
COMPAQ	2520	COMPUTER WIKEYBOARD	2,185.00	2/1/90
CONSOLIDATED CONTROL CORP	24-120	LEAK DETECTOR	3,900.00	2/1/75
CONSOLIDATED CONTROL CORP	TD2903-	TAPE DEGAUSSER	1,353.40	2/20/75
CONTROL DATA	1209.51	CEALIGNMENT RACK	1,835.00	
CORNELL-DUBILIER	CDA5	DECADE CAP.	26.00	
CORNELL-DUBILIER	CDB3	DECADE CAP.	25.00	
CORNELL-DUBILIER	CDC3	DECADE CAP.	25.00	
CORREN	100	TORQUE GAGE	50.00	
CORREN	500	TORQUE GAGE	50.00	
COX	AIB	FREQUENCY CONVERTOR	400.00	
COX INSTRUMENTS	0.0875	SONIC FLOW NOZZLE	900.00	
COX INSTRUMENTS	0.1375	SONIC FLOW NOZZLE	900.00	
CPQ	420	CRT DISPLAY	496.00	6/1/91
CPQ	DP286	COMPUTER, PERSONAL	2,600.00	10/1/87
CPQ	DP386	COMPUTER, PERSONAL	6,065.00	6/1/91
CRAFTSMAN	7830	VACUUM CLEANER	105.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
CRAFTSMAN	65786 & 65787	TOOL CHEST	180.00	
CRAFTSMAN	965024N	CHESTKOOLS	646.06	
CRAFTSMAN	965726N	CHEST WKOOLS	646.06	
CRONN		CONT ALT CHAMB	250.00	
CTX INTERNATIONAL	CVP-5468N1	DISPLAY	400.00	1/19/93
CVC	GM-100	GAGE	180.00	
CXQ	286	COMPUTER, PERSONAL	2,000.00	4/1/90
CXQ	1422	CRT DISPLAY	500.00	4/1/90
CZD	286	COMPUTER, PERSONAL	1,688.00	3/1/89
CZD	286	COMPUTER, PERSONAL	1,688.00	3/1/89
CZD	286	COMPUTER, PERSONAL	1,583.00	3/1/89
CZD	286	COMPUTER, PERSONAL	1,583.00	3/1/89
CZD	286	COMPUTER, PERSONAL	1,583.00	3/7/89
CZD	286	COMPUTER, PERSONAL	1,583.00	3/1/89
CZD	286	COMPUTER, PERSONAL	1,226.00	5/1/89
CZD	286	COMPUTER, PERSONAL	1,749.00	7/1/87
CZD	51086	CRT DISPLAY	400.00	8/1/86
CZD	51086	CRT DISPLAY	334.00	5/1/91
CZD	51086	CRT DISPLAY	334.00	5/1/91
CZD	51086	CRT DISPLAY	334.00	5/1/91
DAKE	0	DRAKE PRESS	85.00	
DANIELS MFG	M83507/7-01	CRIMPING TOOL KIT	920.00	7/24/95
DATA CHECK	1218	POWER SUPPLY	2,050.00	3/30/92
DATA CHECK	18002	EXTENDER BOARD	250.00	7/23/96
DATA MEASUREMENTS	6275	FM TEST UNIT	200.00	
DATA PRECISION	175	MULTIMETER	183.33	
DATA PRECISION	245	DIG MULTIMETER	280.25	
DATA PRECISION	245	DIG MULTIMETER	286.15	
DATA PRECISION	938	CAPACITANCE METER	225.00	
DATAMETRICS	525	HEATER BASE	475.00	
DATAMETRICS	525	HEATER BASE	475.00	8/3/95
DATAMETRICS	525	HEATER BASE	475.00	8/3/95
DATAMETRICS	525	HEATER BASE	475.00	8/3/95
DATAMETRICS	525	HEATER BASE	475.00	
DATAMETRICS	525	BAROCEL HEATER BASE	150.00	4/2/96
DATAMETRICS	699	POWER SUPPLY	570.00	
DATAMETRICS	699	POWER SUPPLY	1,100.00	8/1/89
DATAMETRICS	700	POWER SUPPLY	550.00	
DATAMETRICS	700	POWER SUPPLY	604.50	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
DATAMETRICS	1015	SIGNAL COND.	1,740.00	6/1/85
DATAMETRICS	1015	SIGNAL COND.	1,740.00	6/1/85
DATAMETRICS	1015	SIGNAL COND.	1,740.00	6/1/85
DATAMETRICS	1015	SIGNAL COND.	1,740.00	6/1/85
DATAMETRICS	1174	MANOMETER	1,553.25	8/1/75
DATAMETRICS	1174	PRESS SYS	1,553.25	1/1/76
DATAMETRICS	1015-D4C12A1G	SIGNAL COND.	1,740.00	6/1/85
DATAMETRICS	1015D5C	SIG CONDITIONE	1,296.75	8/1/75
DATAMETRICS	1015D5C	SIG CONDITIONE	1,296.75	8/1/75
DATAMETRICS	1015D5C	SIG CONDITIONE	1,296.75	8/1/75
DATAMETRICS	1015D5C	SIG CONDITIONE	1,296.75	8/1/75
DATAMETRICS	1018B	MANOMETER SYST	2,185.00	2/1/75
DATAMETRICS	1174-A5A4A1A1	MANOMETER	1,477.25	8/1/75
DATAMETRICS	571D-10	PRESS SENSOR	1,254.00	3/1/76
DATAMETRICS	571D-10	PRESS SENSOR	1,372.75	8/1/75
DATAMETRICS	571D-10	PRESS SENSOR	1,254.00	3/1/76
DATAPULSE	101	PULSE GENERATOR	405.00	
DATAPULSE	101	PULSE GENERAT.	410.00	
DATAPULSE	110B	PULSE GENERATOR	1,212.50	10/1/73
DATATAPE	TSC2000	TAPE CALIBRATOR	9,952.00	3/1/89
DATATAPE	TSC-2000	TAPE CALIBRATOR	12,218.00	10/1/91
DATRON	4708	STANDARD CALIBRATION	24,810.00	9/1/90
DATRON	4000A	VOLT. CALIBRA	603.00	
DATUM	9110	GENERATOR, TIME CODE	3,088.00	6/1/76
DAYTON	32528	AIR DRYER	446.21	
DAYTON	32574	EXHAUSTER	421.00	
DELL	286	COMPUTER, PERSONAL	1,200.00	10/1/87
DELL	286	COMPUTER WIKEYBOARD	2,533.00	9/1/86
DELL	286	COMPUTER, PERSONAL	2,767.00	10/1/87
DELL	286	COMPUTER, PERSONAL	2,674.00	9/1/87
DELL	310/4	COMPUTER	5,889.00	10/1/89
DELL	AT121	COMPUTER, PERSONAL	2,348.00	4/1/93
DELL	D825HT	CRT DISPLAY	400.00	5/29/97
DELL	MONO1	CRT DISPLAY	350.00	3/1/90
DELL	MONO1	CRT DISPLAY	400.00	9/1/93
DELL	MONO1	CRT DISPLAY	400.00	9/1/93
DELL	MONO1	CRT DISPLAY	400.00	9/1/93
DELL	PC112	COMPUTER, PERSONAL	1,018.00	6/1/87
DELL	PC200	COMPUTER, PERSONAL	1,772.00	4/1/88
DELL	PC200	COMPUTER, PERSONAL	3,051.00	9/1189

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
DELL	PC200	COMPUTER, PERSONAL	1,490.00	6/1/86
DELL	SMS	NETWORK SERVER	5,400.00	5/29/97
DELL	vc2	DISPLAY	400.00	10/1/89
DELL	XTURBO	COMPUTER, PERSONAL	1,000.66	9/1/88
DELTA DESIGN	3900CN	TEST CHAMBER	3,215.00	10/29/85
DELTA DESIGN	9059-5-31	TEST TEMPERATURE CHAMBER	6,290.00	4/5/90
DEQ	VR260	CRT DISPLAY	6,217.00	8/1/88
DESKTOP DISPLAYS	DDU1528	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	DDU1528T	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	DDU1528T	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	GD-5164L	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	GD-5164L	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	GD-5164L	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	GD-5164L	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	GD-5164L	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	GD-5164L	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	GD-5164L	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	GD-5164L	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	GD-5164L	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	GD-5164L	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	GD-5164L	DISPLAY	200.00	4/1/96
DESKTOP DISPLAYS	GD-5164L	DISPLAY	200.00	4/1/96
DI-ACRO	3	SHEARER	335.00	
DI-ACRO	4	HAND SHEARS	1,230.00	10/24/81
DI-ACRO	24	BRAKE	1,100.00	10/24/81
DIGITEC	3110	CURRENT SOURCE	1,256.15	4/1/79
DILLON	E	FORCE GAUGE	911.00	4/1/94
DMC	6275	FM TEST UNIT	500.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
DO ALL	779	OMNI-VISE	449.00	
DO ALL	1BX24X4	GRAN SURF PLAT	187.00	
DO ALL	G-R	GAGE BLOCKS	58.50	
DO ALL	NONE	TABLE	660.00	
DO ALL		BENCH GRINDER	97.00	
DO ALL		BAND SAW	4,783.00	10/16/73
DOALL	24X24X5	INSPECTION BLOCK	500.00	7/19/95
DOLCH INSTS.	64300	ANALYZER, LOGIC	14,335.50	4/1/86
DOUGHBOY INDUSTRIES	HS-C	BAG SEALER	150.00	8/3/95
DREMEL	395	MOTO-TOOL	127.00	
DREMEL	380-S	MOTO TOOL KIT	60.00	
DRESSER	71OA	PRESS.INDICATO	1,260.00	
DRESSER	ROTO TORQ	TORQUE WRENCH	116.00	
DRUCK	DPI/40	INDICATOR	3,470.00	11/1/86
DRUCK	DPI605	PRESSURE CALIBRATOR	5,950.00	4/1/93
DRUCK	DPI605	PRESSURE CALIBRATOR	6,775.00	8/9/94
DRUCK	PDCR 910-1422	PRESSURE TRANSDUCER	550.00	8/1/94
DRUCK	PDCR910	PRESSURE TRANSDUCER	540.00	4/1/93
DUMORE	55-011	TOOL GRINDER	284.00	
DUNKLEBERGER	236	RESIST SUB BOX	20.00	
DUNKLEBERGER	236	RESIST SUB BOX	20.00	
DUNKLEBERGER	236	RESIST SUB BOX	20.00	
DUNKLEBERGER	236	RESIST SUB BOX	20.00	
DVC	6275	CAL TEST UNIT	500.00	
DYNISCO	1000	CALIBRATOR	1,875.00	11/12/86
EBERLINE	PAC-1SA	PORTABLE ALPHA COUNTER	*654.00*	
EBERLINE	S94-1	PLUTO ALPHA SD	300.00	
ECD CORPORATION	100	CAP METER	295.00	
ECD CORPORATION	100	CAPACIT.METER	289.00	
ECTRON	1120	CALIBRATOR	5,078.00	10/1/84
ECTRON	1120	THERMOCOUPLE CALIBRATOR	4,560.00	5/1/88
ECTRON	11OOCF	CALIBRATOR	2,774.40	7/1/80
ECTRON	1100CP	THERMO CALIBR.	2,538.00	8/1/78
EDC CORPORATION	520A-D	STANDARD VOLT	5,645.00	4/30/86
EDC CORPORATION	MV100	VOLT.STANDARD	850.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
EDC CORPORATION	MV-106	VOLTAGE STANDARD	1,697.50	4/1/88
EDWARDS	1570	PRESSURE INDICATOR	605.00	3/18/94
EG & G FLOWTECH	FTBP	INTERFACE UNIT	1,500.00	4/18/95
EG&G	300	HYGROMETER D.P	9,244.90	6/1/85
EG&G	300	HYGROMETER, DEWPOINT	10,264.80	7/1/87
EG&G	550-1	PHOTOMETER	2,908.00	8/19/88
EIP MICRO.	578	FREQ. COUNTER	15,375.00	5/1/83
ELEC SCIENTIFIC	242D	WHEAT BRIDGE	4,315.50	2/20/75
ELECTRO INTERNATIONAL	PLT1/PP	POWER SUPPLY	2,030.00	4/1/81
ELECTRONIC DEVELOPMENT CORP.	501	VOLT STD.	3,259.20	
ELECTRONIC DEVELOPMENT CORP.	501H	VOLTAGE STANDARD	3,259.00	4110/87
ELECTRONIC DEVELOPMENT CORP.	CR103	DC VOLTAGE STANDARD	1,850.00	5/1/83
ELECTRONIC DEVELOPMENT CORP.	MV100N	DC STANDARD	745.00	
ELECTRONIC DEVELOPMENT CORP.	MV100N	POWER SUPPLY	805.10	
ELECTRONIC DEVELOPMENT CORP.	MV100N	VOLTAGE STD.	805.10	
ELECTRONIC DEVELOPMENT CORP.	MV100N	VOLTAGE STD.	747.50	
ELECTRONIC DEVELOPMENT CORP.	VS-111N	DC VOLTAGE STANDARD	845.00	
ELIS	PHVD	VOLTAGE DIVIDE	2,996.00	8/1/82
EMCOR	NONE	INSTR RACK	100.00	
EMPIRE ABRAI	P-50	SANDBLASTER	100.00	
ENDEVCO	2225	ACCELEROMETER	366.00	
ENDEVCO	2225	ACCELEROMETER	366.00	
ENDEVCO	2623	POWER SUPPLY	255.00	
ENDEVCO	2224C	ACCELEROMETER	200.00	
EPA	FX1050	PRINTER, DIGITAL	471.00	
EPA	FX1050	PRINTER, DIGITAL	471.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
EPA	FX1050	PRINTER, CHARACTER	449.00	5/1/89
EPA	FX286E	PRINTER, CHARACTER	562.00	8/1/92
EPA	FX286E	PRINTER, CHARACTER	386.00	8/1/92
EPA	FX286E	PRINTER, CHARACTER	530.00	8/1/92
EPA	FX286E	PRINTER, CHARACTER	530.00	3/1/88
EPA	FX80	PRINTER, CHARACTER	200.00	1/1/91
EPA	FX80	PRINTER, CHARACTER	630.00	6/1/83
EPA	FX80	PRINTER, CHARACTER	700.00	6/1/88
EPA	FX85	PRINTER, CHARACTER	389.00	12/1/85
EPA	FX85	PRINTER, CHARACTER	400.00	8/1/85
EPA	FX85	PRINTER, CHARACTER	395.00	3/1/86
EPA	FX85	PRINTER, CHARACTER	359.00	6/1/86
EPA	FX85	PRINTER, CHARACTER	323.00	1/1/86
EPA	FX850	PRINTER, CHARACTER	445.55	10/1/91
EPA	FX850	PRINTER, CHARACTER	445.55	10/1/91
EPA	FX850	PRINTER, CHARACTER	336.00	2/1/90
EPA	FX-850	PRINTER, CHARACTER	200.00	1/1/92
EPA	FX86E	PRINTER, CHARACTER	386.00	12/1/87
EPA	FX86E	PRINTER, CHARACTER	289.00	4/1/88
EPA	FX86E	PRINTER, CHARACTER	369.00	4/1/87
EPA	FX86E	PRINTER, CHARACTER	346.00	9/1/87
EPA	FX86E	PRINTER, CHARACTER	309.00	6/1/87
EPA	LX800	PRINTER, CHARACTER	200.00	3/1/89
EPA	MX80	PRINTER, CHARACTER	592.00	7/1/83
EPA	MX80	PRINTER, CHARACTER	559.00	4/1/82
EPA	MX80	PRINTER, CHARACTER	710.00	4/1/82
EPA	MX80	PRINTER, CHARACTER	559.00	4/1/82
EPA	P82PA	PRINTER, CHARACTER	383.00	8/1/89
EPA	P82PB	PRINTER, CHARACTER	336.00	2/1/90
EPSON	FX850	PRINTER	367.00	8/1/89
EPSON	LQ950	PRINTER	512.00	2/1/90
EPSON	P70RA	DIGITAL PRINTER	300.00	9/1/88
EPSON	P70RA	DIGITAL PRINTER	300.00	9/1/88
EPSON	P70RA	DIGITAL PRINTER	300.00	9/1/88
EPSON	P70RA	DIGITAL PRINTER	300.00	9/1/88
EPSON	P70RA	PRINTER	200.00	3/1/89
EPSON	P70RA	PRINTER	200.00	3/1/69
EPSON	P82AA	PRINTER, DIGITAL	386.00	4/1/87
EPSON	P82PA	PRINTER	368.00	5/1/89
EPSON	P88MA	PRINTER	628.00	2/1/88
ESI	801	DETECTOR DC	1,314.35	2/20/75

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
ESI	874	PHASE COMP	402.00	
ESI	231C	WHEATSTONE RESISTANCE MEASURING SYSTEM	2,263.49	10/16/73
ESI	LC875B	LEAD COMPENS.	354.68	
ESI	SR1010	RESIST. STD.	715.00	
ETHERNET	LE050A	TRANSCEIVER	323.28	
ETHERNET	LE050A	TRANSCEIVER	323.28	
ETHERNET	LE050A	TRANSCEIVER	323.28	
ETHERNET	LE050A	TRANSCEIVER	323.28	
ETHERNET	LE050A	TRANSCEIVER	323.28	
EVV	MN200	CRT DISPLAY	400.00	8/1/88
EVX	1800A	COMPUTER, PERSONAL	2,199.00	10/1/87
EVX	1800A	COMPUTER, PERSONAL	2,327.00	11/1/87
EXACT	124	FUNCTION GENERATOR	577.15	
EXACT	124	FUNCTION GENERATOR	577.15	
FAIR MO	5901	WEIGHT SCALE	127.50	
FISHER SCIENTIFIC	1096V1	VAC PUMP	162.00	
FISHER SCIENTIFIC	50ML	BURET	37.50	
FLUKE	8.0E-09	VOLTAGE DIVIDER	395.00	
FLUKE	23	DIGITAL MULTIMETER	143.10	
FLUKE	23	DIGITAL MULTIMETER	143.10	
FLUKE	23	DIGITAL MULTIMETER	143.10	
FLUKE	23	DIGITAL MULTIMETER	143.00	
FLUKE	23	MULTIMETER	140.00	4/1/91
FLUKE	23	MULTIMETER	140.00	
FLUKE	52	DIGITAL THERMOMETER	170.10	
FLUKE	77	DIG MULTIMETER	129.00	
FLUKE	77	MULTIMETER	116.10	
FLUKE	77	MULTIMETER, DIG.	116.10	
FLUKE	77	MULTIMETER, DIG.	116.10	
FLUKE	77	MULTIMETER, DIG.	116.10	
FLUKE	77	MULTIMETER, DIG.	116.10	
FLUKE	77	MULTIMETER, DIG.	116.10	
FLUKE	77	DIGITAL MULTIMETER	107.10	
FLUKE	77	DIGITAL MULTIMETER	107.10	
FLUKE	77	DIGITAL MULTIMETER	107.10	
FLUKE	77	DIGITAL MULTIMETER	107.10	
FLUKE	77	DIGITAL MULTIMETER	107.10	
FLUKE	77	DIGITAL MULTIMETER	130.00	
FLUKE	77	DIGITAL MULTIMETER	130.00	
FLUKE	77	MULTIMETER	130.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
FLUKE	77	MULTIMETER	130.00	
FLUKE	77	DIGITAL MULTIMETER	130.00	
FLUKE	77	DIGITAL MULTIMETER	130.00	
FLUKE	77	DIGITAL MULTIMETER	130.00	
FLUKE	77	DIGITAL MULTIMETER	130.00	
FLUKE	77	MULTIMETER	130.00	
FLUKE	77	DIGITAL MULTIMETER	130.00	
FLUKE	77	DIGITAL MULTIMETER	138.00	
FLUKE	77	DIGITAL MULTIMETER	138.00	
FLUKE	77	DIGITAL MULTIMETER	138.00	
FLUKE	77	DIGITAL MULTIMETER	138.00	
FLUKE	77	DIGITAL MULTIMETER	143.10	
FLUKE	77	DIGITAL MULTIMETER	143.10	
FLUKE	77	DIGITAL MULTIMETER	143.10	
FLUKE	77	DIGITAL MULTIMETER	143.10	
FLUKE	77	DIGITAL MULTIMETER	143.10	
FLUKE	77	DIGITAL MULTIMETER	143.10	
FLUKE	77	DIGITAL MULTIMETER	143.10	
FLUKE	77	MULTIMETER	140.00	
FLUKE	77	DIGITAL MULTIMETER	180.00	1/1/92
FLUKE	77	DIGITAL MULTIMETER	180.00	
FLUKE	77	DIGITAL MULTIMETER	180.00	
FLUKE	77	DIGITAL MULTIMETER	180.00	
FLUKE	77	DIGITAL MULTIMETER	180.00	1/1/92
FLUKE	77	DIGITAL MULTIMETER	180.00	
FLUKE	77	DIGITAL MULTIMETER	180.00	
FLUKE	77	DIGITAL MULTIMETER	180.00	
FLUKE	77	DIGITAL MULTIMETER	180.00	
FLUKE	77	DIGITAL MULTIMETER	180.00	
FLUKE	77	DIGITAL MULTIMETER	180.00	
FLUKE	77	DIGITAL MULTIMETER	180.00	1/1/92
FLUKE	77	DIGITAL MULTIMETER	143.00	12/1/92
FLUKE	77	DIGITAL MULTIMETER	143.00	12/1/92
FLUKE	77	DIGITAL MULTIMETER	143.00	12/1/92
FLUKE	77	DIGITAL MULTIMETER	143.00	1/1/93
FLUKE	77	DIGITAL MULTIMETER	143.00	1/1/93
FLUKE	77	DIGITAL MULTIMETER	143.00	1/1/93
FLUKE	77	DIGITAL MULTIMETER	143.00	1/1/93
FLUKE	77	DIGITAL MULTIMETER	143.00	1/1/93
FLUKE	77	DIGITAL MULTIMETER	143.00	1/1/93

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
FLUKE	87	DIGITAL MULTIMETER	251.00	
FLUKE	87	DIGITAL MULTIMETER	251.00	
FLUKE	87	DIGITAL MULTIMETER	251.00	
FLUKE	87	DIGITAL MULTIMETER	261.00	
FLUKE	87	DIGITAL MULTIMETER	261.00	
FLUKE	87	DIGITAL MULTIMETER	261.00	12/1/92
FLUKE	95	SCOPEMETER	1,300.00	12/1/92
FLUKE	97	SCOPEMETER	1,561.00	12/1/92
FLUKE	200	IC TESTER	431.65	
FLUKE	207	RECEIVER	2,775.00	2/1/86
FLUKE	36982	THERMOCOUPLE SELECTOR	635.00	
FLUKE	103A	COMPARATOR	1,995.00	4/1/81
FLUKE	1920A	FREQ COUNTER	1,446.41	8/9/78
FLUKE	2176A	TEMP INDICATOR	546.25	
FLUKE	2176A	THERMOMETER	617.50	
FLUKE	2190A	DIGTHERMOMETER	1,045.00	6/1/85
FLUKE	2190A	DIGTHERMOMETER	1,045.00	6/1/85
FLUKE	2190A	DIGTHERMOMETER	1,045.00	6/1/85
FLUKE	2190A	DIGITAL THERMOMETER	1,299.00	3/1/83
FLUKE	2190A1	DIGITAL THERMOMETER	1,085.00	10/1/90
FLUKE	332B	POWER SUPPLY	2,295.00	10/1/73
FLUKE	332D	POWER SUPPLY	2,935.10	2/1/75
FLUKE	332D	POWER SUPPLY	2,935.10	9/1/74
FLUKE	332D	POWER SUPPLY	6,388.75	7/1/83
FLUKE	335D	DC VOLTAGE STANDARD	3,584.15	3/1/76
FLUKE	343A	DC VOLTAGE CALIBRATOR	1,935.15	1/1/76
FLUKE	343A	DC VOLTAGE CALIBRATOR	1,935.15	3/1/76
FLUKE	343A	DC VOLTAGE CALIBRATOR	2,129.15	2/1/77
FLUKE	407D	POWER SUPPLY	360.00	
FLUKE	408A	POWER SUPPLY	990.00	
FLUKE	408A	POWER SUPPLY	2,500.00	
FLUKE	5100A	CALIBRATOR	7,918.99	1/1/79
FLUKE	5100B	VOLT.CALIBRATO	8,635.20	10/1/81
FLUKE	52 K/J	DIGITAL THERMOMETER	189.00	
FLUKE	52 K/J	DIGITAL THERMOMETER	169.00	
FLUKE	5200A	VOLT CALIBRA	3,915.10	2/1/75
FLUKE	5200A	VOLT CALIBRA	4,360.15	3/1/76
FLUKE	5200A	AC VOLTAGE CALIBRATOR	17,719.00	3/28/89
FLUKE	5205A	PWR AMPLIFIER	7,881.90	6/26/85
FLUKE	5205A	POWER AMPLIFIER	8,413.00	6/20/86
FLUKE	5215A	POWER AMPLIFIER	2,100.00	3/28/89

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
FLUKE	5220A	AMPLIFIER	3,370.00	3/5/80
FLUKE	5440A	CALIBRATOR	12,302.50	7/7/83
FLUKE	8020A	MULTIMETER	182.00	
FLUKE	8020A	DIG. MULTIMTR.	182.00	
FLUKE	8020A	DIG. MULTIMTR.	182.00	
FLUKE	8020A	DIG MULTIMTR	182.00	
FLUKE	8020B	DIGITAL MULTIMETER	186.79	
FLUKE	8050A	DIGITAL MULTIMETER	374.52	
FLUKE	8060A	DIG.MULTIMETER	349.00	
FLUKE	8060A	DIG.MULTIMETER	349.00	
FLUKE	8060A	MULTIMETER, DIG.	314.00	
FLUKE	8060A	DIGITAL MULTIMETER	351.00	
FLUKE	8062A	MULTIMETER, DIG.	265.50	
FLUKE	8062A	MULTIMETER, DIG.	265.50	
FLUKE	8062A	MULTIMETER, DIG.	265.50	
FLUKE	80E	DEC VOLT DIV.	350.00	
FLUKE	80I-410	CURRENT PROBE AC/DC	259.00	
FLUKE	80K-40	HIGH VOLTAGE PROBE	80.00	
FLUKE	80TK	THERMOCOUPLE MODULE	65.00	
FLUKE	8120A	VOLTMETER	868.15	
FLUKE	823A	AC DC DIF VMTR	1,220.00	9/1/73
FLUKE	8300A	DIGITAL VOLTMETER	2,095.00	10/1/73
FLUKE	8300A	VOLTMETER	2,701.45	2/1/75
FLUKE	8300A	DIGITAL VOLTMETER	2,701.45	2/1/75
FLUKE	8300A	DIGITAL VOLT	1,639.30	1/1/74
FLUKE	853A	DIG MULTIMETER	480.00	
FLUKE	853A	DIFFERENTIAL MULTIMETER	480.15	
FLUKE	853A	MULTIMETER	431.65	
FLUKE	853A	DIFFERENTIAL MULTIMETER	240.00	
FLUKE	8800A	DIG MULTIMETER	955.45	
FLUKE	8800A	DIGITAL MULTIMETER	955.45	
FLUKE	8800A	DIGITAL MULTIMETER	1,151.32	3/1/79
FLUKE	8800A	DIG MULTIMETER	972.69	
FLUKE	8800A	DIG MULTIMETER	972.69	
FLUKE	8810A	MULTIMETER	1,238.40	9/10/82
FLUKE	8810A	MULTIMETER	1,238.40	9/1/82
FLUKE	8810A	DIG MULTIMETER	1,218.10	10/1/84
FLUKE	8810A	DIGITAL MULTIMETER	1,218.00	10/1/84
FLUKE	8810-A	DIG.MULTIMETER	1,100.00	10/1/84
FLUKE	883AB	VOLTMETER DIFFERENTIAL	1,378.70	9/1/73
FLUKE	883AB	AC/DC DIFFERENTIAL	1,378.70	9/1/73

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
		VOLTMETER		
FLUKE	8840A	DIG MULTIMETER	790.08	
FLUKE	8840A	DIG MULTIMETER	790.08	
FLUKE	8840A	MULTIMETER	1,100.00	2/1/92
FLUKE	8842A	DIGITAL MULTIMETER	1,395.00	1/31/90
FLUKE	8842A	DIGITAL MULTIMETER	1,395.00	1/31/90
FLUKE	8842A	VOLTMETER	909.15	
FLUKE	8842A	VOLTMETER	909.15	
FLUKE	8842A	DIGITAL MULTIMETER	1,170.00	1/16/92
FLUKE	8842A/059	DIGITAL MULTIMETER	1,300.00	1/1/93
FLUKE	885A	DC DIFF VOLT	1,060.00	9/1/73
FLUKE	895A	DC DIFFERENTIAL VOLTMETER	2,167.56	6/6/79
FLUKE	895A	VOLTMETER, DIFF.	4,746.53	4/30/86
FLUKE	931B	VOLTMETER RMS	1,045.00	9/1/73
FLUKE	A90	SHUNT	255.00	
FLUKE	PM3065	OSCILLOSCOPE	1,745.00	9/1/90
FLUKE	Y8100	CURRENT PROBE	259.00	
FUJ	FKB293	KEYBOARD	99.00	11/1/87
FUJ	FRB2930	KEYBOARD	99.00	2/1/83
GATEWAY 2000	CS1024N12	DISPLAY	400.00	10/1/93
GATEWAY 2000	DESKTOP 386	COMPUTER W/KEYBOARD	1,980.00	6/1/92
GATEWAY 2000	MINI DESKTOP	COMPUTER W/KEYBOARD	1,469.00	10/1/93
GDD	LDS309	MODEM	450.00	5/1/84
GEIER & BLUHM	NONE	LEVEL	79.00	
GENERAL EASTERN	DPG-300	HUMIDITY GENERATOR	3,325.00	5/1/88
GENERAL ELECTRIC	10	RECEIVER	87.80	
GENERAL INSTRUMENT CORP.	D2213	ANTENNA	1,867.00	12/1/89
GENERAL RESISTANCE	102T	STD RESISTOR	275.00	
GENERAL RESISTANCE	103T	STD RESISTOR	275.00	
GENERAL RESISTANCE	104T	STD RESISTOR	750.00	
GENERAL RESISTANCE	105T	STD RESISTOR	750.00	
GENERAL	106T	STD RESISTOR	800.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
RESISTANCE GENERAL	DAS-46	DIAL-A-SOURCE	875.00	
RESISTANCE GENERAL	DAS66AX	POWER SUPPLY	1,293.50	8/1/78
RESISTANCE GENERAL	DAS86	POWER SUPPLY	1,442.75	8/1/78
RESISTANCE GENERAL	DV4107	VOLTAGE DIV.	895.00	
RESISTANCE GENERAL	LRC201	VOLT COMPENSAT	250.00	
RESISTANCE GENRAD	1986	SOUND CALIBRA.	855.95	
GENRAD	1986	SOUND CALIBRA.	855.95	
GENRAD	1203B	POWER SUPPLY	65.00	
GENRAD	1209-B	UNIT OSCILLATOR	261.95	
GENRAD	1210C	SIG. GENERATOR	210.00	
GENRAD	1218-A	UNIT OSCILLATOR	465.95	
GENRAD	1232A	AMPLIFIER	385.00	
GENRAD	1311A	AUDIO OSCILLA.	382.89	
GENRAD	1403D	STD. CAP.	80.00	
GENRAD	1409L	STD CAP	55.00	
GENRAD	1409-R	STD. CAPACITOR	85.00	
GENRAD	1419A	DECADE CAP.	180.00	
GENRAD	1432-B	DECADE RESISTOR	220.00	
GENRAD	1432M	DECADE RES	154.00	
GENRAD	1432P	DECADE RESIST	154.00	
GENRAD	1432P	DECADE RESISTR	156.00	
GENRAD	1432-P	DEC. RESISTOR	154.00	
GENRAD	1432X	DECADE RESIST	100.00	
GENRAD	1433W	DECADE RESIST	176.50	
GENRAD	1454A	DEC VOLT DIV	162.89	
GENRAD	1454A	DEC VOLT DIV	161.89	
GENRAD	1454A	DECADE DIVIDER	600.00	
GENRAD	1454-A	DECADE VOLTAGE DIVIDER	161.00	
GENRAD	1455BH	VOLT DIVIDER	280.00	
GENRAD	1482E	STD. INDUCR.	175.00	
GENRAD	1482K	STD. INDUCR.	145.00	
GENRAD	1482N	STD. INDUCR.	160.00	
GENRAD	1482-N	STD. INDUCTOR	110.00	
GENRAD	1482P	STD. INDUCR.	190.00	
GENRAD	1482T	STD. INDUCR.	385.00	
GENRAD	1490F	DECADE INDUCT	586.50	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
GENRAD	1490F	DECADE INDUCT	635.00	
GENRAD	1531A	STROBOTAC	279.77	
GENRAD	1615-P1	STD CAPACITOR	85.00	
GENRAD	1620AP	CAPACITANCE BRIDGE	4,222.00	12/1/76
GENRAD	1632A	INDUCT BRIDGE	1,395.00	2/1/77
GENRAD	1650A	IMP BRIDGE	450.00	
GENRAD	722D	CONDENSER	207.85	
GENRAD	W20MT3A	VARIAC	140.00	
GENRAD	W5MT3A	VARIAC	339.00	
GENRAD	W5MT3A	VARIAC	178.00	
GENRAD	W5MT3A	VARIAC	178.00	
GERTSCH	501	RATIO X FORMS	300.00	
GERTSCH	1011	VOLT DIVIDER	550.00	
GERTSCH	RT-5	RATIO TRANS.	400.00	
GLOBAL	NONE	MAG TAPE STORAGE RACK	790.00	
GLOBAL	C-6323	PRINTER STAND	149.00	
COMPUTER				
GOLDSTAR	1210A	MONITOR	95.00	
GOLDSTAR	1210A	DISPLAY	190.00	
GREINER ELEC	LTP	TIMER	549.50	
GSY	1550	COMPUTER, PERSONAL	5,269.00	10/1/91
GSY	1550	COMPUTER, PERSONAL	5,394.00	411191
GTW	386	COMPUTER, PERSONAL	1,500.00	8/1/91
GTW	386	COMPUTER, PERSONAL	1,500.00	8/1/91
GTW	386	COMPUTER, PERSONAL	2,845.00	9/1/91
GTW	486	COMPUTER, PERSONAL	3,920.00	8/1/93
GTW	486	COMPUTER, PERSONAL	3,645.00	7/1/93
GTW	486	COMPUTER, PERSONAL	1,469.00	10/1/93
GTW	CS1024	CRT DISPLAY	400.00	10/1/93
GTW	PMV14	CRT DISPLAY	500.00	8/1/86
GTW	PMV14	CRT DISPLAY	640.00	4/1/91
GTW	PMV14	CRT DISPLAY	300.00	8/1/91
GTW	PMV14	CRT DISPLAY	300.00	8/1/91
GTW	PMV14	CRT DISPLAY	400.00	9/1/91
GUILDLINE	65201	ADAPTERBOX	540.00	1/1/93
GUILDLINE	6500A	TERAOHMMETER	11,950.00	3/30/92
HAMPTON RUBBER	2 INCH	HOSE	195.00	8/28/95
HARPER	65000469	CYLINDER HAND TRUCK	105.00	
HARPER	4WHEEL	DOLLY/CART	183.00	10/10/96
TRUCKING, INC.	UPRIGHT			
HART SCIENTIFIC	2100	CONTROLLER	1,300.00	5/1/92
HASTINGS	LV-1X	VAC GAUGE	350.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
HASTINGS	SV1	VAC GAGE	139.70	
HASTINGS	VT-5	VACUUM GAUGE	285.00	
HASTINGS	vT-6	VACUUM GAUGE	180.00	
HDS	F3D0B081	COMPUTER W/KEYBOARD	3,724.00	12/26/96
HEIR-KLINE (PRO CRAFT)		SOLDERING MACHINE	188.00	
HELICOIL	-834	HELICOIL SET	23.90	
HELICOIL	7309	HELICOIL SET	25.15	
HELICOIL	8834	HELICOIL SET	30.50	
HELICOIL	8903	HELICOIL SET	29.05	
HELICOIL	10231	HELICOIL SET	27.95	
HELICOIL	11841	HELICOIL SET	23.90	
HELICOIL	11963	HELICOIL SET	27.20	
HELICOIL	14702	HELICOIL SET	38.15	
HELICOIL	14768	HELICOIL SET	38.15	
HELICOIL	35727	HELICOIL SET	24.40	
HELICOIL	42437	HELICOIL SET	26.70	
HELICOIL	43236	HELICOIL SET	26.20	
HENES MFG CO	S	WATER "ELDER	285.00	
HEWLETT PACKARD	35	CALCULATOR	387.10	
HEWLET PACKARD	35	CALCULATOR	387.10	
HEWLET PACKARD	6205	POWER SUPPLY	643.50	
HEWLET PACKARD	10529A	LOGIC TESTER	1,220.18	8/1/82
HEWLET PACKARD	1116A	SCOPE CART	100.00	
HEWLETT PACKARD	11683A	RANGE CALIBRATOR	708.75	
HEWLETT PACKARD	141T	DISPLAY	12,902.95	4/2/81
HEWLET PACKARD	200CD	WIDE RANGE OSCILLATOR	282.49	
HEWLETT PACKARD	200CD	WIDE RANGE OSCILLATOR	282.49	
HEWLETT PACKARD	200CDR	OSCILLATOR	225.00	
HEWLET PACKARD	202c	LO FREQ OSCILL	1,800.00	10/16/73
HEWLEIT PACKARD	203A	VARIABLE PHASE FUNCTION GENERATOR	1,259.24	9/1/73
HEWLETT	203A	VARIABLE PHASE FUNCTION	1,259.24	9/1/73

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
PACKARD		GENERATOR		
HEWLETT PACKARD	203A	GENE AUDIO SIG	1,876.05	1/1/76
HEWLETT PACKARD	211A	SQ WAVE GEN	313.11	
HEWLETT PACKARD	215A	PULSE GEN	1,882.69	9/1/73
HEWLETT PACKARD	241A	OSCILLATOR	492.64	
HEWLETT PACKARD	2686A	DIGITAL PRINTER	2,676.65	6/1186
HEWLETT PACKARD	310A	ANALYZER	2,806.65	1/1/74
HEWLETT PACKARD	312A	WAVE ANALYZER	3,912.16	4/1/81
HEWLETT PACKARD	31E	CALCULATOR	42.50	
HEWLETT PACKARD	3300A	FUNCTION GEN	1,226.00	
HEWLETT PACKARD	3305A	SWEEP PLUGIN	977.25	
HEWLETT PACKARD	3310A	GENERATOR	589.05	
HEWLETT PACKARD	3310A	FUNCTION GEN	589.05	
HEWLETT PACKARD	3310A	FUNC. GEN	727.65	
HEWLETT PACKARD	3312A	FUNCTION GENERATOR	1,619.75	2/1/89
HEWLETT PACKARD	3312A	FUNCTION GENERATOR	1,619.75	2/1/89
HEWLETT PACKARD	3325A	SYNTHESIZER	3,458.00	7/1/80
HEWLETT PACKARD	33258	SYNTHESIZER, FREQUENCY	4,563.99	5/1/88
HEWLETT PACKARD	3325B	FREQUENCY SYNTHESIZER	5,284.00	9/26/88
HEWLETT PACKARD	33440A	DIGITAL PRINTER	1,738.65	5/1/88
HEWLETT PACKARD	33440A	LASER PRINTER	1,340.00	7/1/90
HEWLETT PACKARD	33449A	PRINTER	2,406.00	4/17/91
HEWLETT PACKARD	334A	ANALYZER	1,467.18	3/21/88

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
HEWLETT PACKARD	334A	DISTORTION ANALYZER	1,467.18	7/24/80
HEWLETT PACKARD	334A	DISTORTION ANALYZER	1,467.18	7/1/80
HEWLETT PACKARD	334A	DJSTORTJONANALYZER	867.00	
HEWLETT PACKARD	339A	DISTORTION MEASUREMENT SET	2,484.99	11/1/82
HEWLETT PACKARD	3400A	VOLTMETER RMS	562.70	
HEWLETT PACKARD	3400A	RMS VOLTMETER	528.00	
HEWLETT PACKARD	3455A	VOLTMETER	3,366.GO	6/1/79
HEWLETT PACKARD	3456A	DIGITALVOLTMTR	3,552.00	7/1/83
HEWLETT PACKARD	3457A	MULTIMETER, DIGITAL	2,646.00	5/19/87
HEWLETT PACKARD	3458A	DIGITAL MULTIMETER	6,311.40	1/1/89
HEWLETT PACKARD	3478A	DIG MULTIMETER	1,248.00	5/20/83
HEWLETT PACKARD	3478A	DIG MULTIMETER	1,248.00	5/20/83
HEWLETT PACKARD	3478A	DIG MULTIMETER	1,248.00	5/20/83
HEWLETT PACKARD	3478A	MULTIMETER	940.27	
HEWLETT PACKARD	3478A	DIGITAL MULTIMETER	937.29	
HEWLETT PACKARD	3478A	MULTIMETER,DIGITAL	937.29	
HEWLETT PACKARD	3488A	SWITCH/CONTROLLER	1,559.00	4/25/85
HEWLEIT PACKARD	3495A	RELAY SCANNER	2,920.50	6/1/79
HEWLETT PACKARD	3495A	SCANNER	3,044.25	7/24/80
HEWLET PACKARD	3497A	DATA ACQUISITION SYSTEM	5,939.31	10/1/88
HEWLEIT PACKARD	350D	ATTENUATOR SET	126.78	
HEWLETT PACKARD	350D	ATTENUATOR SET	140.00	
HEWLETT	350D	ATTENUATOR	160.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
PACKARD HEWLETT	350D	ATTENUATOR	160.00	
PACKARD HEWLETT	350D	ATTENUATOR SET	165.00	
PACKARD HEWLETT	3561A	ANALYZER SPECTRUM	11,387.25	5/1/87
PACKARD HEWLETT	400E	AC VOLTMETER	287.12	
PACKARD HEWLETT	400E	AC VOLTMETER	287.12	
PACKARD HEWLEIT	400E	AC VOLTMETER	287.12	
PACKARD HEWLETT	400E	AC VOLTMETER	287.12	
PACKARD HEWLETT	400E	AC VOLTMETER	327.45	
PACKARD HEWLETT	400E	AC VOLTMETER	327.45	
PACKARD HEWLETT	400E	AC VOLTMETER	327.45	
PACKARD HEWLETT	400E	AC VOLTMETER	327.45	
PACKARD HEWLETT	400E	VOLTMETER	341.55	
PACKARD HRNLETT	400E	VOLTMETER	341.55	
PACKARD HEWLETT	400E	AC VOLTMETER	341.55	
PACKARD HEWLETT	400E	AC VOLTMETER	341.55	
PACKARD HRNLETT	400FL	VOLTMETER	336.60	
PACKARD HEWLETT	400FL	VOLTMETER	336.60	
PACKARD HEWLETT	411A	RF MILLIVOLTMETER	450.00	
PACKARD HRNLETT	415E	SWR METER	2,166.00	5/2/89
PACKARD HEWLETT	41CV	CALCULATOR	973.25	
PACKARD HEWLETT	41CV	CALCULATOR. ELECTRONIC	175.00	
PACKARD HEWLETT	425A	DC VOLT AMMETER	512.40	
PACKARD				

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
HEWLETT PACKARD	428B	DC MILLIAMMETER	606.65	
HEWLETT PACKARD	431B	POWER METER	450.00	
HEWLETT PACKARD	431C	POWER METER	475.00	
HEWLETT PACKARD	4329A	OHMMETER	752.85	
HEWLRT PACKARD	4329A	MEGOHMMETER	1,633.58	6/1/79
HEWLETT PACKARD	432A	POWER METER	495.00	
HEWLETT PACKARD	436A	RF POWER METER	3,213.00	4/30/86
HEWLETT PACKARD	4491A	MULTIPLEXER,ARMATURE DELA	425.25	
HEWLETT PACKARD	461A	AMPLIFIER	352.05	
HEWLETT PACKARD	461A	AMPLIFIER	352.05	
HEWLET PACKARD	465A	AMPLIFIER	191.54	
HEWLET PACKARD	467A	POWER AMPLIFIER	248.00	
HEWLET PACKARD	467A	RF POWER AMP	580.35	
HEWLETT PACKARD	495A	MICROWAVE AMPLIFIER.	2,916.81	4/1/81
HEWLET PACKARD	5004A	ANALYZER	1,056.00	
HEWLET PACKARD	50058	SIGNATURE MULTIMETER	3,633.75	7/11/84
HEWLET PACKARD	5245L	COUNTER	2,984.15	9/21/73
HEWLET PACKARD	5245L	COUNTER	2,984.15	1/7/74
HEWLET PACKARD	5245L	COUNTER	2,961.65	9/21/73
HEWLET PACKARD	5245L	COUNTER	2,984.15	9/21/73
HEWLETT PACKARD	5245L	FREQ COUNTER	2,697.75	2/20/75
HEWLETT PACKARD	5245L	FREQ. COUNTER	4,207.50	9/1/76
HEWLET	5245L	COUNTER	2,961.65	4/2/81

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
PACKARD HEWLET	5245L	COUNTER	2,980.70	4/2/81
PACKARD HEWLET	5253B	FREQ CONVERT	502.42	
PACKARD HEWLET	5253B	FREQUENCY CONVERTER	502.42	
PACKARD HEWLET	5253B	FREQUENCY CONVERTER	400.00	
PACKARD HEWLET	5254A	FREQ.CONVERTER	2,200.00	5/1/81
PACKARD HEWLETT	5254B	FREQ CONVERTER	827.40	
PACKARD HEWLET	5261A	VIDEO AMP	326.83	
PACKARD HEWLETT	5261A	VIDEO AMP.	325.00	
PACKARD HEWLETT	5262A	TIME INT UNIT	250.00	
PACKARD HEWLETT	5262A	TIME INT. UNIT	375.00	
PACKARD HEWLET	5265A	DIG. VOLTMETER	825.00	
PACKARD HEWLETT	5300A	COUNTER SYSTEM	391.05	
PACKARD HEWLETT	5300A	COUNTER SYSTEM	391.05	
PACKARD HEWLETT	5300B	MEASURING SYSTEM	792.00	
PACKARD HEWLETT	5302A	COUNTER PLUGON	272.25	
PACKARD HEWLET	5302A	COUNTER PLUGON	272.25	
PACKARD HEWLET	5302A	UNIVERSAL COUNTER	700.00	
PACKARD HEWLETT	5312A	MODULE INTERFACE	350.00	
PACKARD HEWLETT	5328A	COUNTER	1,633.50	7/24/80
PACKARD HEWLETT	5334A	FREQ. COUNTER	4,142.00	10/1/84
PACKARD HEWLET	5334A	COUNTER, FREQUENCY	4,568.70	9/16/87
PACKARD HEWLETT	5512A	COUNTER	982.45	
PACKARD				

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
HEWLETT PACKARD	59401A	BUSSYSTEMANALYZER	2,500.00	9/1/76
HEWLETT PACKARD	59401A	BUS SYSTEM ANALYZER	3,700.00	5/1/85
HEWLETT PACKARD	59501A	POWER SUPPLY	544.50	
HEWLETT PACKARD	606B	SIGNAL GENERATOR	1,562.16	4/1/81
HEWLETT PACKARD	608C	VHF SIG GEN	1,220.00	9/1/73
HEWLETT PACKARD	608D	VHF SIGNAL GENERATOR	1,300.00	9/1/73
HEWLETT PACKARD	6102A	POWER SUPPLY	368.00	
HEWLETT PACKARD	6102A	POWER SUPPLY	368.00	
HEWLET PACKARD	6102A	POWER SUPPLY	362.00	
HEWLETT PACKARD	6102A	PWR SUP.	362.00	
HEWLETT PACKARD	6102A	PWR SUPPLY	362.15	
HEWLETT PACKARD	6102A	PWR SUPPLY	362.15	
HEWLETT PACKARD	6102A	POWER SUPPLY	311.85	
HEWLETT PACKARD	6102A	POWER SUPPLY	351.45	
HEWLET PACKARD	6114A	POWER SUPPLY	1,152.00	8/1/82
HEWLETT PACKARD	612A	UHF SIGNAL GENERATOR	1,212.16	8/1/82
HEWLETT PACKARD	6166	UHF SIGNAL GENERATOR	1,950.00	9/1/73
HEWLET PACKARD	618B	SHF SIGNAL GENERATOR	2,268.60	4/1/81
HEWLETT PACKARD	6205B	POWER SUPPLY	514.80	
HEWLET PACKARD	6205B	POWER SUPPLY	514.80	
HEWLETT PACKARD	62366	PWR SUPPLY	528.00	
HEWLETT PACKARD	62378	POWER SUPPLY	715.00	
HEWLET	6255A	DC PWR. SUP.	641.50	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
PACKARD HEWLETT	6255A	POWER SUPPLY	650.00	
PACKARD HEWLEIT	6255A	POWER SUPPLY	641.50	
PACKARD HEWLEIT	626A	SHF SIGNAL GENERATOR	3,416.81	4/2/81
PACKARD HEWLETT	628A	SHF SIGNAL GENERATOR	3,416.81	4/1/81
PACKARD HEWLEIT	6450A	POWER SUPPLY	1,610.00	10/1/73
PACKARD HEWLETT	6459A	POWER SUPPLY	2,618.55	4/1/81
PACKARD HEWLEIT	6459A	POWER SUPPLY	2,618.55	4/1/81
PACKARD HEWLETT	651A	TEST OSCILLAT.	590.00	
PACKARD HEWLETT	651A	OSCILLATOR	613.85	
PACKARD HRNLETT	651A	TESTOSCILLATOR	599.00	
PACKARD HEWLEIT	652A	TEST OSCILLATOR	999.90	
PACKARD HEWLETT	7046A	X-Y RECORDER	3,366.00	9/1/76
PACKARD HEWLETT	721A	POWER SUPPLY	149.60	
PACKARD HEWLETT	721A	POWER SUPPLY	147.40	
PACKARD HEWLETT	721A	POWER SUPPLY	147.10	
PACKARD HEWLETT	721A	POWER SUPPLY	147.75	
PACKARD HEWLETT	721A	POWER SUPPLY	147.40	
PACKARD HEWLEIT	723A	POWER SUPPLY	235.95	
PACKARD HEWLEIT	723A	POWER SUPPLY	233.45	
PACKARD HEWLETT	745A	VOLTAGE CALIB	4,520.98	10/1/73
PACKARD HEWLETT	745A	AC CALIBRATOR	8,177.40	9/1/76
PACKARD HEWLEIT	745A	CALIBRATOR	4,521.00	2/1/86
PACKARD				

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
HEWLETT PACKARD	746A	VOLTAGE AMP	2.029.50	2/1/75
HEWLETT PACKARD	746A	HIGH VOLTAGE AMPLIFIER	3,265.00	9/1/77
HEWLETT PACKARD	7470A	PLOTTER	799.00	3/1/85
HEWLETT PACKARD	7470A	GRAPH. PLOTTER	787.22	3/1/85
HEWLETT PACKARD	7550A	PLOTTER	2,613.00	8/1/88
HEWLETT PACKARD	75C	CALCULATOR	750.00	
HEWLETT PACKARD	8011A	PULSE GENERATOR	792.00	
HEWLETT PACKARD	8011A	PULSE GEN.	519.75	
HEWLETT PACKARD	8011A	PULSE GENERATOR	1,085.63	6/1/81
HEWLETT PACKARD	82161A	RECORDER	467.50	
HEWLETT PACKARD	82162A	PRINTER	420.75	
HEWLETT PACKARD	82169A	INTERFACE	264.65	
HEWLETT PACKARD	8402A	PWR. MTR CALIB	475.00	
HEWLETT PACKARD	84026	CALIBRATOR	478.03	
HEWLEIT PACKARD	8443A	TRACKING GENERATOR/COUNTER	3,886.00	8/15/74
HEWLETT PACKARD	8444A	TRACKING GENERATOR	3,341.25	4/1/81
HEWLETT PACKARD	8445A	PRESELECTOR	528.00	
HEWLEIT PACKARD	8481H	POWER SENSOR	728.59	
HEWLETT PACKARD	8485A	POWER SENSOR	850.50	
HEWLETT PACKARD	8552B	IF SECTION	4,325.00	
HEWLEIT PACKARD	8553B	RF SECTION	3,540.50	9/10/82
HEWLETT PACKARD	8555A	RF SECTION	8,600.00	
HEWLETT	8614A	SIGNAL GENERATOR	1,661.81	4/2/81

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
PACKARD HEWLET	8616A	SIG. GENERATOR	2,100.00	4/2/81
PACKARD HEWLETT	940A	FREQ DOUBLER SET	1,511.81	4/1/81
PACKARD HEWLETT	C2001A	LASE!? PRINTER	7,086.00	2/1/94
PACKARD HEWLET	K02-434A	CALIBRATOR	1,000.00	4/1/81
PACKARD HEWLET-	11667B	RF POWER SPLITTER	1,011.00	
PACKARD HEWLET-	11715A	AM/FM TEST SOURCE	2,749.00	2/5/93
PACKARD HEWLET-	11722A	MODULE SENSOR	2,130.00	6/1/91
PACKARD HEWLET-	11812A	VERIFICATION KIT	1,993.00	5/1/91
PACKARD HEWLEIT-	3314A	FUNCTION GENERATOR	4,915.00	3/1/90
PACKARD HEWLET-	34401A	DIGITAL MULTIMETER	995.00	1/1/93
PACKARD HEWLET-	3458A	DIGITAL MULTIMETER	6,782.40	1/1/89
PACKARD HEWLET-	3498A	EXTENDER, OPTION HOLDER	2,508.00	8/1/91
PACKARD HEWLET-	35731A	DISPLAY	217.00	4/1/93
PACKARD HEWLET-	5245L	COUNTER	3,000.00	11/19/75
PACKARD HEWLETT-	5245L	COUNTER	2,480.00	5/18/77
PACKARD HEWLETT-	5245L	COUNTER	2,480.00	6/1/70
PACKARD HEWLETT-	5254A	FREQUENCY CONVERTER	925.00	
PACKARD HEWLEIT-	5254C	FREQUENCY CONVERTER	925.00	
PACKARD HEWLETT-	6237B	POWER SUPPLY	930.00	
PACKARD HEWLETT-	8116A	FUNCTION GENERATOR	4,036.47	2/1/90
PACKARD HEWLETT-	8474C	MICROWAVE DETECTOR	346.00	
PACKARD HEWLETT-	8474C	MICROWAVE DETECTOR	346.00	
PACKARD				

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
HEWLETT-PACKARD	8481D	POWER SENSOR	1,029.00	3/1/93
HEMETT-PACKARD	84904K	STEP ATTENUATOR	1,900.00	2/1/93
HEWLETT-PACKARD	84906K	ATTENUATOR	1,795.00	3/1/93
HEWLETT-PACKARD	8552B	IF SECTION PLUG IN	2,970.00	11/1/78
HEWLETT-PACKARD	873006	DIRECTIONAL COUPLER	976.00	
HEWLETT-PACKARD	87300C	DIRECTIONAL COUPLER	976.00	
HEWLETT-PACKARD	9133V	DISK DRIVE	2,158.00	10/1/84
HEWLETT-PACKARD	98568A	COMPUTER EXPANDER	1,444.00	4/1/93
HEMETT-PACKARD		LOGIC PROBE	297.00	
HICKOK	539B	TUBE TESTER	410.00	
HII	3001	COMPUTER, PERSONAL	1,053.00	5/1/93
HITACHI	V1085	OSCILLOSCOPE	1,646.00	1/1/93
HITACHI	V-1150	OSCILLOSCOPE	2,141.00	3/9/92
HITACHI	V-209	OSCILLOSCOPE	708.25	
HITACHI	VC6025	OSCILLOSCOPE	1,976.00	2/1/92
HI-TEC	RT101	KEYBOARD	85.00	
HI-TEK	RT-101	KEYBOARD	90.00	
HI-TEK	RT-101	KEYBOARD	90.00	
HI-TEK	RT-101	KEYBOARD	90.00	
HOLT	HCS1	CURRENT SHUNT	884.00	
HONEYWELL	320	XY RECORDER	1,353.15	9/1/73
HONEYWELL	906	OSCILLOGRAPH	2,942.00	2/20/75
HONEYWELL	1100	STD. RESISTOR	225.00	
HONEYWELL	1166	SHUNT	70.00	
HOUSTON	DMP-61	PLOTTER GRAPHICS	3,264.00	9/1/89
HP	3400A	RMS VOLTMETER	320.00	
HP	3400A	VOLTMETER	320.00	
HP	355c	ATTENTUATOR	160.00	8/7/95
HP	355C	ATTENUATOR	160.00	8/7/95
HP	355D	ATTENUATOR	160.00	8/7/95
HP	355D	ATTENUATOR	160.00	8/7/95
HP	35731A	DISPLAY	796.00	5/1/86
HP	35741A	DISPLAY	1,252.00	1/1/88
HP	35741A	DISPLAY	800.00	12/14/87

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
HP	35751M	TERMINAL WIKEYBOARD	796.00	6/1/86
HP	777D	DUAL DIRECTIONAL COUPLER	300.00	8/7/95
HP	777D	DUAL DIRECTIONAL COUPLER	300.00	8/7/95
HP	7945A	DISK DRIVE	4,560.00	4/1/86
HP	7945A	DISK DRIVE	4,560.00	3/26/87
HP	9122D	DISK DRIVE	904.00	5/1/85
HP	9122D	DISK DRIVE	1,050.00	9/25/86
HP	9123D	DISK DRIVE	461.00	6/1/86
HP	98561X	COMPUTER W/KEYBOARD	13,428.00	5/2/86
HP	98562A	COMPUTER EXPANDER	2,067.00	10/8/96
HP	98562X	COMPUTER WIKEYBOARD	10,556.00	1/1/88
HP	98562Y	COMPUTER WIKEYBOARD	16,644.00	10/8/96
HP	98568A	COMPUTER EXPANDER	1,793.00	1/1/88
HP	98568A	COMPUTER EXPANDER	1,444.00	5/21/86
HP	98570A	COMPUTER EXPANDER	1,865.00	12/1/89
HP	98785A	DISPLAY	6,201.00	10/1/88
HP	VL24/50E	COMPUTER	2,000.00	4/18/95
HPC	300	COMPUTER, DESKTOP	2,856.00	7/1/86
HPC	2686	PRINTER, LASER	2,765.00	4/1/87
HPC	2686	PRINTER, LASER	2,676.00	6/1/87
HPC	2686	PRINTER, LASER	2,341.00	2/1/85
HPC	9122	DISK-DUAL FLOPPY	955.00	4/1/85
HPC	9816	COMPUTER, DESKTOP	3,854.00	5/1/85
HPC	33440	PRINTER, LASER	1,739.00	10/1/88
HPC	35721	CRT DISPLAY	796.00	5/1/86
HPC	82906	PRINTER, CHARACTER	715.00	8/1/84
HPC	82906	PRINTER, CHARACTER	572.00	3/1/85
HPC	2686A	PRINTER, LASER	2,676.00	11/1/86
HPC	2686D	PRINTER, LASER	3,011.00	2/1/88
HPC	33440A	PRINTER, LASER	5,520.00	1/1/89
HPC	85A	COMPUTER, PERSONAL	2,907.00	5/1/87
HPC	9122D	DISK-DUAL FLOPPY	912.00	3/1/85
HPC	9122D	DISK-DUAL FLOPPY	796.00	5/1/86
HPC	9816S	COMPUTER, DESKTOP	3,809.15	10/1/84
HPC	9830A	COMPUTER, DESKTOP	11,833.50	1/1/79
HPC	9830A	PRINTER	8,251.60	
HPC	9830A	CALCULATOR	102.00	
HPC	9835A	COMPUTER, DESKTOP	9,553.00	1/1/82
HPC	98730A	PROCESSOR	1,700.00	2/1/93
HPC	9876A	PRINTER, THERMAL	3,239.00	10/1/81

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
HPC	9876A	PRINTER, THERMAL	4,740.00	4/1/84
HPC	C2001A	PRINTER, LASER	1,342.00	6/1/93
HYDOR THERME	460	OVEN	125.00	
IBM	3192	COMPUTER, MICRO	747.00	8/1/86
IBM	3192	COMPUTER, MICRO	747.00	8/1/86
IBM	4201	PRINTER, CHARACTER	346.00	4/1/89
IBM	5151	CRT DISPLAY	179.00	8/1/86
IBM	5151	CRT DISPLAY	242.00	10/1/83
IBM	5151	CRT DISPLAY	192.00	7/1/84
IBM	5151	CRT DISPLAY	187.00	12/1/85
IBM	5151	DISPLAY, COMPUTER	192.00	4/1/91
IBM	5151	DISPLAY	242.00	1/1/84
IBM	5151	CRT DISPLAY	242.00	12/1/83
IBM	5151	CRT DISPLAY	260.00	5/1/85
IBM	5151	CRT DISPLAY	494.00	3/1/85
IBM	5151	PERSONAL COMPUTER DISPLAY	240.00	5/1/84
IBM	5151	CRT DISPLAY	240.00	3/1/84
IBM	5151	CRT DISPLAY	250.00	8/1/92
IBM	5151	CRT DISPLAY	244.00	6/1/84
IBM	5151	CRT DISPLAY	345.00	10/1/83
IBM	5151	CRT DISPLAY	192.00	12/1/84
IBM	5151	CRT DISPLAY	187.00	11/1/85
IBM	5151	CRT DISPLAY	187.00	2/1/86
IBM	5151	CRT DISPLAY	220.00	7/1/87
IBM	5151	CRT DISPLAY	187.00	2/1/86
IBM	5151	CRT DISPLAY	187.00	2/1/86
IBM	5151	CRT DISPLAY	220.00	7/1/87
IBM	5152	PRINTER, CHARACTER	412.00	9/1/92
IBM	5153	CRT DISPLAY	476.00	3/1/84
IBM	5153	CRT DISPLAY	400.00	1/1/84
IBM	5153	CRT DISPLAY	462.00	8/1/85
IBM	5153	CRT DISPLAY	544.00	11/1/83
IBM	5153	DISPLAY	476.00	6/1/91
IBM	5153	CRT DISPLAY	476.00	4/1/85
IBM	5153	DISPLAY	476.00	3/1/85
IBM	5154	CRT DISPLAY	1,629.00	4/1/84
IBM	5154	CRT DISPLAY	552.00	5/1/86
IBM	5160	COMPUTER, PERSONAL	4,634.00	3/1/84
IBM	5160	COMPUTER, PERSONAL	4,255.00	10/1/83
IBM	5160	COMPUTER, PERSONAL	4,645.00	3/1/84

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
IBM	5160	COMPUTER, PERSONAL	3,460.00	5/1/85
IBM	5160	COMPUTER, PERSONAL	2,906.00	3/1/85
IBM	5160	COMPUTER, PERSONAL	3,339.00	10/1/84
IBM	5160	COMPUTER, PERSONAL	4,092.00	10/1/84
IBM	5161	P.C.EXPANDER	3,560.00	10/1/83
IBM	5170	COMPUTER, PERSONAL	4,904.00	10/1/85
IBM	5170	COMPUTER, PERSONAL	4,764.00	3/1/85
IBM	5170	COMPUTER, PERSONAL	3,636.00	10/1/86
IBM	5170	COMPUTER, PERSONAL	4,153.00	7/1/85
IBM	5170	COMPUTER, PERSONAL	4,629.00	11/1/86
IBM	8512	CRT DISPLAY	375.00	3/1/88
IBM	8570	COMPUTER	3,261.00	2/1/90
IBM	1391401	KEYBOARD	85.00	
IBM	5154001	CRT DISPLAY	594.00	5/1/85
IBM	3174-51R	COMPUTER CONTROLLER	3,540.00	9/9/88
IBM	3192KB	KEYBOARD	200.00	8/1/84
IBM	3192KB	KEYBOARD	200.00	8/1184
IBM	4224-201	PRINTER	2,520.00	9/1/88
IBM	8512-001	MONITOR	375.00	2/1/90
IBM	XT286	COMPUTER, PERSONAL	2,449.00	7/1/85
ICK	TPR206	SIGNAL CONDITIONER	250.00	9/1/93
IDEAL AEROSMITH	1406R	TEST TABLE	235.00	
IDEAL AEROSMITH	18-53-4	TACH. TESTER	8,694.00	10/1/84
IEM, INC	5365	DISK DRIVE	6,750.00	3/1/90
IEM, INC.	H5HP300H	DISK DRIVE	4,496.00	12/1/89
IMPERIAL EASTMAN	447F	FLARING TOOL	283.00	
INFRARED IND.	IR463	BLACK BODY	4,595.00	6/1/85
INMAC	B203-1	POWER SUPPLY	200.00	10/1/96
INNOVATIONS	SIMCHECK	RAM TESTER W/ADAPTERS	1,405.00	2/25/94
INNOVENTIONS	1 MEG	RAM ADAPTER	149.00	
INNOVENTIONS		RAM SPEED VERIFIER	169.00	
INNOVENTIONS		RAM TESTER	550.00	
INNOVENTIONS INC	RAM CHECK II	SIM CHECK	895.00	
INSTRULAB	4221-B-8	DIGITAL THERMOMETER	4,080.25	10/1/88
INTELLICOM	TPAIR 206	HUB INTERFACE	239.00	3/1/94
INTERNATIONAL BUSINESS MACHINES	3192	COMPUTER TERMINAL	747.00	
INTERNATIONAL BUSINESS	1390702	KEYBOARD	200.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
MACHINES				
INT'L SENSORS	900P100D-4-2-1	PRT	150.00	
IO TECH	488	ANALYZER, DIGITAL BUS	1,795.00	4/22/91
IRCON	3T06F	TEMP. CONTROL	951.00	
IRWIN		FINGER BRAKE	268.00	
ITL	640	TERMINAL, GRAPHIC	3,854.00	1/1/90
IWATSU	DS-6121A	OSCILLOSCOPE, DIGITAL	4,479.24	9/1/87
IWATSU	SS-5710D	OSCILLOSCOPE	1,398.99	9/1/87
IWATSU	SS-571OD	OSCILLOSCOPE	1,398.99	9/1/87
IWATSU	SS-5710D	OSCILLSCOPE	1,398.99	9/1/87
IWATSU	SS-571OD	OSCILLOSCOPE	1,398.99	9/1/87
IWATSU	SS-5710D	OSCILLOSCOPE	1,398.99	9/1187
IWATSU	SS-571OD	OSCILLOSCOPE	1,398.99	9/1/87
IWATSU	SS-5711D	OSCILLOSCOPE	1,749.62	9/1/87
IWATSU	SS-5711D	OSCILLOSCOPE	1,749.62	9/1/87
IWATSU	SS-5711D	OSCILLOSCOE	1,749.62	911/87
IWATSU	SS-5711D	OSCILLOSCOPE	1,749.62	9/1/87
IWATSU	SS-5711D	OSCILLOSCO	1,749.62	9/1/87
IWATSU	SS-5711D	OSCILLOSCOPE	1,749.62	9/1/87
IWATSU	SS6122	OSCILLOSCOPE	1,721.00	4/1/88
IWATSU	ss-6122	OSCILLOSCOPE	1,721.00	4/1/88
JARRETT INST.	B-11	TRIPLE POINT	658.00	
JARRETT INST.	B-13	TRIPLE POINT	658.00	
JCWS	286	COMPUTER, PERSONAL	710.00	7/1/84
JCWS	286	COMPUTER, PERSONAL	560.00	8/1/84
JCWS	286	COMPUTER, PERSONAL	560.00	5/1/84
JCWS	286	COMPUTER, PERSONAL	560.00	7/1/84
JCWS	286	COMPUTER, PERSONAL	560.00	7/1/84
JCWS	286	COMPUTER, PERSONAL	560.00	5/1/85
JCWS	286	COMPUTER, PERSONAL	560.00	9/1/84
JCWS	286	COMPUTER, PERSONAL	560.00	7/1/84
JCWS	286	COMPUTER, PERSONAL	560.00	12/1/85
JCWS	286-16	COMPUTER	710.00	10/1/83
JDR	AT	COMPUTER, PERSONAL	3,000.00	2/1/91
JEBCO	NONE	CABINET	50.00	
JEBCO	NONE	CABINET	50.00	
JEBCO	NONE	CABINET	50.00	
JENSON TOOLS	1B301	COAX TERMINATION KIT	127.00	
JVC	GD-H8121SHW	DISPLAY	2,550.00	12/26/96
K & E		LEORY SET	87.28	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
K D	18	STAKING TOOL	133.00	
KAMONIC	EP3435	KEYBOARD	100.00	
KAYE INSTRUMENTS	K 140-4	ICE POINT REF	895.00	
KAYE INSTRUMENTS	K140-4	ICE POINT REF	515.00	
KEITHLEY	130	MULTIMETER	104.52	
KEITHLEY	130	MULTIMETER	104.52	
KEITHLEY	130	DIG MULTIMETER	124.00	
KEITHLEY	177	MULTIMETER	584.00	
KEITHLEY	177	DIG. MULTIMETE	650.00	
KEITHLEY	192	MULTIMETER	1,195.00	9/10/82
KEITHLEY	199	DIGITAL MULTIMETER	1,392.00	12/1/92
KEITHLEY	199	DIGITAL MULTIMETER	1,398.00	1/1/93
KEITHLEY	220	SOURCE, CURRENT	3,067.00	4/1/88
KEITHLEY	220	CURRENT SOURCE	3,067.00	9/1/88
KEITHLEY	220	CURRENT SOURCE	3,067.20	2/1/89
KEITHLEY	260	NANOVOLT STD.	498.82	
KEITHLEY	260	NANOVOLT SORCE	502.60	
KEITHLEY	261	CURRENT SOURCE	628.89	
KEITHLEY	5155	HI MEG RES STD	132.50	
KEITHLEY	5155	HI MEG RES STD	132.50	
KEITHLEY	5155	HI MEG RES STR	132.50	
KEITHLEY	5155	HI MEG RES STD	132.50	
KEITHLEY	5155	MEGOHM STD	525.00	
KEITHLEY	5155	MEGOHM STD	525.00	
KEITHLEY	35715	HI MEG RES STD	132.50	
KEITHLEY	35716	HI MEG RES STD	132.50	
KEITHLEY	130A	DIG MULTIMETER	113.90	
KEITHLN	130A	DIG MULTIMETER	113.90	
KEITHLEY	177/1788	DIGITAL MULTIMETER	745.00	
KEITHLEY	195A	DIG MULTIMETER	1,315.20	2/1/85
KEITHLEY INSTRUMENTS	261	PICOAMPERE SOURCE	498.82	
KEPCO	ATE15-15M	POWER SUPPLY	1,549.52	3/1/89
KEPCO	ATE36-8M	POWER SUPPLY	1,549.00	3/1/89
KEPCO	ATE36-8M	POWER SUPPLY	1,549.00	3/1/89
KEPCO	JQE 55-2M	POWER SUPPLY	250.00	4/11/96
KEPCO	KM251	POWER SUPPLY	604.16	
KEPCO	SC-18-1M	REGULATED POWER SUPPLY	307.08	
KEYTRONIC	E03435	KEYBOARD	85.00	
KEYTRONIC	E03435	KEYBOARD	85.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
KINEMETRICS	A-468MS	ANTENNA	1,638.00	3/2/92
KINETIC SYSTEM	2210-11	VIBRATION FREE PLATFORM	975.00	
KISTLER	566	ACCEL AMP	460.00	
KISTLER	303B	ACCELEROMETER	585.00	
KISTLER	303T	ACCEL, ANG PR	750.00	
KISTLER	303T	ACCELEROMETER	750.00	
KISTLER	808K2	CAL. STD.	500.00	
KROHN HITE	3103	FILTER	651.37	
KROHN HITE	3343	BND PASS FILTR	2,337.19	9/1/82
KROHN HITE	5600	FUNCTION GEN.	483.15	
KROHN HITE	5600	GENERATOR	703.65	
KROHN HITE	5600	FUNCTION GEN.	695.00	
KROHN HITE	6500	PHASEMETER	2,000.00	9/1/76
KROHN HITE	6500	PHASEMETER	1,935.15	3/1/76
KROHN-HITE	4200	OSCILLATOR	600.00	
KYP	12546	CRT DISPLAY	300.00	10/1/86
KYP	PC10	COMPUTER, PERSONAL	1,542.00	9/1/86
L & N	4360	SHUNT	432.50	
L & N	4363	SHUNT	85.00	
L & N	4959	CONDUCTIVE BR	1,067.80	3/1/80
L & N	7421	PH METER	988.00	
L & N	8163	THERMOMETER	1,000.00	10/16/73
L & N	40256	STD. RESISTOR	150.00	
L & N	40258	STD RESISTER	70.00	
L & N	4025B	STD RESISTOR	150.00	
L & N	40308	STD. RESISTOR	52.00	
L & N	4035B	STD. RESISTOR	52.00	
L & N	4035B	STD. RESISTOR	150.00	
L & N	4040B	STD. RESISTOR	57.00	
L & N	4045B	STD. RESIST.	75.00	
L & N	40508	STD. RESISTOR	80.00	
L & N	42218	STD. RESISTOR	150.00	
L & N	4222B	STD. RESISTOR	150.00	
L R	1112HP	FLEX GRINDER	60.00	
L R	HEAVY DUTY	PREC. CLEANER	160.00	
L&N	40458	STD RESISTOR	150.00	
LAB-LINE	2124	THERMO FLASK	150.00	8/3/95
LAMBDA	LH124FM	POWER SUPPLY	179.00	
LAMBDA	LH124FM	POWER SUPPLY	179.00	
LAMBDA	LH124FM	POWER SUPPLY	179.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
LAMBDA	LH124FM	POWER SUPPLY	180.22	
LAMINAR FLOW		CLEAN BENCH	1,172.00	8/11/75
LARC	200 FT	CABLE	300.00	8/28/95
LARC	200 FT	CABLE	300.00	8/28/95
LARC	200 FT	CABLE	300.00	8/28/95
LARC	200 FT	CABLE	300.00	8/28/95
LARC	200 FT	CABLE	300.00	8/28/95
LARC	200 FT	CABLE	300.00	8/28/95
LARC	200 FT	CABLE	300.00	8/28/95
LASER PRECISION	CTX-530	LIGHT CHOPPER	700.00	
LASER PRECISION	RKP360	PROBE	700.00	
LASER PRECISION	RL3610	POWER METER	1,000.00	6/1/85
LEADER	LB0315	OSCILLOSCOPE	2,072.00	2/1/92
LEADER	LTC-906	TRANSISTOR TESTER	250.00	
LECTROETCH	VT-15A	POWER UNIT	250.00	
LIN	MC5	TERMINAL, CRT, SMART	370.00	10/1/91
LIN	MC5	TERMINAL, CRT, SMART	520.00	12/1/90
LINGAR	1095	HEAT GUN	58.00	
LINSEIS	L2025	STRIP CHART RECORDER	3,277.78	10/1/88
LION AMERICA	LION-821B	DISK EXPANSION UNIT	650.00	4/18/96
LSI	ADM3A	TERMINAL, CRT, DUMB	550.00	9/1/92
M & G	T-150	DEAD WEIGHT	1,363.00	8/1/75
M. G. INDUSTRIES	65000049-580	PRESSURE REGULATOR	225.00	
MACHINE TOOL	50	PORT ELEVATOR LIFT	1,445.00	1/22/93
MANSFIELD GREEN	T130	DEAD WT TEST	686.30	
MARQUETE		WELDING TOOLS	139.50	
MATSUSHITA	FX-RS506	IMAGE SCANNER	952.00	3/1/90
MATSUSHITA	KX-P1124	PRINTER	278.00	1/1/91
MATSUSHITA	LF5010	DISK DRIVE	2,315.00	8/1/91
MAX TECH	PB64	BUFFER	89.00	8/1/88
MAX TECH	PB64	BUFFER	89.00	8/1/88
MAX TECH	PB64	BUFFER PRINTER	99.00	8/1/88
MAX TECH	PB64	BUFFER PRINTER	99.00	8/1/88
MAX TECH	PB64	BUFFER PRINTER	99.00	
MAX TECH	PB64	BUFFER	120.00	
MAX TECH	PB-64	PRINTER BUFFER	89.00	8/1/88
MAYC	286	COMPUTER, PERSONAL	1,390.00	10/1/86
MAYC	286	COMPUTER, PERSONAL	1,645.00	8/1/86
MBI	1410	CRT DISPLAY	469.00	8/1/86
MBI	1410	CRT DISPLAY	469.00	6/1/88

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
MBI CORP	SC-700	CHRONOMETER	35.00	
MCM ELECTRON	72-040	CAPACITANCE METER	59.80	
MENSOR	11600	PRESS.INDICAT.	2,113.75	9/1/79
MENSOR	11900	PRESS IND.	2,156.50	1/1/82
MENSOR	11900	PRESS.INDICAT.	2,489.00	1/1/82
MENSOR	11900	PRESS.INDICA.	2,489.00	3/1/82
MENSOR	11900	DIG PRESS GAGE	2,375.00	8/1/82
MENSOR	14000	INDICATOR	3,005.00	9/1/91
MENSOR	14000	INDICATOR	3,005.00	9/1/91
MENSOR	11900-402F	INDICATOR, PRESS., DIG.	3,200.00	9/1/87
MENSOR	14000B	PRESSURE INDICATOR	3,555.00	5/1/90
MESON	L92-133	POWER METER	375.00	12/1/92
MESON	L92-134	LIGHT SOURCE	300.00	1211/92
METRAPLEX	367-01	PCM TEST SET	3,036.00	12/29/82
MG INDUSTRIES	1678	PRESSURE REGULATOR	199.00	
MG INDUSTRIES	1678	PRESSURE REGULATOR	150.00	8/3/95
MG INDUSTRIES	65000-69	HAND TRUCK	140.00	
MGX	7BM623	CRT DISPLAY	500.00	8J1/86
MGX	7BM623	CRT DISPLAY	500.00	10/1/87
MGX	7BM623	CRT DISPLAY	500.00	10/1/87
MGX	7BM623 074G	CRT DISPLAY	500.00	1/1/91
MGX	TY11	CRT DISPLAY	500.00	9/1/86
MICRO EXPRESS	REGALSX386	COMPUTER	2,099.00	9/11/91
MICRODOT	F321A	SINE WAVE OSCILLATOR	544.75	
MICRODOT	F321A	SINE WAVE OSCILLATOR	544.75	
MICROMATCH	712B	WATTMETER	141.52	
MICROSERVE	386/SX	COMPUTER/KEYBOARD	878.00	7/1/91
MIKRON	M300	IFRARED RADIATION SOURCE	7.520.00	7/1/88
MITSUMI	KPQ-E994C	KEYBOARD	98.00	
MITUTOYO	0 THRU 6	MICROMETER SET, 03219, 03220, 03136, 3217, 3218	380.00	
MITUTOYO	BE1-1OT-2	GAUGE BLOCK SET	245.00	
MKS	247C	POWER SUPPLY	1,436.00	1/1/93
MKS	270B	SIGNAL CONDITIONER	2,725.00	12/1/88
MKS	270B	SIGNAL CONDITIONER	2,325.00	12/1/88
MKS	390HA	PRESSURE SENSOR	9,280.00	
MKS	390HA	PRESSURE SENSOR	9,280.00	
MM & M	81OOAW	FLUTTER METER	2,491.20	6/1/76
MOBILE-TRONICS	MO-07	SCOPE CART	178.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
CO., INC.				
MODULAR CIRCUIT TECH	MUP	EPROM PROGRAMMER/TESTER	80.00	9/15/95
MONARCH	590	REEL TAPE RACK	437.00	
MONARCH	590	REEL TAPE RACK	437.00	
MONARCH	EE	LATHE	15,140.00	9/7/76
MONITOR SYSTEM	820	SIMULATOR PCM	7,785.00	10/1/84
MOTOROLA	A03CJ2468AA	RECEIVER	295.00	
MOTOROLA	A03CJ2468AA	RECEIVER	295.00	
MOTOROLA	A03CJ2468AA	RECEIVER	295.00	
MOTOROLA	A03CJC2468AA	RECEIVER	295.00	
MOTOROLA	A03CJC2468AA	RADIO RECEIVER	228.00	11/1/93
MOTOROLA	A03CJC2468AA	RADIO RECEIVER - PAGER	228.00	11/ I/93
MOTOROLA	A03CJC2468AA	RADIO RECEIVER (PAGER)	228.00	11/1/93
MOTOROLA	A03CJC2468AA	RADIO RECEIVER (PAGER)	228.00	11/1/93
MOTOROLA	A03CJC2468AA	RECEIVER-PAGER	228.00	5/2/95
MOTOROLA	A03CJC2468AA	RECEIVEFUPAGER	228.00	5/2/95
MOTOROLA	A03DNC2	PAGER	300.00	7/26/95
MOTOROLA	A03DNC2	PAGER	300.00	7/26/95
MOTOROLA	A03DNC2	PAGER	300.00	7/26/95
MOTOROLA	A03DNC2	PAGER	300.00	7/26/95
MOTOROLA	A03DNC2	PAGER	300.00	7/26/95
MOTOROLA	A03DNC2	PAGER	300.00	7/26/95
MOTOROLA	A03DNC2	PAGER	300.00	7/26/95
MOTOROLA	A03DNC2	PAGER	300.00	7/26/95
MOTOROLA	A03DNC2	PAGER	300.00	7/26/95
MOTOROLA	A03DNC2	PAGER	300.00	7/26/95
MOTOROLA	A03DNC2	PAGER	300.00	7/27/95
MOTOROLA	A03DNC2	PAGER	300.00	7/27/95
MOTOROLA	A03DNC2	PAGER	300.00	7/27/95
MOTOROLA	A03DNC2	PAGER	300.00	7/27/95
MOTOROLA	A03DNC2	PAGER	300.00	7/27/95
MOTOROLA	A03DNC2	PAGER	300.00	7/28/95

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
MOTOROLA	A03FNC2468A	PAGER	300.00	7/26/95
MOTOROLA	A03FNC2468A	PAGER	300.00	7/26/95
MOTOROLA	MVME28	MEMORY MODULE	4,000.00	2/1/94
MOTOROM	MVME28	MEMORY MODULE	8,000.00	2/1/94
NARDA MICROWAVE	3020	DIRECTIONAL COUPLER	275.00	8/28/95
NARDA MICROWAVE	3022	DIRECTIONAL COUPLER	275.00	8/28/95
NARDA MICROWAVE	3022	DIRECTIONAL COUPLER	275.00	8/28/95
NARDA MICROWAVE	3003-10	DIRECTIONAL COUPLER	150.00	8/28/95
NARDA MICROWAVE	3003-10	DIRECTIONAL COUPLER	150.00	8/28/95
NARDA MICROWAVE	3004-20	DIRECTIONAL COUPLER	150.00	8/28/95
NARDA MICROWAVE	3004-30	DIRECTIONAL COUPLER	150.00	8/28/95
NARDA MICROWAVE	3044B-10	DIRECTIONAL COUPLER	200.00	8/28/95
NARDA MICROWAVE	3044B-10	DIRECTIONAL COUPLER	200.00	8/28/95
NARDA MICROWAVE	3045C-10	DIRECTIONAL COUPLER	250.00	8/28/95
NARDA MICROWAVE	3142-20	DIRECTIONAL COUPLER	300.00	8/28/95
NASA	5.5X8	AOA MOUNTING BRACKET	1,500.00	7/24/95
NASA	A & B	SWITCH PLUG IN	150.00	10/4/95
NASA	A & B	SWITCH PLUG IN	150.00	10/4/95
NASA	FR24A	PRESS CONSOLE	573.00	
NASA	NONE	OPTICAL BENCH	573.00	
NASA	OIL	MANOMETER	800.00	
NASA	Q FLEX	SIGNAL CONDITIONER	500.00	2/24/94
NASA	Q-FLEX	CONTROL BOX	500.00	
NASA	Q-FLEX	CONTROL BOX	500.00	
NASA	Q-FLEX	CONTROL BOX	500.00	
NASA	Q-FLEX	CONTROL BOX	500.00	
NASA	Q-FLEX	CONTROL BOX	500.00	
NASA	Q-FLEX	CONTROL BOX	500.00	
NC	C6800	COLLIMATER	575.00	
NEC	CDR 600	CD DRIVE UNIT	644.00	3/1194
NEC	JC1531VMA2	DISPLAY	699.00	7/1/93

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
NEC	P6	DIGITAL PRINTER	470.00	
NEFF	18	AMP. RACK	271.60	
NEFF	90023301	CALIBRATION PCB	2,000.00	3/31/94
NEFF	90023301	CALIBRATION PCB	2,000.00	3/31/94
NESLAB	CFT-25D	RECIRCULATOR	1,547.15	9/28/90
NETWORK	AD16	TESTER	1,249.00	4/1/91
NETWORK TECH	AD24	MONITOR TESTER	1,445.00	3/1/94
NETWORK TECH	AD-24	TESTER MONITOR	1,445.00	2/7/92
NEWHERM		ENGRAVING MACH	368.50	
NEY	JC1401	CRT DISPLAY	585.00	7/1/87
NEY	JC1401	CRT DISPLAY	600.00	8/1/87
NEY	JC1401	CRT DISPLAY	450.00	9/1/87
NEY	JC1402	CRT DISPLAY	496.00	8/1/88
NEY	JC1403	CRT DISPLAY	649.00	5/1/89
NEY	JC1405	CRT DISPLAY	406.00	11/1/90
NEY	JC1405	CRT DISPLAY	402.00	3/1/91
NEY	JC1405	CRT DISPLAY	430.00	9/1/90
NEY	LC890	PRINTER, LASER	3,117.00	10/1/88
NEY	LC890	PRINTER, LASER	3,069.00	6/1/89
NEY	LC890	PRINTER, LASER	3,455.00	9/1/88
NEY	P2	PRINTER, CHARACTER	685.00	4/1/85
NEY	P2	PRINTER, CHARACTER	512.00	8/1/85
NEY	P2	PRINTER, CHARACTER	512.00	8/1/85
NEY	P6	PRINTER, CHARACTER	503.00	8/1/87
NEY	P6	PRINTER, CHARACTER	474.00	10/1/87
NEY	P6	PRINTER, CHARACTER	568.00	4/1/87
NEY	P6	PRINTER, CHARACTER	568.00	4/1/87
NEY	P6	PRINTER, CHARACTER	462.00	8/1/87
NEY	P6	PRINTER, CHARACTER	474.00	11/1/87
NEY	P6	PRINTER, CHARACTER	474.00	7/1/87
NEY	P6	PRINTER, CHARACTER	587.00	4/1/88
NEY	P6	PRINTER, CHARACTER	459.00	7/1/87
NEY	P6	PRINTER, CHARACTER	577.00	10/1/86
NEY	P6	PRINTER, CHARACTER	459.00	7/1/87
NEY	P6	PRINTER, CHARACTER	474.00	4/1/87
NEY	P6	PRINTER, CHARACTER	581.00	10/1/86
NEY	P6	PRINTER, CHARACTER	512.00	2/1/87
NEY	P6	PRINTER, CHARACTER	450.00	8/1/87
NEY	P6	PRINTER, CHARACTER	459.00	7/1/87
NICOLET	764	LOGIC ANALYZER	18,456.50	5/1/83
NICOLET	3010	CONVERTER	755.25	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
NICOLET	3010	CONVERTER	795.00	
NICOLET	3091	OSCILLOSCOPE	5,184.00	4/1/84
NICOLET	3091	OSCILLOSCOPE	4,465.00	5/28/05
NICOLET	1090A	DIGITAL OSCILLOSCOPE	6,547.20	4/1/81
NICOLET	204A	CONTROLLER	3,567.00	4/1/86
NICOLET	2090 III	DIGITAL STORAGE OSCILLOSCOPE	6,050.00	4/1/86
NJE	CR60-18D1481	POWER SUPPLY	800.00	
NSC INTERNATIONAL	STAR	BINDING MACHINE	330.00	4/15/94
NSK	1 INCH	CALIPER MIKE	20.00	
NUDATA	921-T2	INTERFACE TEST SET	163.20	
ODELL	12	CLEANER	1,665.85	10/1f73
ODELL	44	OVEN	1,665.85	10/16/73
OKI	192	PRINTER, CHARACTER	435.00	10/1/85
OKI	92A	PRINTER, CHARACTER	539.00	5/1/84
OMEGA	4201-P-F2	TEMPERATURE CONTROLLER	350.00	4/11/96
OPAD	KM87	POWER SUPPLY	185.00	
OPAD ELECTRIC CO.	KM87	POWER SUPPLY	206.00	4/15/68
OPTRONIC LABS	83A	POWER SUPPLY	3,990.00	9/26/95
OPTRONIC LABS	OL 100D	IRRADIANCE STANDARD	1,180.00	9/1/95
OPTRONIC LABS	OL 100D	IRRADIANCE STANDARD	1,180.00	9/1/95
ORTEC	402D	POWER SUPPLY	900.00	
PACE	MP-1	DESOLDERING STATION	480.00	
PACE	MP-1	DESOLDERING UNIT	495.00	2/1/94
PACE	PRC-151	POWER SUPPLY	1,250.00	6/1/86
PACE	PRC-151	DESOLDERING STATION	1,375.00	2/7/89
PACE INC	CRAFT25	PCB REPAIR STATION	9,945.00	3/1/90
PACE INC	PFP40	FUSE SET REPAIR STATION	977.00	
PACE INC	PRC351	PCB REPAIR STATION	3,154.00	4/1/89
PACKARD BELL	1200	MODEM	89.00	
PACKARD BELL	1200	MODEM	89.00	
PAN	P2123	PRINTER, CHARACTER	251.00	2/1/93
PANASONIC	KXP1124I	PRINTER	320.00	2/1/93
PANASONIC	KXP2123	PRINTER	255.00	3/1/94
PANASONIC	KXP2123	PRINTER	255.00	3/1/94
PANASONIC	P1124	PRINTER, CHARACTER	294.00	1/1/92
PAROSCIENTIFIC	600	PRESS.MEAS SYS	1,848.00	4/1/79
PAROSCIENTIFIC	600	PRESS.MEAS SYS	1,848.00	4/1/79

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
PAROSCIENTIFIC	600	PRESS.MEAS.SYS	1,848.00	4/1/79
PAROSCIENTIFIC	2100-A	PRESSURE SENSO	2,050.00	8/1/83
PAROSCIENTIFIC	215-A	PRESSURE SENSO	2,050.00	8/1/83
PAROSCIENTIFIC	230D	DIGIQUARTZ PRESSURE TRANSDUCER	2,050.00	811/83
PAROSCIENTIFIC	6008	PRESSURE COMPUTER	3,903.00	1/1/80
PCB	482A	POWER SUPPLY	90.00	
PCB	484B	POWER SUPPLY	295.00	
PIEZOTRONICS				
PC'S LIMITED	AT110	COMPUTER, PERSONAL	1,200.00	10/1/87
PENN AIRBORNE	9A5119	STANDARD RESISTOR,IOTOHM	810.00	
PENN AIRBORNE	9A5119-105	STANDARD RESISTOR-ITOHM	625.00	
PERKINS		SPRING WINDER	320.00	
PGS	HX12	CRT DISPLAY	472.00	5/1/86
PGS	MAXI2	CRT DISPLAY	194.00	5/1/86
PGS	MAXI2	CRT DISPLAY	179.00	4/1/86
PGS	RGB-1	CRT DISPLAY	500.00	6/1/86
PGS	ULTRA 16	CRT DISPLAY	400.00	10/1/90
PHOTOCOM	PC125	PRESS CALIBRA	975.00	
POWER DESIGN	2005	POWER SUPPLY	379.00	
POWER MATE	BPA-20E	POWER SUPPLY	339.00	
POWSTRON	PA3001	ULTRASON CLEAN	865.00	
PRATT & WHITNEY		DRILL PRESS	250.00	
PRD ELECTRONICS	430-10	DIRECTIONAL COUPLER	150.00	8/28/95
PRECISION MOTION	CHIPTESTER	CHIP TESTER	363.00	
PRECISION SCIENTIFIC	104	OVEN	260.00	
PSI	8481-01	PCU EXTENDER	980.00	
PSI	PS3100	PROGRAMMER POD	1,000.00	2/5/88
PSI INTEGRATION	COMSTATION ONE	MODEM	136.00	8/1/93
PYREX	2982	CYLINDER	30.00	
QUCK SET	3	TRIPOD	28.80	
RACAL DANA	1995	COUNTER, FREQUENCY	3,600.00	6/1/88
RADIO FREQUENCY LABS	A312-500	REFERENCEMAGNET	150.00	8/12/94
RADIO FREQUENCY LABS	HB9272	REFERENCE MAGNET	150.00	8/12/94
RADIO FREQUENCY LABS	HB9272	REFERENCE MAGNET	150.00	8/12/94

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
RADIO FREQUENCY LABS	HB9272	REFERENCE MAGNET	150.00	8/12/94
RADIO FREQUENCY LABS	VA-172T	REFERENCE MAGNET	150.00	8/12/94
RALMIKES	045-2142	MICROMETERS	3,095.00	
RAND MATERIALS HANDLING	4WHEEL	INSTRUMENT CART	345.00	10/10/96
RAND MATERIALS HANDLING	6WHEEL	INSTRUMENT CART	215.00	10110/96
RANK TAYLOR	112/753	PRECISION LEVEL	1,946.00	7/1/75
RCA	1005/01	T V CAMERA	596.00	
RDZ	S20+	DISK-WINCHESTER	850.00	4/1/87
REALISTIC	TRC-83	TRANSCEIVER	39.95	
REALISTIC	TRC-83	TRANSCEIVER	39.95	
REGAL	NONE	TAP & DIE KIT	188.00	
REMIN	COMMANDER 600	CART	104.00	
REMIN	CONCORDE II	CART	84.00	
REMIN	CONCORDE II	CART	84.00	
RFL	829	CALIB. STD.	2,657.40	9/21/73
RFL	1295A	FLUXMETER	623.47	
ROCKWELL	636	DRILL	65.00	
ROCKWELL	17-600	DRILL PRESS	398.50	
ROCKWELL	25-709	LATHE	1,661.35	
ROCKWELL	NONE	PED. GRINDER	223.57	
RUBICON	15A	RESISTOR	65.00	
RUBICON	4025B	STD. RESISTOR	150.00	
RUBICON	40358	STD RESISTOR	150.00	
RUSKA	2413.5	BARRIER	300.00	
RUSKA	2413.5	PRESSURE CELL	300.00	
RUSKA	2416	NULL METER	2,000.00	
RUSKA	2416	PRES MEA SYST	2,505.00	9/1/76
RUSKA	2416.5	PRES INDICATOR	1,155.00	10/1173
RUSKA	10735	BARRIER	300.00	
RUSKA	2416704	PRES INDICATOR	2,285.00	10/16/73
RUSKA	2416704	PRES INDICATOR	1,465.00	10/16/73
RUSKA	24 ▮7706	PRESSURE CELL	7,200.00	
RUSKA	2413-705-0	PRESSURE CELL	3,900.00	
RUSKA	2416-711	PRESSURE INDICATOR	1,560.00	2/1/93
RUSKA	3891-801	BELLOWS	1,680.00	8/3/95

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
RUSKA	3893-801	CONTROLLER	1,680.00	5/4/90
RUSKA	6005-20	INTERFACE	3,744.00	6/1/77
RUSKA	6211-804-721	DIGITAL PRESSURE GAGE	3,980.00	10/1/89
RUSKA	6211-806-721	PRESSURE GAGE	3,500.00	11/1/89
RUSKA	801-00	HAND PUMP	705.00	
RUSS BASSETT	NONE	CABINET	575.00	
S. S. WHITE	F	ABRASIVE MACH	675.00	
SAMSUNG	SM-12SFA7	MONITOR	95.00	
SARGENT WELCH	8810	VACUUM PUMP	1,500.00	
SBP	286	COMPUTER, PERSONAL	1,128.00	9/1/88
SBP	286	COMPUTER, PERSONAL	1,128.00	9/1/88
SBP	286	COMPUTER, PERSONAL	1,996.00	8/1/87
SBP	4095N	CRT DISPLAY	470.00	9/1/88
SBP	MCH-4095N	CRT DISPLAY	470.00	9/1/88
SCOTT SPECIALTY GASES	11A	REGULATOR, PRESSURE	182.00	
SEAGATE	ST4766N	DISC DRIVE	1,829.00	
SEARS	198618420	FREEZER	189.00	
SEARS	9H22582	SANDER BELT	75.00	
SENCORE	LC102	CAPACITOR ANALYZER	1,686.00	1/1/92
SENCORE	LC53	CAPACITOMETER	647.00	
SENCORE	LC53	CAPACITOMETER	805.50	
SENCORE	LC75	CAPACITOR ANALYZER	805.50	
SENCORE	LC75	CAPACITOR-INDUCTOR ANALYZER	805.00	
SENCORE	TR139B	IN-CIRCUIT TRANSISTOR	72.98	
SENCORE	VA48	ANALYZER	1,095.00	3/1/80
SENCORE	VA62	SIG. ANALYZER	2,965.50	4/1/86
SENCORE	VC63	VCR TESTER	359.45	
SENSITIVE RESEARCH	ESD	VOLTMETER DC	235.71	
SENSITIVE RESEARCH	ESD	ELECTROSTATIC VOLTMETER	275.00	
SHALLCROSS	6860	PRECRESDEC	135.00	
SHALLCROSS	6860	RESIST BOX	190.00	
SHALLCROSS	6862	RESISTANCE BOX	212.00	
SHALLCROSS	6863	DECADE RES	180.00	
SHALLCROSS	6863	PREC RES DECAD	190.00	
SHALLCROSS	6863	DECADE RESIST	267.00	
SHALLCROSS	6860RM	RESISTANCE BOX	150.00	
SHALLCROSS	6860RM	RESISTANCE BOX	150.00	
SHARP	EL-5500 III	COMPUTER, SCIENTIFIC	70.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
SHARP	EL55001	CALCULATOR	70.00	
SHIELD-ARC	SAE300	WELDER	500.00	
SHIMADEN	SR-17	TEMPERATURE CONTROLLER	400.00	4/11/96
SIMPSON	160	METER	60.72	
SIMPSON	160	METER	60.72	
SIMPSON	260	V O M	50.00	
SIMPSON	260	V O M	50.00	
SIMPSON	260	V O M	50.00	
SIMPSON	260	V O M	54.00	
SIMPSON	260	V O M	63.00	
SIMPSON	260	VOM	61.65	
SIMPSON	260	VOM	61.65	
SIMPSON	260	VOM	63.45	
SIMPSON	260	VOM	50.00	
SIMPSON	270	VOM	50.00	
SIMPSON	260-5M	MULTIMETER	50.00	
SIMPSON	260-5M	MULTIMETER	50.00	
SIMPSON	260-5M	MULTIMETER	50.00	
SIMPSON	260-5M	V O M	54.00	
SIMPSON	260-5M	VOM	63.00	
SIMPSON	260-5M	VOM	63.00	
SIMPSON	260-6	VOM	61.65	
SIMPSON	260-6	MULTIMETER	60.28	
SIMPSON	260-6	VOM	60.28	
SIMPSON	260-6	VOM	60.28	
SIMPSON	260-6	VOM	60.28	
SIMPSON	260-6	VOM	60.28	
SIMPSON	260-6	VOM	60.28	
SIMPSON	260-6M	VOM	61.50	
SINGER	5010-1	MICROWAVEAMP	3,832.00	8/1/72
SKILL	2016	DRILL PORTABLE	119.00	
SMITH MANUFACTURING COMPANY	SM02805	PRINTER STAND	85.00	
SMITH MFG	SM02805	PRINTER STAND	107.50	
SMITH MFG	SM02805	PRINTER STAND	107.50	
SMITH MFG	SM02805	PRINTER STAND	107.50	
SMITH MFG CO	SM02805	PRINTER STAND	85.00	
SMITH MFG CO	SM02805	PRINTER STAND	85.00	
SMITH MFG CO	SM02805	PRINTER STAND	85.00	
SMITH MFG CO	SM02805	PRINTER STAND	85.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
SMN	SR-15	PRINTER, CHARACTER	674.00	4/1/86
SMU	CM4531	CRT DISPLAY	439.00	8/1/92
SMU	CM4967	CRT DISPLAY	299.00	3/1/93
SMU	S286	COMPUTER, PERSONAL	3,178.00	9/1/87
SNAP ON TOOLS	TQ12B	TORQE WRENCH	50.00	
SNAP ON TOOLS	TQ3	TORQUE WRENCH	44.00	
SNAP ON TOOLS	TQ3	TORQUE WRENCH	38.00	
SOLA	28510	POWER SUPPLY	330.00	
SOLA	28510	POWER SUPPLY	330.00	
SONY	CVM1720	T V MONITOR	788.50	
SONY	PVM1270	MONITOR TV	741.00	
SORENSEN	61CB	NOBATRON	825.00	
SORENSEN	FR1000	VOLTAGE REG.	1,431.00	10/1/73
SORENSEN	QB28-8	POWER SUPPLY	492.00	
SORENSEN	T50-1.5	POWER SUPPLY	252.00	
SPECTRAL DYNAMICS	SD104A-5FS2	SWEEP OSCILLATOR	2,215.00	5/1/85
SPECTRAL DYNAMICS	SD112-1	VOLTMETER	3,234.00	6/1/77
SPECTROLINE	PE-140T	EPROM ERASER	50.00	9/14/95
SPECTRON	MUPI2	SIGNAL CONDITIONER	380.00	10/19/95
STANFORD	DS345/1	FUNCTION GENERATOR	2,405.00	3/1/92
STANFORD RESEARCH	DG535	GENERATOR, PULSE	4,757.00	5/1/91
STAR MICRONICS	SR10	PRINTER	549.00	5/1/85
STARRETT	199	PRECISION LEVEL	95.00	
STARRETT	199	LEVEL, PRECISION	256.60	
STARRETT	467	THICKNESS GAGE	125.00	
STARRETT	AG16CLM	GAGE BLOCK SET	2,275.00	10/1/73
STARRETT	HD46A1X	GAGE BLOCKS	876.00	
STOSS		DIAL INDICATOR	125.00	
SUNDSTRAND	QA900	ACCELEROMETER	1,060.00	5/1/85
SUNDSTRAND	QA900	ACCELEROMETER	1,060.00	5/1/85
SUNDSTRAND	QA900	ACCELEROMETER	1,060.00	5/1/85
SUPERMAC TECHNOLOGY	STD9750	CRT DISPLAY	2,720.00	7/12/91
SYSTRON DONNER	9015	VOLTMETER	485.10	
SYSTRON DONNER	8140-534	TAPE SEARCH UNIT	2,085.50	4/1/81
SYSTRON DONNER	8150-253	TIME CODE GENERATOR-READER	3,710.25	4/1/81
SYSTRON DONNER	TPZC48	POWER SUPPLY	745.00	
SYSTRON-DONNER	8150	TIME CODE GENERATOR-	4,528.00	11/1/72

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
		READER		
TRUSS	MF-7-3	CABINET, STORAGE	575.00	3/1/80
TABB	NONE	FILE SHELF	403.00	
TALWEL	112/753	ELECT LEVEL	1,400.00	2/1/75
TAYLOR-WHARTON	XL-45	NITROGEN DEWAR	1,539.00	8/1/94
TCA	QT-60E	MAG TAPE, CASSETTE	1,090.00	11/1/87
TCA	QT-60E	MAG TAPE, CASSETTE	1,240.00	7/1/87
TCA	ZVM136	CRT DISPLAY	550.00	12/1/85
TDB	MM1222	CRT DISPLAY	110.00	12/1/86
TECHNI-TOOL	849P0700	VACUUM CLEANER	233.00	
TEK	TM503	POWER MODULE	150.00	
TEKTRONIX	106	SQ WAVE GEN	665.00	
TEKTRONIX	130	LC METER	225.00	
TEKTRONIX	177	TEST FIXTURE	950.00	
TEKTRONIX	178	IC TEST FIXTURE	1,067.00	1/24/76
TEKTRONIX	191	SIGNAL GEN	674.15	
TEKTRONIX	191	CONSTANT AMPLITUDE	425.00	
TEKTRONIX	284	SIGNAL GENERATOR PULSE GENERATO	873.00	
TEKTRONIX	323	OSCILLOSCOPE	965.12	
TEKTRONIX	323	OSCILLOSCOPE	965.12	
TEKTRONIX	323	OSCILLOSCOPE	1,354.50	1/1/79
TEKTRONIX	323	OSCILLOSCOPE	1,354.50	1/1/79
TEKTRONIX	323	OSCILLOSCOPE	1,354.50	1/1/79
TEKTRONIX	324	OSCILLOSCOPE	1,285.25	4/1/74
TEKTRONIX	335	OSCILLOSCOPE	2,104.31	7/1/80
TEKTRONIX	335	OSCILLOSCOPE	2,104.31	7/1/80
TEKTRONIX	335	OSCILLOSCOPE	2,462.40	8/1/83
TEKTRONIX	335	OSCILLOSCOPE	2,755.20	3/1/83
TEKTRONIX	455	OSCILLOSCOPE	1,688.29	1/1/79
TEKTRONIX	475	OSCILLOSCOPE	2,822.70	1/1/76
TEKTRONIX	475	OSCILLOSCOPE	2,902.50	1/1/79
TEKTRONIX	475	OSCILLOSCOPE	3,128.28	4/1/81
TEKTRONIX	547	OSCILLOSCOPE.	1,885.97	3/1/80
TEKTRONIX	564	STORAGE OSCILLOSCOPE	886.50	
TEKTRONIX	567	OSCILLOSCOPE	759.73	
TEKTRONIX	575	TRANS TRACER	1,337.00	9/1/73
TEKTRONIX	577	CURVE TRACER	2,376.50	1/1/76
TEKTRONIX	602	DISPLAY UNIT	1,042.75	3/1/86
TEKTRONIX	604	CRT DISPLAY	916.65	
TEKTRONIX	604	CRT DISPLAY	894.94	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
TEKTRONIX	834	DATA TEST SET	3,990.00	1011/84
TEKTRONIX	834	DATATESTSET	2,232.00	9/18/90
TEKTRONIX	1470	NTSC COLOR SYNC & TEST SIGNAL GENERATOR	2,600.00	8/1/78
TEKTRONIX	2215	OSCILLOSCOPE	1,344.00	5/1/83
TEKTRONIX	2465	OSCILLOSCOPE	4,750.00	1/1/84
TEKTRONIX	5403	OSCILLOSCOPE	1,212.50	8/11/75
TEKTRONIX	7603	OSCILLOSCOPE	1,722.00	7/1/74
TEKTRONIX	7844	OSCILLOSCOPE, DUAL BEAM	5,723.00	2/1/75
TEKTRONIX	7844	OSCILLOSCOPE	10,709.00	4/10/81
TEKTRONIX	7904	OSCILLOSCOPE	3,977.00	9/1/76
TEKTRONIX	7904	OSCILLOSCOPE	5,510.00	6/1/80
TEKTRONIX	067-0500-00	CALIBRATION FIXTURE.	100.00	
TEKTRONIX	067-0508-00	AMPLITUDE CALIBRATOR	1,100.00	5/1/81
TEKTRONIX	067-0521-00	CALIBRATION FIXTURE	200.00	
TEKTRONIX	067-0521-00	PLUG IN	325.00	
TEKTRONIX	067-0587-01	SIG. STANDARD	385.00	
TEKTRONIX	067-0587-02	CALIBRATION FIXTURE	3,830.00	9/1/88
TEKTRONIX	067-0589-00	EXTENDER PLUG-IN	1,810.00	2/28/92
TEKTRONIX	067-0616-00	PLUG-IN EXTEND	695.00	
TEKTRONIX	067-0616-00	PLUG-IN EXTEND	695.00	
TEKTRONIX	067-0625-00	DETECTOR	120.00	
TEKTRONIX	067-0680-00	CALIB.FIXTURE	547.00	
TEKTRONIX	067-0746-00	ANALYZER, BUS	1,250.00	9/29/86
TEKTRONIX	1480C	MONITOR	2,318.30	3110/76
TEKTRONIX	149A	GENERATOR	3,977.00	2/1/75
TEKTRONIX	190B	CONST AMP GEN	330.00	
TEKTRONIX	1A1	DUAL-TRACE PLUG-IN UNIT	650.00	
TEKTRONIX	1A1	PLUG IN	650.00	
TEKTRONIX	1S1	SAMPLING UNIT	1,105.50	8/1182
TEKTRONIX	200c	SCOPE CART	125.00	
TEKTRONIX	200c	SCOPE CART	125.00	
TEKTRONIX	200c	SCOPE CART	125.00	
TEKTRONIX	2430A	OSCILLOSCOPE	7,473.00	9/1/89
TEKTRONIX	2A60	AMPLIFIER	105.00	
TEKTRONIX	2A63	DIFFERENTIAL AMPLIFIER	152.00	
TEKTRONIX	2B67	TIME BASE	212.00	
TEKTRONIX	3A75	AMPLIFIER	177.00	
TEKTRONIX	3B4	TIME BASE	495.00	
TEKTRONIX	3S76	DUAL TRACE	1,100.00	10/1/73
TEKTRONIX	3T77A	SAMPLING SWEEP	691.41	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
TEKTRONIX	454A	OSCILLOSCOPE	3,104.00	5/1/74
TEKTRONIX	465DM43	OSCILLOSCOPE	2,662.65	3/1/76
TEKTRONIX	475A	OSCILLOSCOPE	3,525.00	3/1/82
TEKTRONIX	520A	VECTORSCOPE	3,104.00	5/1/76
TEKTRONIX	535A	SCOPE	1,372.00	9/1/73
TEKTRONIX	545B	OSCILLOSCOPE	1,635.45	9/1/73
TEKTRONIX	545B	SCOPE	1,635.48	2/1/75
TEKTRONIX	545B	OSCILLOSCOPE.	1,550.00	5/1/83
TEKTRONIX	561A	OSCILLOSCOPE	500.00	
TEKTRONIX	5A15N	AMPLIFIER	175.00	
TEKTRONIX	5A48	DUAL TRACE AMPLIFIER	450.00	
TEKTRONIX	5B12N	DUAL TIME BASE	227.50	
TEKTRONIX	5B31	DIGITALLY DELAYED TIME BASE	602.00	
TEKTRONIX	6R1A	DIGITAL UNIT	2,763.20	9/1/73
TEKTRONIX	7704A	OSCILLOSCOPE	2,806.00	10/1/77
TEKTRONIX	7904A	OSCILLOSCOPE	10,431.00	10/4/88
TEKTRONIX	7A11	AMPLIFIER	2,700.00	
TEKTRONIX	7A13	DIFFERENTIAL COMPARATOR	2,659.20	7/1/83
TEKTRONIX	7A13	DIFFERENTIAL COMPARATOR	2.456.00	4/1/81
TEKTRONIX	7A16A	WB AMPLIFIER PLUG IN	1,334.75	8/1/88
TEKTRONIX	7A16A	AMPLIFIER	1,334.75	8/22/88
TEKTRONIX	7A16A	PLUG-IN	1,200.00	
TEKTRONIX	7A18	DUAL TRACE AMPLIFIER	535.00	
TEKTRONIX	7A19	AMPLIFIER	800.25	
TEKTRONIX	7A19	PLUG IN	2,859.50	9/8/88
TEKTRONIX	7A19	AMPLIFIER	700.00	
TEKTRONIX	7A22	PLUG IN	1,762.25	9/8/88
TEKTRONIX	7A22	AMPLIFIER	610.00	
TEKTRONIX	7A22	AMPLIFIER, DIFFERENTIAL	610.00	
TEKTRONIX	7A24	O'SCOPE AMPLIFIER	1,509.00	1/31/80
TEKTRONIX	7A26	PREAMPLIFIER	1,062.15	9/1/76
TEKTRONIX	7A26	DUAL TRACE AMPLIFIER	1,050.00	9/1/77
TEKTRONIX	7A26	PLUG IN	1,388.00	4/1/84
TEKTRONIX	7A26	PLUG-IN DUAL TRACE AMPLIFIER	1,050.00	
TEKTRONIX	7A26	DUAL TRACE AMPLIFIER	1,050.00	
TEKTRONIX	7A26	AMPLIFIER, DUAL TRACE	1,050.00	
TEKTRONIX	7A26	DUAL TRACE AMPLIFIER	1,388.00	6/1/80
TEKTRONIX	7B53A	DUAL TIME BASE	1,249.67	8/18/82

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
TEKTRONIX	7B53A	DUAL TIME BASE	850.00	
TEKTRONIX	7B53A	PLUG-IN DUAL TIME BASE	850.00	
TEKTRONIX	7B70	TIME BASE	675.00	
TEKTRONIX	7870	TIME BASE	675.00	
TEKTRONIX	7671	DELAYING TIME BASE	775.00	
TEKTRONIX	7B71	TIME BASE, DELAYING	775.00	
TEKTRONIX	7B80	PLUG-IN	1,151.00	4/10/81
TEKTRONIX	7B85	PLUG-IN	1,378.00	4/1/81
TEKTRONIX	7B92A	DUAL TIME BASE	1,430.25	9/7/76
TEKTRONIX	7B92A	DUAL TIME BASE	1,400.00	9/1/77
TEKTRONIX	7B92A	DUAL TIME BASE	3,676.00	9/22/88
TEKTRONIX	7B92A	O'SCOPE TIME BASE	2,187.00	6/1/80
TEKTRONIX	7B92A	DUAL TIME BASE PLUG IN	300.00	
TEKTRONIX	7D01	LOGIC ANALYZER	4,972.95	4/1/79
TEKTRONIX	AF501	BANDPASS FILTER	782.40	
TEKTRONIX	AFG5501	FUNCTION GENERATOR	4,507.00	9/1/91
TEKTRONIX	B	SCOPE CART	110.00	
TEKTRONIX	CA	PREAMP	260.00	
TEKTRONIX	D	PLUG-IN UNIT	155.00	
TEKTRONIX	D	PLUG-IN UNIT	172.00	
TEKTRONIX	D	PLUG IN AMP	172.00	
TEKTRONIX	DF2	FORMATTER	2,140.00	8/1/82
TEKTRONIX	DM501	DIG MULTIMETER	459.56	
TEKTRONIX	FG501	FUNCT GEN	388.00	
TEKTRONIX	FG503	FUNCT GEN	315.25	
TEKTRONIX	FPEN834	TEST SET	2,327.50	4/30/86
TEKTRONIX	K	PLUG-IN UNIT	147.00	
TEKTRONIX	K	PLUG-IN UNIT	147.00	
TEKTRONIX	K	PLUG IN AMP	147.00	
TEKTRONIX	K	PLUG-IN UNIT	135.00	
TEKTRONIX	K213	INSTRUMENT CART	675.00	
TEKTRONIX	L	PLUG-IN UNIT	212.00	
TEKTRONIX	MR501	OSCOPE MONITOR	532.00	
TEKTRONIX	P6013	PROBE	325.00	
TEKTRONIX	P6022	CURRENT PROBE	326.00	
TEKTRONIX	P6562	PROBE/CLIP KITS	629.00	
TEKTRONIX	PG501	PULSE GEN	339.50	
TEKTRONIX	PG501	PULSE GEN.	339.50	
TEKTRONIX	PG502	GENERATOR, PULSE	2,892.75	7/1/87
TEKTRONIX	PG506	CAL. GENERATOR	1,095.00	4/1/75
TEKTRONIX	PG506	CALIBRATION GENERATOR	1,978.00	6/1/81

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
TEKTRONIX	PG506	CALIBRATION GENERATOR	2,845.25	7/1/87
TEKTRONIX	PG506A	CALIBRATION GENERATOR	4,743.00	
TEKTRONIX	PS503A	DUAL POWER SUPPLY.	150.00	
TEKTRONIX	PS503A	DUAL POWER SUPPLY	150.00	
TEKTRONIX	RG501	RAMP GENERATOR	175.00	
TEKTRONIX	SC501	OSCILLOSCOPE	900.00	5/12/80
TEKTRONIX	SG502	OSCILLATOR	363.75	
TEKTRONIX	SG502	OSCILLATOR, PLUG-IN	500.00	
TEKTRONIX	SG502	OSCILLATOR, PLUG IN	500.00	10/4/95
TEKTRONIX	SG503	SIGNAL GENERAT	582.00	
TEKTRONIX	SG503	GENERATOR	1,568.12	
TEKTRONIX	SG503	SINE WAVE GENERATOR	2,280.00	7/1/87
TEKTRONIX	SG504	SIGNAL GEN	2,215.00	4/18/84
TEKTRONIX	TG501	TIME BASE GENERATOR	462.00	
TEKTRONIX	TG501	GENERATOR	962.66	
TEKTRONIX	TG501	TIME MARK GENERATOR	1,592.25	6/12/81
TEKTRONIX	TG501	TIME MARK GENERATOR	2,489.00	7/6/87
TEKTRONIX	TM5006A	POWER MODULE	1,164.00	4/1/91
TEKTRONIX	TM501	POWER SUPPLY	135.00	
TEKTRONIX	TM-501	POWER MODULE	125.00	
TEKTRONIX	TM503	POWER MODULE	218.25	
TEKTRONIX	TM503	POWER MODULE	250.00	
TEKTRONIX	TM503	POWER MODULE	250.00	
TEKTRONIX	TM503	POWER MODULE	500.00	
TEKTRONIX	TM503	POWER MODULE	210.00	10/3/95
TEKTRONIX	TM503	POWER MODULE	210.00	10/6/95
TEKTRONIX	TM504	POWER MODULE	180.00	
TEKTRONIX	TM504	PWR MODULE	184.30	
TEKTRONIX	TM504	POWER MODULE	315.00	
TELEDYNE	CPR-1A	READOUT, POWER SUPPLY	695.00	
TELEDYNE	CPR-HFC	CALIBRATION BOX	395.00	
TELEDYNE	S-86-CN	PUMP	495.00	
TELEDYNE	VT-6B	VACUUM GAGE	245.00	
TELEDYNE	VT-6B	VACUUM GAGE	245.00	
TELEDYNE	VT-6B	VACUUM GAUGE	299.00	12/1/92
TELEDYNE HASTINGS	VT-6B	VACUUM GAGE	318.00	
TELEDYNE HASTINGS	VT-6B	VACUUM GAGE	318.00	
TELEVIDEO	920C	TERMINAL	794.00	
TENNEY	T-55	TEST CHAMBER	5,100.00	1/24/76
TENNEY	TENNYJR	TEMP.TEST CHAM	4,801.60	4/24/79

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
TENNEY	TH5-SPL	HUMIDITY CHMBR	13,800.00	6/1/81
TERMALINE	67	WATTMETER	275.00	
TEXAS INSTRUMENTS	59	CALCULATOR	260.95	
TEXAS INSTRUMENTS	6613RX3	PULSE GENERATOR	950.00	
TEXAS INSTRUMENTS	TI PROG	CALCULATOR	49.80	
TEXAS INSTRUMENTS	TI-5142	CALCULATOR	78.00	
THE MARVEL GROUP	7200-3	WORK STATION	906.00	10/10/96
THERMO ELECTRIC	31157	TEMPERATURE CALIBRATOR	2,275.00	4/1/90
TI	TI-60	CALCULATOR	35.00	
TORIT	66	DUST COLLECTOR	422.00	
TRANSISTOR DEVICES	DLR-130-5-100	DYNA-LOAD	497.00	
TRANSISTOR DEVICES	DLR15-50-150	DYNA-LOAD	497.00	
TRANSMATICS	2632CC-44SEL/488	DIGITAL ANGLE INDICATOR	3,132.00	7/1/88
TRIPLETT	3525	DIGI-PROBE MULTIMETER	65.00	
TRIPLETT	3525	DIGI-PROBE MULTIMETER	65.00	
TROEMNER	65000472	CYLINDER STAND	105.00	
TRYGON	HR20-5	POWER SUPPLY	352.50	4/15/68
TRYGON	HR36-5	POWER SUPPLY	352.50	
TRYGON	HR40500	POWER SUPPLY	152.50	
TRYGON	HR405B	POWER SUPPLY	573.00	
TRYGON	HR40750	POWER SUPPLY	329.00	
TRYGON	SHR40-1.5A	PWR. SUP	199.00	
TRYGON	SHR4015	PWR. SUP.	199.00	
TVI	955	TERMINAL, CRT, SMART	478.00	12/1/88
ULTIMATE COMPUTER SUPPLIES	NONE	MICROMANAGER WORK STATION	130.55	
ULTIMATE COMPUTER SUPPLIES	NONE	COMPUTER CART	130.55	
ULTIMATE COMPUTER SUPPLIES	NONE	MICROMANAGER WORKSTATION	130.55	
ULTIMATE COMPUTER SUPPLIES	NONE	MICROMANAGER WORKSTATION	130.55	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
ULTIMATE COMPUTER SUPPLIES	NONE	MICROMANAGER WORKSTATION	130.55	
ULTIMATE COMPUTER SUPPLIES	NONE	MICROMANAGER WORKSTATION	130.55	
ULTRADEX AA IND		INDEXER	2,000.00	
UNHOLTZ DICKIE	608PS-1	PWR. SUP.	425.00	
UNHOLTZ DICKIE	608PS-1	PWR SUPPLY	425.00	
UNIMATION		LATHE & ACCES.	381.75	
UNION CARBIDE	50LD	LIQUID NITROGEN REFRIG.	606.00	
UNION CARBIDE	LR50	REFRIGERATOR	636.00	
UNION CARBIDE	LS-160	NITROGEN DEWAR	1,500.00	4/11/96
UNION CARBIDE	PGS-45	NITROGEN CONT.	1,785.00	5/28/85
UNITED DETECTOR	S351F	RADIOMETER	980.00	
UNITED SYSTEMS	311	VOLT. CALIBRA	637.00	
UNITEK	1048A	WELDMATIC	743.70	
UNIVERSAL DYNAMICS	PSP271	EXTENDER CARD	1,000.00	3/10/94
US ROBOTICS	735	FAX SERVER	1,640.00	11/1/94
US ROBOTICS	V.32 BIS	MODEM	378.00	4/1/94
UVP	C-25	ERASE EPROM	319.00	
VAISALA	HMI33	TEMP/HUM. INDICATOR	1,286.00	5/1/87
VALHALLA	2724A	STANDARD, CALIB	4,713.00	7/1186
VALHALLA	2724A	RESISTANCE CALIB.STANDARD	5,045.00	4/1/89
VARIAN	NONE	PRESSURE CHAMBER	500.00	8/3/95
VEECO	RG-31X	CONTROLLER	573.00	
VIBROGRAF	B200A	RECORDER, TIME	1,865.00	5/14/87
VICTOREEN	2000A	DOSIMETER CHARGER	200.00	
VIDEOTEK	DM-40-R	DEMODULATOR	1,270.00	7/9/84
VIGOR	BN225	WATCHMAKE BENC	125.00	
VIGOR	BN-225	WTCHMKRS BENCH	140.00	
VISHAY	1301	DECADE RESIS	265.00	
VISHAY	I301	DECADE RESIS	265.00	
VISIRECORD	M	CABINET	962.15	
VISUAL INFO	27	GENERATOR BAR	850.00	
VLT	PST160	MAG TAPE, CASSETTE	1,885.00	3/1/92
VLT	PST160F	TAPE BACKUP SYSTEM	1,577.00	2/1/92
VOLUMETRICS	V-1R	CONTROLLER	250.00	
VOLUMETRICS	V-1R	PRES. BELLOWS	535.00	
VOLUMETRICS	VIR	CONTROLLER	400.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
WADDY	NONE	CABINET	154.00	
WALLACE & TIERNAN	FA129	GAUGE	700.00	
WALLACE & TIERNAN	FA145	PRESS GAUGE	280.00	
WALLACE & TIERNAN	FA145	PRESS GAUGE	282.00	
WALLACE & TIERNAN	FA145	PRESS GAUGE	282.00	
WALLACE & TIERNAN	FA160	PRESS GAUGE	171.00	
WALLACE & TIERNAN	FA160	PRESS GAUGE	171.00	
WALLACE & TIERNAN	FA160	DIAL GAGE	194.00	
WALLACE & TIERNAN	FA160	PRESSURE GAGE	234.00	
WALLACE & TIERNAN	FA233	PRESS GAUGE	417.00	
WAVETEK	164	SWEEP GENERATOR	2,095.00	7/1/83
WAVETEK	164	SWEEP GENERATOR	2,095.00	7/1/83
WAVETEK	3000	SIGNAL GEN	2,692.00	4/18/84
WAVETEK	4708	CALIBRATION STANDARD	22,900.00	12/1/89
WEATHERTRONICS	5021	HYGROTHERMOGRA	365.00	
WEATHERTRONICS	5021	HYGROTHERMOGRA	365.00	
WEATHERTRONICS	5021	HYGROTHERMOGRA	365.00	
WEATHERTRONICS	5021	HYGROTHERMOGRA	365.00	
WEATHERTRONICS	5021	HYGROTHERMOGRA	365.00	
WEATHERTRONICS	5021	HYGROTHERMOGRA	365.00	
WEINSCHEL	430A	OSCILLATOR	2,200.00	5/1/81
WEINSCHEL	4310A/K	SWEEPER SYSTEM	27,930.00	4/1/81
WEINSCHEL	436A	RF UNIT	1,189.00	1/1/83
WELCH	1402	VAC PUMP	342.50	
WELCH	1402	VAC PUMP	342.50	
WELCH	1402	VAC PUMP	342.50	
WELCH	I402	VAC PUMP	325.00	
WELCH	1402	VAC PUMP	327.50	
WELCH	1402	VACUUM PUMP	342.50	
WELCH	1402	VACUUM PUMP	420.00	
WELCH	1402	VACUUM PUMP	420.00	
WELCH	1402	VACUUM PUMP	420.00	
WELCH	8810	VACUUM PUMP	600.00	
WELCH	1402B	VAC PUMP	405.00	

MANUFACTURER	MODEL	DESCRIPTION	ACQ. COST	ACQ. DATE
WELCH	8915A	PUMP, VACUUM	1,095.00	8/13/91
WELCH		VAC PUMP	200.00	
WELCH		VAC PUMP	158.00	
WESTINGHOUSE	1777564	LOADBANK	400.00	7/28/95
WESTON	433	AC AMMETER	153.00	
WESTON	622	MICROAMMETER	258.37	
WESTON	799	INSULAT TESTER	108.00	
WHITE INSTRUMENTS	2640	FILTER SET	625.00	
WHITEY	SS-33V54-31CC	SOLENOID VALVE	359.00	
WILKE TECH	DATABLUE200	TEST SET, DATA	1,054.00	3/6/92
WILKERSON	A01AH	REFRI. DRYER	400.00	
WYLE	3	SIGNAL CONDITIONER	300.00	7/19/95
WYLE	200 FT	CABLE	300.00	9/6/95
WYLE	200 FT	CABLE	300.00	9/6/95
WYLE	NONE	LOAD BANK	500.00	7/28/95
WYS	WY60	TERMINAL, CRT, SMART	294.00	10/1/92
WYSE	900128-02	KEYBOARD	117.00	
WYSE	900128-02	KEYBOARD	117.00	
WYSE	900128-02	KEYBOARD	117.00	
WYSE	wY-60-01-01	TERMINAL, COMPUTER	317.00	
XCELITE	3CSK-BR	COAX STRIPPER	68.00	
YAMAHA	KM802	MIXER, AUDIO	275.00	
ZENITH	ZCM1490	DISPLAY	629.00	9/1/88
	B	THERMOCOUPLE	300.00	
	B	THERMOCOUPLE WIRE	300.00	
	R	THERMOCOUPLE WIRE	300.00	

EXHIBIT D

REGISTER OF WAGE DETERMINATIONS UNDER
THE SERVICE CONTRACT ACT
By direction of the Secretary of Labor

U.S. DEPARTMENT OF LABOR
EMPLOYMENT STANDARDS ADMINISTRATION
WAGE AND HOUR DIVISION
WASHINGTON, D.C. 20210
Wage Determination No.: 94-2544
Revision No.: 14
Date of Last Revision: 07/02/1997

William W. Gross
Director

Division **of**
Wage Determinations

State(s): North Carolina, Virginia

Area: NORTH CAROLINA COUNTIES OF CAMDEN, CHOWAN, CURRITUCK, GATES, PASQUOTANK, PERQUIMANS.
VIRGINIA COUNTIES OF CHESAPEAKE, GLOUCESTER, HAMPTON, ISLE OF WIGHT, **JAMES** CITY, MATHEWS, NEWPORT NEWS, NORFOLK, POQUOSON, PORTSMOUTH, SOUTHAMPTON, SUFFOLK, SURRY, VIRGINIA BEACH, WILLIAMSBURG, YORK.

** Fringe Benefits Required For All Occupations Included In This Wage Determination Follow The Occupational Listing **

OCCUPATION CODE AND TITLE	MINIMUM HOURLY WAGE
ADMINISTRATIVE SUPPORT AND CLERICAL:	
01011 Accounting Clerk I	$ 6.75
01012 Accounting Clerk II	$ 8.52
01013 Accounting Clerk III	$10.60
01014 Accounting Clerk IV	$11.50
01030 Court Reporter	$10.81
01050 Dispatcher, Motor Vehicle	$ 9.23
01060 Document Preparation Clerk	$ 9.29
01070 Messenger (Courier)	$ 9.01
01090 Duplicating Machine Operator	$ 9.29
01110 Film/Tape Librarian	$ 9.28
01115 General Clerk I	$ 7.34
01116 General Clerk II	$ 9.03
01117 General Clerk III	$11.23
01118 General Clerk IV	$12.55
01120 Housing Referral Assistant	$11.98
01131 Key Entry Operator I	$ 7.78
01132 Key Entry Operator II	$ 9.79
01191 Order Clerk I	$ 7.40
01192 Order Clerk II	$ 9.68
01261 Personnel Assistant (Employment) I	$ 8.85
01262 Personnel Assistant (Employment) II	$10.23
01263 Personnel Assistant (Employment) III	$10.80
01264 Personnel Assistant (Employment) IV	$12.38

01270 Production Control Clerk	$11.98
01290 Rental Clerk	$ 9.28
01300 Scheduler, Maintenance	$ 9.28
01311 Secretary I	$ 9.28
01312 Secretary II	$10.80
01313 Secretary III	$12.38
01314 Secretary IV	$14.46
01315 Secretary V	$15.18
01320 Service Order Dispatcher	$ 9.28
01341 Stenographer I	$ 8.78
01342 Stenographer II	$ 9.86
01400 Supply Technician	$11.50
01420 Survey Worker(Interviewer)	$10.80
01460 Switchboard Operator-Receptionist	$ 8.08
01510 Test Examiner	$10.80
01520 Test Proctor	$10.80
01531 Travel Clerk I	$ 6.91
01532 Travel Clerk II	$ 7.63
01533 Travel Clerk III	$ 8.13
01611 Word Processor I	$10.00
01612 Word Processor II	$11.27
01613 Word Processor III	$12.62

AUTOMATIC DATA PROCESSING:

03010 Computer Data Librarian	$ 8.26
03041 Computer Operator !	$ 9.25
03042 Computer Operator II	$10.70
03043 Computer Operator III	$13.25
03044 Computer Operator IV	$15.34
03045 Computer Operator V	$16.31
03071 Computer Programmer I 1/	$13.38
03072 Computer Progammer II 1/	$15.15
03073 Computer Progammer III 1/	$18.05
03074 Computer Programmer IV 1/	$21.52
03101 Computer Systems Analyst I 1/	$17.62
03102 Computer Systems Analyst II 1/	$20.28
03103 Computer Systems Analyst III 1/	$24.98
03160 Peripheral Equipment Operator	$ 8.26

AUTOMOTIVE SERVICE:

05005 Automobile Body Repairer, Fiberglass	$16.22
05010 Automotive Glass Installer	$14.79
05040 Automotive Worker	$14.79
05070 Electrician, Automotive	$15.49
05100 Mobile Equipment Servicer	$13.37
05130 Motor Equipment Metal Mechanic	$16.22
05160 Motor Equipment Metal Worker	$14.79
05190 Motor Vehicle Mechanic	$16.22
05220 Motor Vehicle Mechanic Helper	$12.61
05250 Motor Vehicle Upholstery Worker	$14.07
05280 Motor Vehicle Wrecker	$14.79
05310 Painter, Automotive	$15.49

05340 Radiator Repair Specialist	$14.07
05370 Tire Repairer	$13.37
05400 Transmission Repair Specialist	$16.22

FOOD PREPARATION AND SERVICE:

07010 Baker	$ 8.68
07041 Cook I	$ 7.85
07042 Cook II	$ 8.68
07070 Dishwasher	$ 6.05
07100 Food Service Worker (Cafeteria Worker)	$ 6.05
07130 Meat Cutter	$ 8.68
07250 Waiter/Waitress	$ 6.58

FURNITURE MAINTENANCE *AND* REPAIR:

09010 Electrostatic Spray Painter	$15.49
09040 Furniture Handler	$11.21
09070 Furniture Refinisher	$15.49
09100 Furniture Refinisher Helper	$12.61
09110 Furniture Repairer, Minor	$14.07
09130 Upholsterer	$15.49

GENERAL SERVICES AND SUPPORT.

11030 Cleaner, Vehicles	$ 6.05
11060 Elevator Operator	$ 6.05
11090 Gardener	$ 7.75
11121 Housekeeping Aide I	$ 5.93
11122 Housekeeping Aide II	$ 6.49
11150 Janitor	$ 6.05
11210 Laborer, Grounds Maintenance	$ 6.58
11240 Maid or Houseman	$ 5.52
11270 Pest Controller	$ 8.25
11300 Refuse Collector	$ 6.05
11330 Tractor Operator	$ 7.38
11360 Window Cleaner	$ 6.58

HEALTH:

12020 Dental Assistant	$10.15
12040 Emergency Medical Technician/ Paramedic Ambulance Driver	$ 9.13
12070 Licensed Practical Nurse I	$ 8.00
12071 Licensed Practical Nurse II	$ 8.98
12072 Licensed Practical Nurse III	$10.05
12100 Medical Assistant	$ 8.98
12130 Medical Laboratory Technician	$ 8.98
12160 Medical Record Clerk	$ 8.98
12190 Medical Record Technician	$12.45
12221 Nursing Assistant I	$ 6.52
12222 Nursing Assistant II	$ 7.33
12223 Nursing Assistant III	$ 8.00
12224 Nursing Assistant IV	$ 8.98

12250 Pharmacy Technician	$11.20
12280 Phlebotomist	$ 8.98
12311 Registered Nurse I	$12.45
12312 Registered Nurse II	$15.23
12313 Registered Nurse II, Specialist	$15.23
12314 Registered Nurse III	$18.43
12315 Registered Nurse III, Anesthetist	$18.43
12316 Registered Nurse IV	$22.09

INFORMATION AND ARTS:

13002 Audiovisual Librarian	$11.96
13011 Exhibits Specialist I	$15.02
13012 Exhibits Specialist II	$18.25
13013 Exhibits Specialist III	$20.27
13041 Illustrator I	$15.02
13042 Illustrator II	$18.25
13043 Illustrator III	$20.27
13047 Librarian	$13.75
13050 Library Technician	$11.02
13071 Photographer I	$11.33
13072 Photographer II	$15.02
13073 Photographer III	$18.25
13074 Photographer IV	$20.27
13075 Photographer V	$24.53

LAUNDRY, DRY CLEANING, PRESSING:

15010 Assembler	$ 5.49
15030 Counter Attendant	$ 5.49
15040 Dry Cleaner	$ 6.77
15070 Finisher, Flatwork, Machine	$ 5.49
15090 Presser, Hand	$ 5.49
15100 Presser, Machine, Dry Cleaning	$ 5.49
15130 Presser, Machine, Shirts	$ 5.49
15160 Presser, Machine, Wearing Apparel, Laundry	$ 5.49
15190 Sewing Machine Operator	$ 7.22
15220 Tailor	$ 7.67
15250 Washer. Machine	$ 5.93

MACHINE TOOL OPERATION AND REPAIR:

19010 Machine-tool Operator (Toolroom)	$15.49
I9040 Tool and Die Maker	$17.84

MATERIALS HANDLING AND PACKING:

21010 Fuel Distribution System Operator	$13.37
21020 Material Coordinator	$12.19
21030 Material Expediter	$12.19
21040 Material Handling Laborer	$ 7.44
21050 Order Filler	$ 8.46
21071 Forklift Operator	$ 9.05
21080 Production Line Worker (Food Processing)	$10.54

21100 Shipping/Receiving Clerk	$ 8.85
21130 Shipping Packer	$ 8.85
21140 Store Worker I	$ 8.40
21150 Stock Clerk (Shelf Stocker, Store Worker II)	$ 9.92
21210 Tools and Parts Attendant	$10.95
21400 Warehouse Specialist	$10.54

MECHANICS AND MAINTENANCE AND REPAIR:

23010 Aircraft Mechanic	$16.22
23040 Aircraft Mechanic Helper	$12.61
23050 Aircraft Quality Control Inspector	$16.94
23060 Aircraft Servicer	$14.07
23070 Aircraft Worker	$14.79
23100 Appliance Mechanic	$15.49
23120 Bicycle Repairer	$13.37
23125 Cable Splicer	$16.22
23130 Carpenter, Maintenance	$15.49
23140 Carpet Layer	$14.79
23160 Electrician, Maintenance	$16.22
23181 Electronics Technician, Maintenance I	$13.99
23182 Electronics Technician, Maintenance II	$14.31
23183 Electronics Technician, Maintenance III	$15.33
23260 Fabric Worker	$14.07
23290 Fire **Alarm** System Mechanic	$16.22
23310 Fire Extinguisher Repairer	$13.37
23340 Fuel Distribution System Mechanic	$16.22
23370 General Maintenance Worker	$14.79
23400 Heating, Refrigeration and Air Conditioning Mechanic	$16.22
23430 Heavy Equipment Mechanic	$16.22
23440 Heavy Equipment Operator	$16.22
23460 Instrument Mechanic	$16.22
23470 Laborer	$ 9.68
23500 Locksmith	$15.49
23530 Machinery Maintenance Mechanic	$16.18
23550 Machinist, Maintenance	$16.22
23580 Maintenance Trades Helper	$12.61
23640 Millwright	$16.22
23700 Office Appliance Repairer	$15.49
23740 Painter, Aircraft	$15.49
23760 Painter, Maintenance	$15.49
23790 Pipefitter, Maintenance	$16.22
23800 Plumber, Maintenance	$15.49
23820 Pneudraulic Systems Mechanic	$16.22
23850 Rigger	$16.22
23870 Scale Mechanic	$14.79
23890 Sheet-metal Worker, Maintenance	$16.22
23910 Small Engine Mechanic	$14.79
23930 Telecommunications Mechanic I	$16.22
23940 Telecommunications Mechanic II	$16.94
23950 Telephone Lineman	$16.22
23960 Welder, Combination, Maintenance	$16.22
23965 Well Driller	$16.22
23970 Woodcraft Worker	$16.22

23980 Woodworker	$13.37

PERSONAL NEEDS:

24570 Child Care Attendant	$ 6.34
24580 Child Care Center Clerk	$ 7.91
24600 Chore Aide	$ 4.91
24630 Homemaker	$ 8.33

PLANT AND SYSTEM OPERATION:

25010 Boiler Tender	$16.22
25040 Sewage Plant Operator	$15.49
25070 Stationary Engineer	$16.22
25190 Ventilation Equipment Tender	$12.61
25210 Water Treatment Plant Operator	$15.49

PROTECTIVE SERVICE:

27004 Alarm Monitor	$ 7.21
27006 Corrections Officer	$11.47
27010 Court Security Officer	$11.47
27040 Detention Officer	$11.47
27070 Firefighter	$11.47
27101 Guard I	$ 6.03
27102 Guard II	$ 7.21
27130 Police Officer	$12.28

STEVEDORING/LONGSHOREMEN SERVICE OCCUPATIONS:

28010 Blocker and Bracer	$12.33
28020 Hatch Tender	$12.33
28030 Line Handler	$12.33
28040 Stevedore I	$11.80
28050 Stevedore II	$12.96

TECHNICAL:

29010 Air Traffic Control 2/Specialist, Center	$23.96
29011 Air Traffic Control 2/Specialist, Station	$16.53
29012 Air Traffic Control 2/Specialist, Terminal	$18.20
29023 Archeological Technician I	$11.43
29024 Archeological Technician II	$12.85
29025 Archeological Technician III	$15.87
29030 Cartographic Technician	$15.87
29035 Computer Based Training Specialist/Instructor	$17.62
29040 Civil Engineering Technician	$15.87
29061 Drafter I	$10.07
29062 Drafter II	$11.33
29063 Drafter III	$14.24
29064 Drafter IV	$17.30
29081 Engineering Technician I	$11.50
29082 Engineering Technician II	$12.30
29083 Engineering Technician III	$15.15

29084 Engineering Technician IV	$18.35
29085 Engineering Technician V	$21.43
29086 Engineering Technician VI	$26.48
29090 Environmental Technician	$15.87
29100 Flight Simulator Instructor (Pilot)	$20.28
29150 Graphic Artist	$17.62
29160 Instructor	$15.23
29210 Laboratory Technician	$11.83
29240 Mathematical Technician	$15.87
29361 Paralegal/Legal Assistant I	$10.80
29362 Paralegal/Legal Assistant II	$13.12
29363 Paralegal/Legal Assistant III	$16.05
29364 Paralegal/Legal Assistant IV	$19.42
29390 Photooptics Technician	$15.87
29480 Technical Writer	$15.02
29491 Unexploded Ordinance Technician I	$15.23
29492 Unexploded Ordinance Technician II	$18.43
29493 Unexploded Ordinance Technician III	$22.39
29494 Unexploded Safety Escort	$15.23
29495 Unexploded Sweep Personnel	$15.23
29620 Weather Observer, Senior 3/	$12.80
29621 Weather Observer, Combined 3/Upper Air and Surface Programs	$11.83
29622 Weather Observer, Upper Air 3/	$11.83

TRANSPORTATION/MOBILE EQULPMENT OPERATION:

31030 Bus Driver	$ 9.42
31260 Parking and Lot Attendant	$ 6.98
31290 Shuttle Bus Driver	$ 9.01
31300 Taxi Driver	$ 8.50
31361 Truckdriver, Light Truck	$ 9.01
31362 Truckdriver, Medium Truck	$ 9.42
31363 Truckdriver, Heavy Truck	$10.50
36364 Truckdriver, Tractor-Trailer	$10.50

MISCELLANEOUS :

99020 Animal Caretaker	$ 7.00
99030 Cashier	$ 5.93
99041 Carnival Equipment Operator	$ 5.93
99042 Carnival Equipment Repairer	$ 7.38
99043 Carnival Worker	$ 7.75
99050 Desk Clerk	$ 7.00
99095 Embalmer	$17.63
99300 Lifeguard	$ 5.36
99310 Mortician	$17.63
99350 Park Attendant (Aide)	$ 6.73
99400 Photofinishing Worker (Photo Lab / Dark Room Technician)	$ 6.01
99500 Recreation Specialist	$13.04
99510 Recycling Worker	$ 7.41
99610 Sales Clerk	$ 5.36
99620 School Crossing Guard (Crosswalk Attendant)	$ 6.05
99630 Sports Official	$ 5.36

99658 Survey **Party** Chief	$ 7.85
99659 Surveying Technician	$ 7.50
99660 Surveying Aide	$ 4.91
99690 Swimming Pool Operator	$ 8.68
99720 Vending Machine Attendant	$ 7.41
99730 Vending Machine Repairer	$ 8.68
99740 Vending Machine Repairer Helper	$ 7.41

** Fringe Benefits Required For All Occupations Included In This Wage Determination **

HEALTH & WELFARE: Life, accident, and health insurance plans, sick leave, pension **plans,** civic and personal leave, severance pay, and savings and **thrift** plans. Minimum employer contributions costing an average of $2.56 per hour computed on the basis of all hours worked by service employees employed on the contract.

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or successor; **3** weeks after 8 years; 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with predecessor contractors in the performance of similar work at the same Federal facility. (See 29 CFR. 4.173)

HOLIDAYS: Minimum of ten paid holidays per year: New Year's Day, Martin Luther King Jr.'s Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. **(A** contractor may substitute for any of the named holidays another day off with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4.174)

1 Does not apply to employees employed in a bona fide executive, administrative, or professional capacity as defined and delineated in 29 CFR 541. (See 29 CFR 4.156)

2 APPLICABLE TO AIR TRAFFIC CONTROLLERS ONLY - NIGHT DIFFERENTIAL: ***An*** employee is entitled to pay for all work performed between the hours of 6:00 P.M. and 6:00 A.M. at the rate of basic pay plus a night pay differential amounting to 10 percent of the rate of basic pay.

3 APPLICABLE TO WEATHER OBSERVERS ONLY - NIGHT PAY & SUNDAY PAY: If you work at night as a part of a regular tour of duty, you will earn a NIGHT DIFFERENTIAL and receive an additional 10% of basic pay for any hours worked between 6pm and 6am. If you are a full-time employee (40 hours a week) and Sunday is part of your regularly scheduled workweek, you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on Sunday outside the normal tour of duty is considered overtime work).

** UNIFORM ALLOWANCE **

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or *dry* cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment ***in*** accordance with the following standards **as** compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of $4.25 per week (or $.85 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

** NOTES APPLYING TO THIS WAGE DETERMINATION **

Source of Occupational Titles and Descriptions:

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations," Fourth Edition, January 1993, as amended by the Second Supplement, dated August 1995, unless otherwise indicated. This publication may be obtained from the Superintendent of Documents, at 202-783-3238, or by writing to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Copies of specific job descriptions may also be obtained from the appropriate contracting officer.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE
(Standard Form 1444 (SF 1444))

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. (See Section 4.6 (C)(vi)) When multiple wage determinations are included in a contract, a separate SF 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

1) When preparing the bid, the contractor identifies the need for a conformed occupation(s) and computes a proposed rate(s).

2) After contract award, the contractor prepares a written report listing in order proposed classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), including information regarding the agreement or disagreement of the authorized representative of the employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later than 30 days after such unlisted class(es) of employees performs any contract work.

3) The contracting officer reviews the proposed action and promptly submits a report of the action, together with the agency's recommendations and pertinent information including the position of the contractor and the employees, to the Wage and Hour Division, Employment Standards Administration, **U.S.** Department of Labor, for review. (See Section 4.6(b)(2) of Regulations **29** CFR **Part 4).**

4) Within **30** days of receipt, the Wage and Hour Division approves, modifies, or disapproves the action via transmittal to the agency contracting officer, or notifies the contracting officer that additional time will be required to process the request.

5) The contracting officer transmits the Wage and Hour decision to the contractor.

6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

When preparing a conformance request, the "Service Contract Act Directory of Occupations" (the Directory) should be used to compare job definitions to insure that duties requested are not performed by a classification already listed in the wage determination. Remember, it is not the job title, but the required **tasks** that determine whether a class is included in **an** established wage determination. Conformances may not be used to artificially split, combine, or subdivide classifications listed in the wage determination.

EXHIBIT E - CONTRACT DOCUMENTATION REQUIREMENTS

I. DOCUMENTATION PREPARATION/SUBMISSION INSTRUCTIONS

A. Financial Management Reports—The Contractor shall comply with the Section I clause of this contract entitled "NASA Contractor Financial Management Reporting" by monthly submission of NASA Form 533M. The form shall be prepared and submitted in accordance with the instructions set forth on the reverse side of the form and NASA Policy and Guidelines (NPG) 9501.2C, "NASA Contractor Financial Management Reporting," as further definitized below.

1. Due not later than the 10th operating day following the close of the Contractor's accounting period being reported.

2. Columns 7.b. and d. shall be completed using the approved time-phased financial baseline plan.

3. Columns 8.a. and b. shall be completed using estimates (forecasts) for the succeeding two months.

4. Minimum reporting categories (applicable to contract, CLIN, and Task Level 533M's):

a. Direct Labor Dollars
b. Direct Labor Hours
c. Overhead(s)/Salary Related Expenses
d. Subcontracts
e. Material
f. Other Direct Costs
g. Total Estimated Cost
h. Fee
i. Total Estimated Cost and Fee

5. Each 533M shall include a narrative explanation for variances exceeding 10 percent between planned hours and dollars and actual hours and dollars for each reporting category

6. A 533M shall also be provided for each CLIN, and for each Task Order under CLIN 3.

B. Quarterly Financial Management Report—The Contractor shall submit a quarterly financial report detailed by categories specified in 1 above on NASA Form 533Q at times and in accordance with the instructions contained on the reverse side of the form. The initial 533Q shall be submitted within 10 operating days after award of the contract.

C. Financial Baseline Plan—A time-phased financial baseline plan, detailing by month how you plan to incur costs for the period, shall be submitted for the first 12-month interval of the total five year contract period. Financial baseline plans for each of the remaining 12-month intervals shall be Submitted within 10 days of the anniversary of the effective date of this contract. Financial baseline plan revisions resulting from the exercise of priced option hours shall be submitted 10 days following the effective date of the option being exercised. This plan shall include the periods by the cost categories specified in Paragraph **A.4** above. The total estimated cost reflected in the baseline plans must equal the contract values for the total contract period. No overrun costs will be included in the baseline plan.

The Financial Baseline Plan will be revised each time a contract modification is executed which increases or decreases the contract estimated cost for a reason other than an overrun. The Financial Baseline Plan shall not be revised to include overrun costs. Revisions to the Financial Baseline Plan are subject to Contracting Officer approval.

D. Safety and Health Plan–Within 30 calendar days after the effective date of the contract, the Contractor shall submit a detailed safety and health plan showing how the Contractor intends to protect the life, health, and well being of NASA and Contractor employees as well as property and equipment. This plan, as approved by the Contracting Officer, should contain, as a minimum the following:

1. Points of Contact and Responsibility–Organizational flow chart and description of responsibilities of each employee in your organization for safety.

2. Employee Safety Training, Certification and Programs–Detailed information on type of training required, parties responsible for certification, and outline of applicable regulations. Detail company programs which emphasize personal safety and motivate employees to be safety conscious.

3. LaRC Safety Policies/Procedures--Recognition of applicable LaRC safety policies and procedures such as Langley Handbook 1710.10, LaRC Red Tag System.

4. Accident Investigation and Reporting–Procedures for investigating and reporting accidents/incidents including immediate notification to the NASA LaRC Safety Manager of all injuries and damage to equipment or facilities.

5. Hazardous Operations--

(a) Description of hazardous operations involved in contract performance.

(b) Plans for apprising employees of all hazards to which they may be exposed.

(c) Proper conditions and precautions for safe use and exposure to hazardous operations. Include recognition of LHB 1710.12, Potentially Hazardous Materials.

6. People with Disabilities--In accordance with the Americans with Disabilities Act, the plans should specify that prior to assigning a person with disabilities to this contract, the Contractor shall contact the Disability Program Manager at (804) 864-7718.

7. Other Safety Considerations--Any other safety considerations unique to your operation.

E. Semiannual Equipment Report–The Contractor shall submit a Semiannual Government-furnished Equipment Report summarizing maintenance/calibration performed on the equipment. This report shall be submitted within 10 operating days following the end of the reporting period.

F. Semiannual Accident/Injury Report–The Contractor shall submit a Semiannual Accident/Injury Report within 10 operating days after the end of each quarter.

G. Conformable Wage Rate Agreement–Within 15 operating days after the effective date of the contract, the Contractor shall submit a report confirming conformable wage rate agreement as this subject is addressed in the Section I clause entitled "Service Contract Act of 1965," for those individuals employed by the Contractor who are covered by the Service Contract Act, but are not listed in Exhibit D.

H. Collective Bargaining Agreements–The Contractor shall provide the Contracting Officer with copies of any collective bargaining agreements, and amendments thereto, which arise during the course of the contract and which apply to Contractor employees assigned to the contract.

I. NASA Property in the Custody of Contractors (NASA FORM 1018)--The Contractor shall submit the NASA Form 1018 no later than October 31 of each year in accordance with the Section I clause entitled "Financial Reporting of NASA Property in the Custody of Contractors."

J. Subcontracting Reports–The Contractor shall submit Standard Form 294, Subcontracting Report for Individual Contracts, Standard Form 295, Summary Subcontractor Report, and in accordance with the instructions on the reverse of the form.

In addition to the instructions on the reverse of the SF 295, the Contractor is required to comply with Clause 1852.219-75, Small and Small Disadvantaged Subcontracting Reporting.

Pursuant to the contract clause entitled "Small Business and Small Disadvantaged Subcontracting Plan" (FAR 52.219-9 and 19.704(a)(5)), you are required to submit a letter progress report on a monthly basis. The "Monthly Progress Report for Socioeconomic Goals" shall be limited to the monthly data only (excluding cumulative data from beginning of Subcontract Plan) as required for Lines 10A, 10B, 10C, 11, and 12 of the Standard Form 294. Letter progress reports may be signed by the Contract Administrator or equivalent organizational level, and each report is due by the 10th calendar day of the month following the close of the reporting period.

K. List of Instruments Due for Calibration–Shall be submitted monthly in accordance with Statement of Work paragraph 1.5.3.

L. Federal Contractor Veterans Employment Report--In compliance with Clause 52.222-37, Employment Reports on Special Disabled Veterans and Veterans of the Vietnam Era, the Contractor shall submit the Federal Contractor Veterans Employment Reports (VETS-100) as required by this clause.

M. Evidence of Insurance–The Contractor shall submit evidence of the insurance coverage, required by the NASA Clause 1852.228-75 in Section I entitled "Minimum Insurance Coverage" (i.e., a Certificate of Insurance or other confirmation), to the Contracting Officer prior to performing under this contract. In the event the Government exercises its options to extend the term of the contract, the Contractor shall also present such evidence to the Contracting Officer prior to commencement of performance under the extension.

N. Virginia and Local Sales Taxes--In accordance with Section **H.** , you are required to submit a copy of the letter sent to the Virginia Tax Commission and a copy of the subsequent response.

O. New Technology Report–The contractor shall submit all disclosures of reportable items and subject inventions, interim reports, subcontract identification and other information as required by the clause at 1852.227-70, New Technology. Further, upon completion of the work under the contract (or subcontract, if any) a final report shall be submitted.

P. Quality Plan – Within 30 calendar days after contract award, the Contractor shall submit a Quality Plan which addresses how the contract quality requirements will be met. The Plan will **be** reviewed and approved by the Contracting Officer, and the approved Quality Plan shall become a part of the contract.

Q. Monthly Progress Report (CLIN 3 Task Orders Only) –The Contractor shall provide a narrative description of technical progress/work accomplished during the month. A summary of cost incurred for the month and cumulative cost since task inception shall also be provided.

R. Semiannual Technical Progress Report–The Contractor shall provide a narrative report of the technical progress made under each CLIN during the 6-month period.

S. Monthly Staffing Report–The Contractor shall submit a monthly report listing the staffing for that month by contract CLIN.

II. DOCUMENT DISTRIBUTION REQUIREMENTS

A. Unless otherwise specified elsewhere in this contract, reports and other documentation shall be submitted F.O.B. destination as specified below, addressed as follows:

National Aeronautics and Space Administration
Langley Research Center
Attn: D. H. Jones, Mail Stop 126
Contract NASI-_____
Hampton, VA 23681-0001

B. The following letter codes designate the recipients of reports and other documentation which are required to be delivered prepaid to Langley Research Center by the Contractor:

1. A–Contract Specialist, Mail Stop 126

2. B–Contracting Officer Technical Representative, Mail Stop 235

3. C–New Technology Representative, Mail Stop 212

4. D–Cost Accounting, Mail Stop 135

5. E–Safety Manager, Mail Stop 429

6. F–Industry Relations Office, Mail Stop 144

7. G–Programs and Resources Division, Mail Stop 104

8. H–Patent Counsel, Mail Stop 212

9. I–Industrial Property Office, Mail Stop 377

10. J–According to instructions on form

11. K–Small Business Specialist, Mail Stop 144

C. The following are the distribution requirements for reports and other documentation required with the numeral following the letter code specifying the number of copies to be provided:

DOCUMENT	LETTER CODE AND DISTRIBUTION
Financial Management Report (NASA Forms 533M and 533Q)	A-1, B-2, D-2, G-1
Financial Baseline Plan	A-2, B-1
Safety and Health Plan	A-1, B-1, E-1

Semiannual Equipment Report	A-1, B-3
Semiannual Accident/Injury Report	A-1, B-1, E-1
Conformable Wage Rate Agreement	A-1, B-1, F-1
Collective Bargaining Agreement	A-1, B-1, F-1
NASA Property in the Custody of Contractors (NASA Form 1018)	J
Subcontracting Report for Individual Contracts (Standard Form 294)	A-1, K-1
Summary Subcontractor Report (Standard Form 295)	J
Monthly Progress Report for Socioeconomic Goals	A-1, K-1
List of Instruments Due For Calibration	B-2
Federal Contractor Veterans Employment Report (VETS-100)	J
Evidence of Insurance	A-1
Virginia and Local Sales Tax Correspondence	A-1
New Technology Report	A-1, B-2, C-1, H-1
Quality Plan	A-2, B-2
Monthly Progress Report (CLIN 3 Task Orders only)	A-1, B-3
Semiannual Technical Progress Report	A-1, B-3
Patent Rights Report	A-1, B-2, C-1, H-1
Requisition and Invoice/Shipping Document (DD Form 1149)	I-1
Response to LaRC Notice of Violation (Safety)	J
Monthly Staffing Report	A-1, B-3

D. When the Contract Administrator (A) is not designated above to receive a copy of a report or document, the Contractor shall furnish a copy of the report/document transmittal letter to the Contract Administrator. The Contractor shall also furnish a copy of the transmittal letter and a copy of each Financial Management Report to the delegated Administrative Contracting Officer of the cognizant DoD (or other agency) contract administrative services component.

EXHIBIT F

INFORMATION MANAGEMENT SYSTEM FOR ETTD SUPPORT SERVICES

In January 1992, NASA Langley's Experimental Testing Technology Division (ETTD), formerly the Instrument Research Division (IRD), and its instrument services Contractor initiated a project to design, develop, and assemble a PC server-based Information Management System (IMS) network. The IMS tracks the Contractor effort in repairing, servicing and calibrating digital instrumentation, data acquisition systems, computers, and electronic test and measurement equipment.

The IMS is a relational database (Advanced Revelation) with many ancillary programs and files. It is the principal operating vehicle, touching many areas internally as well as externally in the daily administration of instrument support services activities. The IMS, which resides on Ethernet-based file servers using Novell Netware 3.11 as the operating system, is located at building 1230, ETTD and at the Contractor's facility (s).

The two mirror imaged networks are synchronized by maintaining communications by way of LaRCNET. INFOPC, the heart of the IMS, is a highly automated work order control system that allows ETTD's technical area managers simultaneously to access, via workstations on the Local Area Network (LAN), data in real time for tracking progress and monitoring the work flow process.

The IMS is configuration controlled with anti-virus protection operating continuously and back ups to tape made daily. Daily update from NASA Equipment Management System (NEMS) are being performed to maintain congruency with that system. Data entry originates from multiple workstations throughout the networks both at Contractor(s) facility(s) and ETTD. INFOPC is Electronic Data Interchange technology (EDI), that when necessary, generates forms, shipping tags, delay notifications, calibration due notices, equipment repair cost notifications, etc. The database includes: equipment file, work order file, GFE inventory, stockroom inventory and issues, purchase order files, calibration software, engineering drawings, and software configuration control documentation. Task information, service details, and data are all electronically stored to either hard drives or optical disks (worm). All stored information is available at an individual users' workstation.

In FY 96, ETTD initiated a project to design and develop a testing technology server for the World Wide Web to serve the needs of Langley's research community. With the collaboration of the Instrument Systems and Services Division and their support service Contractor, a forms-based query facility was incorporated into the testing technology Web offerings to facilitate convenient and widespread access to information within MFOPC. With this enhancement, this information has become readily available not only to Langley's testing technology community, but to all potential users of this equipment at Langley.

EXHIBIT G

List of NASA Software/Hardware Documentation Standards

Documentation for hardware and software deliverables shall conform to the NASA Software Documentation Standard Software Engineering Program, NASA-STD-2100-91, dated July 1991 (or later revision). This documentation shall include the following Data Item Descriptions (DIDs), with deviations in breadth/scope specified by each Task Order or ESR:

Product Description DIDs

- P000 Product Specification
- P100 Concept
- P200 Requirements
- P300 Architectural Design
- P400 Detailed Design
- P410 Firmware Support Manual
- P500 Version Description
- P600 User's Guide
- P700 Operational Procedures Manual

Management Plan DIDs

- M000 Management Plan
- M100 Acquisition Plan
- M200 Development Activities Plan
- M210 Training Development Plan
- M300 Sustaining Engineering and Operations Activities Plan
- M400 Assurance Plan
- M500 Risk Management Plan
- M600 Configuration Management Plan
- M700 Delivery and Operational Transition Plan

Assurance and Test Procedures DIDs

- A000 Assurance and Test Procedures
- A100 Assurance Procedures
- ***A200*** Test Procedures

Management, Engineering, and Assurance Reports DIDs

- R000 Management, Engineering, and Assurance Reports
- R001 Certification Report
- R002 Audit Report
- R003 Inspection Report
- R004 Discrepancy Report
- R005 Engineering Change Proposal
- R006 Lessons Learned Report
- R007 Performance/Status Reports
- R008 Assurance Activity Report
- R009 Test Report
- R010 Waiver/Deviation Request
- R011 Review Report

Additionally, software items developed under this contract shall be in a programming language mutually acceptable by the Government and the Contractor and shall include annotated source code. Hardware deliverables shall include original or updated drawings and schematics.

EXHIBIT H - LIST OF ACRONYMS

ACRONYM	DEFINITION
AD	Acquisition Division, NASA LaRC
ADPE	Automatic Data Processing Equipment
AGR	Authorized Government Representative
ANSI	American National Standards Institute
BER	Beyond Economical Repair
CLIN	Contract Line Item Number
COTR	Contracting Officer's Technical Representative
DAS	Data Acquisition System
DID	Data Item Description
DOD	Department of Defense
ECN	Equipment Control Number
ESP	Electronically Scanned Pressure
ESR	Engineering Service Request
ETTD	Experimental Testing Technology Division, NASA LaRC
FMD	Financial Management Division, NASA LaRC
GFE	Government Furnished Equipment
INFOPC	LaRC Metrology and Information System
IRD	Instrument Research Division, NASA LaRC (Note: Although IRD no longer exists as a Langley organization, this acronym still appears in the title of various current Langley documents.)
ISO	International Standards Organization
ISTP	Instrument Scoring & Tracking Program
IWO	Instrument Work Order
LAN	Local Area Network
LaRC	Langley Research Center
LHB	Langley Handbook
LIDAR	Light, Distance & Ranging
LMO	Logistics Management Office, NASA LaRC
MAP'	Measurement Assurance Programs
MCN	Metrology Control Number
MCWG	Metrology & Calibration Working Group
MET/TRACK®	Metrology Tracking Software
NASA	National Aeronautics and Space Administration
NCSL	National Conference of Standards Laboratories
NEMS	NASA Equipment Management System
NHB	NASA Handbook
NIST	Nationai institute of Standards
NMI	NASA Management Instruction
R&I	Receipt & Inspection Report
RFP	Request For Proposal
SOW	Statement of Work
STI	Sensors, Transducers, Instruments
TAM	Task Area Monitor

EXHIBIT I

SUBCONTRACTING PLAN

(The Offer shall attach its Small and Small Disadvantaged Business Subcontracting Plan here as Exhibit I to the contract offer.)

PART IV - REPRESENTATIONS AND INSTRUCTIONS

SECTION K - REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS

K.1 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (FAR 52.203-2) (APR 1985)

(a) The offeror certifies that -

(1) The prices in this offer have been arrived at independently, without, for the purpose *of* restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to (i) those prices, (ii) the intention to submit an offer, or (iii) the methods or factors used to calculate the prices offered;

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory -

(1) Is the person in the offeror's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above _____ (insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal and the title of his or her position in the offeror's organization);

(ii) As an authorized agent does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above.

(c) If the offeror deletes or modifies subparagraph (a)(2) above, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

K.2 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (FAR 52.203-11) (APR 1991)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief, that on or after December 23, 1989, -

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure *of* Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontracts at any tier and require that all recipients of subcontract awards in excess of $100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than $10,000, and not more than $100,000, for each such failure.

K.3 TAXPAYER IDENTIFICATION (FAR 52.204-3) (MAR 1994)

(a) *Definitions.*

"Common parent," as used in this solicitation provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

"Corporate status," as used in this solicitation provision, means a designation as to whether the offeror is a corporate entity, an unincorporated entity (e.g., sole proprietorship or partnership), or a corporation providing medical and health care services.

"Taxpayer Identification Number (TIN)," as used in this solicitation provision, means the number required by the IRS to be used by the offeror in reporting income tax and other returns.

(b) All offerors are required to submit the information required in paragraphs (c) through (e) of this solicitation provision in order to comply with reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M and implementing regulations issued by the Internal Revenue Service (IRS). If the resulting contract is subject to the reporting requirements described in 4.903, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) *Taxpayer Identification Number (TIN).*

( ) TIN: _____

( ) TIN has been applied for.

( ) TIN is not required because:

( ) Offeror is a nonresident aiien, foreign corporation, or foreign partnership that does not nave income effectively connected with the conduct of a trade or business in the U.S. and does not have an office or place of business or a fiscal paying agent in the U.S.;

( ) Offeror is an agency or instrumentality of a foreign Government;

( ) Offeror is an agency or instrumentality of a Federal, state, or local Government;

( ) Other. State basis. _____

(d) *Corporate Status.*

( ) Corporation providing medical and health care services, or engaged in the billing and collecting of payments of such services;

( ) Other corporate entity;

( ) Not a corporate entity:

( ) Sole proprietorship

( ) Partnership

( ) Hospital or extended care facility described in 26 CFR 501(c)(3) that is exempt from taxation under 26 CFR 501(a).

(e) Common Parent.

( ) Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this clause.

( ) Name and TIN of common parent:

Name _____

TIN _____

K.4 WOMEN-OWNED BUSINESS (FAR 52.204-5) (OCT 1995)

(a) Representation. The offeror represents that it [ ] is, [ ] is not a women-owned business concern.

(b) Definition. 'Women-owned business concern," as used in this provision, means a concern which is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

K.5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (FAR 52.209-5) (MAR 1996)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that -

(i) The Offeror and/or any of its Principals -

(A) Are ( ) are not ( ) presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have ( ) have not ( ), within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission *of* fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission *of* embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are ( ) are not ( ) presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission *of* any of the offenses enumerated in subdivision (a)(1)(i)(B) *of* this provision.

(ii) The Offeror has ( ) has not ( ), within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within *a* **business entity** (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

THIS CERTIFICATION CONCERNS A MATTER WITHIN THE JURISDICTION OF AN AGENCY OF THE UNITED STATES AND THE MAKING OF A FALSE, FICTITIOUS, OR FRAUDULENT CERTIFICATION MAY RENDER THE MAKER SUBJECT TO PROSECUTION UNDER SECTION 1001, TITLE 18, UNITED STATES CODE.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination *of* the Offeror's responsibility. Failure of the Offeror to furnish a

certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default

K.6 TYPE OF BUSINESS ORGANIZATION (FAR 52.215-6) (JUL 1987)

The offeror or quoter, **by** checking the applicable box, represents that -

(a) It operates as ( ) a corporation incorporated under the laws of the State of _____
( ) an individual, ( ) a partnership, ( ) a nonprofit organization, or ( ) a joint venture; or

(b) If the offeror or quoter is a foreign entity, it operates as ( ) an individual, ( ) a partnership, ( ) a nonprofit organization, ( ) a joint venture, or ( ) a corporation, registered for business in

_____
country

K.7 AUTHORIZED NEGOTIATORS (FAR 52.215-11) (APR 1984)

The offeror or quoter represents that the following persons are authorized to negotiate on its behalf with the Government in connection with this request for proposals or quotations: (list names, titles, and telephone numbers of the authorized negotiators).

_____

_____

K.8 PLACE OF PERFORMANCE (FAR 52.215-20) (APR 1984)

(a) The offeror or quoter, in the performance of any contract resulting from this solicitation, ( ) intends, ( ) does not, intend (check applicable block), to use one or more plants or facilities located at a different address from the address of the offeror or quoter as indicated in this proposal or quotation.

(b) If the offeror or quoter checks "intends" in paragraph (a) above, it shall insert in the spaces provided below the required information:

Place of Performance (Street Address, City, County, State, Zip Code)	Name and Address of Owner and Operator of the Plant or Facility if Other than Offeror or Quoter

K.9 SMALL **BUSINESS** PROGRAM REPRESENTATIONS (FAR 52.219-1) (JAN 1997)

(a)(1) The standard industrial classification (SIC) code for this acquisition is 8744

(2) The small business size standard is $20,000,0000 .

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it is: ( ) a small business concern, ( ) not a small business concern.

(2) (Complete only if offeror represented itself as a small business concern in Block (c)(1) of this section.) The offeror represents as part of its offer that it ( ) is, ( ) is into a small disadvantaged business concern.

(3) (Complete only if offeror represented itself as a small business concern in Block (b)(1) of this section.) The offeror represents as part of its offer that it ( ) is, ( ) is not a women-owned small business concern.

(c) Definitions.

"Joint venture," for purposes of a small disadvantaged business (SDB) set-aside or price evaluation preference (as prescribed at 13 CFR 124.321), is a concern that is owned and controlled by one or more socially and economically disadvantaged individuals entering into a joint venture agreement with one or more business concerns and is considered to be affiliated for size purposes with such other concern(s). The combined annual receipts or employees of the concerns entering into the joint venture must meet the applicable size standard corresponding to the SIC code designated for the contract. The majority of the venture's earnings must accrue directly to the socially and economically disadvantaged individuals in the SDB concern(s) in the joint venture. The percentage of the ownership involvement in a joint venture by disadvantaged individuals must be at least 51 percent.

"Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and size standard in Paragraph (a) of this provision.

"Small disadvantaged business concern," as used in this provision, means a small business concern that (1) is at least 51 percent unconditionally owned by one or more individuals who are both socially and economically disadvantaged, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more socially and economically disadvantaged individuals, and (2) has its management and daily business controlled by one or more such individuals. This term also means a small business concern that is at least 51 percent unconditionally owned by an economically disadvantaged Indian tribe or Native Hawaiian Organization, or a publicly owned business having at least 51 percent of its stock unconditionally owned by one or more of these entities, which has its management and daily business controlled by members of an economically disadvantaged Indian tribe or Native Hawaiian Organization, and which meets the requirements of 13 CFR Part 124.

"Woman-owned small business concern," as used in this provision, means a small business concern—

(1) Which is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice. (1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to sections 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall—

(i) Be punished by imposition of a fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

K.10 CERTIFICATION OF NONSEGREGATED FACILITIES (FAR 52.222-21) (APR 1984)

(a) "Segregated facilities", as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.

(b) By the submission of this offer, the offeror certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The offeror agrees that a breach of this certification is a violation of the Equal Opportunity clause in the contract.

(c) The offeror further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will -

(1) Obtain identical certifications from proposed subcontractors before the award of subcontracts under which the subcontractor will be subject to the Equal Opportunity clause;

(2) Retain the certifications in the files; and

(3) Forward the following notice to the proposed subcontractors (except if the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES

A Certification of Nonsegregated Facilities must be submitted before the award of a subcontract under which the subcontractor will be subject to the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

K.11 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FAR 52.222-22) (APR 1984)

The offeror represents that -

(a) It ( ) has, ( ) has not, participated in a previous contract or subcontract subject either to the Equal Opportunity clause of this solicitation, the clause originally contained in Section 310 of Executive Order No. 10925, or the clause contained in Section 201 of Executive Order No. 11114;

(b) It ( ) has, ( ) has not, filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

K.12 AFFIRMATIVE ACTION COMPLIANCE (FAR 52.222-25) (APR 1984)

The offeror represents that (a) it ( ) has developed and has on file, ( ) has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2), or (b) it ( ) has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

K.13 CLEAN AIR AND WATER CERTIFICATION (FAR 52.223-1) (APR 1984)

The offeror certifies that -

(a) Any facility to be used in the performance of this proposed contract ( ) is, ( ) is not, listed on the Environmental Protection Agency List of Violating Facilities;

(b) The offeror will immediately notify the Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the Environmental Protection Agency, indicating that any facility that the offeror proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and

(c) The offeror will include a certification substantially the same **as** this certification, including this paragraph (c), in every nonexempt subcontract.

K.14 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (FAR 52.223-13) (OCT 1996)

(a) Submission of this certification is a prerequisite for making or entering into this contract imposed by Executive Order 12969, August 8, 1995.

(b) By signing this offer, the offeror certifies that—

(1) **As** the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in sectin313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form **R)** as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned *or* operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: (Check each block that is applicable.)

☐ (i) The facility does not manufacture, process, or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

☐ (ii) The facility does not have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023(b)(1)(A);

☐ (iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, **42 U.S.C**11023(f) (including the alternate thresholds at **40** CFR 372.27, provided an appropriate certification form has been filed with EPA);

☐ (iv) The facility does not fall within Standard Industrial Classification Code (SIC) designations 20 through 39 as set forth in section 19.102 of the Federal Acquisition Regulation; or

☐ (v) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

K.15 REPRESENTATION OF LIMITED RIGHTS DATA AND RESTRICTED COMPUTER SOFTWARE (FAR 52.227-15) (JUN 1987)

(a) This solicitation sets forth the work to be performed if a contract award results, and the Government's known delivery requirements for data (as defined in FAR 27.401). Any resulting contract may also provide the Government the option to order additional data under the Additional Data Requirements clause at 52.227-16 of the FAR, if included in the contract. Any data delivered under the resulting contract will be subject to the Rights in Data - General clause at 52.227-14 that is to be included in this contract. Under the latter clause, a Contractor may withhold from delivery data that qualify as limited rights data or restricted computer software, and deliver form, fit, and function data in lieu thereof. The latter clause also may be used with its Alternates II and/or III to obtain delivery of limited rights data or restricted computer software, marked with limited rights or restricted rights notices, as appropriate. In addition, use of Alternate V with this latter clause provides the Government the right to inspect such data at the Contractor's facility.

(b) As an aid in determining the Government's need to include any of the aforementioned Alternates in the clause at 52.227-14, Rights in Data - General, the offeror's response to this solicitation shall, to the extent feasible, complete the representation in paragraph (b) of this provision to either state that none of the data qualify as limited rights data or restricted computer software, or identify which of the data qualifies as limited rights data or restricted computer software. Any identification of limited rights data or restricted computer software in the offeror's response is not determinative of the status of such data should a contract be awarded to the offeror.

REPRESENTATION CONCERNING DATA RIGHTS

Offeror has reviewed the requirements for the delivery of data or software and states (offeror check appropriate block) -

( ) None of the data proposed for fulfilling such requirements qualifies as limited rights data or restricted computer software.

( ) Data proposed for fulfilling such requirements qualify as limited rights data or restricted computer software and are identified as follows:

_____

_____

_____

_____

_____

NOTE: "Limited rights data" and "Restricted computer software" are defined in the contract clause entitled "Rights in Data - General."

K.16 OFFER ACCEPTANCE PERIOD (LARC 52.215-110) (JUN 1992)

In compliance with the solicitation, if this offer is accepted within 150 calendar days from the date specified in the solicitation for receipt of offers, the offeror agrees to furnish any or all items on which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the Schedule.

SECTION L - INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS

L.1 CONTRACTOR IDENTIFICATION NUMBER — DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (52.204-6) (DEC 1996)

(a) Contractor Identification Number, as used in this provision, means "Data Universal Numbering System (DUNS) number," which is a nine digit number assigned by Dun and Bradstreet Information Services.

(b) Contractor identification is essential for complying with statutory contract reporting requirements. Therefore, the offeror is requested to enter, in the block with its name and address on the Standard Form 33 or similar document, the annotation "DUNS" followed by the DUNS number which identifies the offeror's name and address exactly as stated in the offer.

(c) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one. A DUNS number will be provided immediately by telephone at no charge to the offeror. For information on obtaining a DUNS number, the offeror should call Dun and Bradstreet at 1-800-333-0505. The offeror should be prepared to provide the following information:

(1) Company name.
(2) Company address.
(3) Company telephone number.
(4) Line of business.
(5) Chief executive officer/key manager.
(6) Date the company was started.
(7) Number of people employed by the company.
(8) Company affiliation.

(d) Offerors located outside the United States may obtain the location and phone number of the local Dun and Bradstreet Information Services office from the Internet Home Page at http://www.dbisna.com/dbis/customer/custlist.htm. If an offeror is unable to locate a local service center, it may send an e-mail to Dun and Bradstreet at globalinfo@dbisma.com.

L.2 NOTICE OF PRIORITY RATING FOR NATIONAL DEFENSE USE (FAR 52.211-14) (SEP 1990)

Any contract awarded as a result of this solicitation will be ( ) DX rated order; (X) DO rated order certified for national defense use under the Defense Priorities and Allocations System (DPAS) (15 CFR 700), and the Contractor will be required to follow all of the requirements of this regulation.

L.3 SUBMISSION OF OFFERS IN THE ENGLISH LANGUAGE (FAR 52.214-34) (APR 1991)

Offers submitted in response to this solicitation shall be in the English language. Offers received in other than English shall be rejected.

L.4 SUBMISSION OF OFFERS IN U.S. CURRENCY (FAR 52.214-35) (APR 1991)

Offers submitted in response to this solicitation shall be in terms of U.S. dollars. Offers received in other than U.S. dollars shall be rejected.

L.5 SOLICITATION DEFINITIONS (FAR 52.215-5) (JUL 1987)

"Offer" means "proposal" in negotiation.
"Solicitation" means a request for proposals (RFP) in negotiation.
"Government" means United States Government.

L.6 UNNECESSARILY ELABORATE PROPOSALS OR QUOTATIONS (FAR 52.215-7) (APR 1984)

Unnecessarily elaborate brochures or other presentations beyond those sufficient to present a complete and effective response to this solicitation are not desired and may be construed as an indication of the offeror's or quoter's lack of cost consciousness. Elaborate art work, expensive paper and bindings, and expensive visual and other presentation aids are neither necessary nor wanted.

L.7 AMENDMENTS TO SOLICITATIONS (FAR 52.215-8) (DEC 1989

(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.
(b) Offerors shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment; (2) by identifying the amendment number and date in the space provided for this purpose on the form for submitting an offer; (3) by letter or telegram or (4) facsimile, if facsimile offers are authorized in the solicitation. The Government must receive the acknowledgment by the time specified for receipt of offers.

L.8 SUBMISSION OF OFFERS (FAR 52.215-9) (MAR 1997)

(a) Offers and modifications thereof shall be submitted in sealed envelopes or packages (1) addressed to the office specified in the solicitation, and (2) showing the time and date specified for receipt, the solicitation number, and the name and address of the offeror.
(b) Offerors using commercial carrier services shall ensure that the proposal is addressed and marked on the outermost envelope or wrapper as prescribed in subparagraphs (a)(1) and (2) of this provision when delivered to the office specified in the solicitation.
(c) Telegraphic offers will not be considered unless authorized by the solicitation; however, offers may be modified by written or telegraphic notice.
(d) Facsimile offers, modifications or withdrawals will not be considered unless authorized by the solicitation.
(e) Offers submitted by electronic commerce shall be considered only if the electronic commerce method was specifically stipulated or permitted by the solicitation.
(f) Item samples, if required, must be submitted within the time specified for receipt of offers. Unless otherwise specified in the solicitation, these samples shall be (1) Submitted at no expense to the Government, and (2) returned at the sender's request and expense, unless they are destroyed during preaward testing.

L.9 LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWALS OF PROPOSALS (FAR 52.215-10) (MAY 1997)

(a) Any proposal received at the office designated in the solicitation after the exact time specified for receipt of offers will not be considered unless it is received before award is made and--

(1) It was sent by registered or certified mail not later than the fifth calendar day before the date specified for receipt of offers (e.g., an offer submitted in response to a solicitation requiring receipt of offers by the 20th of the month must have been mailed by the 15th);

(2) It was sent by mail (or telegram or facsimile, if authorized) or hand-carried (including delivery by a commercial carrier) if it is determined by the Government that the late receipt was due primarily to Government mishandling after receipt at the Government installation;

(3) It was sent by U.S. Postal Service Express Mail Next Day Service-Post Office to Addressee, not later than 5:00 p.m. at the place of mailing two working days prior to the date specified for receipt of proposals. The term "working days" excludes weekends and U.S. Federal holidays;

(4) It was transmitted through an electronic commerce method authorized by the solicitation and was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

(5) There is acceptable evidence to establish that it was received at the activity designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers, and the Contracting Officer determines that accepting the late offer would not unduly delay the procurement; or

(6) It is the only proposal received.

(b) Any modification of a proposal or quotation, including a modification resulting from the Contracting Officer's request for "best and final" offer, is subject to the same conditions as in subparagraphs (a)(1) through (a)(5) of this provision.

(c) The only acceptable evidence to establish the date *of* mailing *of* a late proposal or modification sent either by U.S. Postal Service registered or certified mail is the **U.S.** or Canadian Postal Service postmark both on the envelope or wrapper and on the original receipt *from* the **U.S.** or Canadian Postal Service. Both postmarks must show a legible date or the proposal, quotation, or modification shall be processed as if mailed late. "Postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed by employees of the U.S. or Canadian Postal Service on the date of mailing. Therefore, offerors or quoters should request the postal clerk to place a legible hand cancellation bull's eye postmark on both the receipt and the envelope or wrapper.

(d) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(e) The only acceptable evidence to establish the date of mailing of a late offer, modification, or withdrawal sent by Express Mail Next Day Service-Post Office to Addressee is the date entered by the post office receiving clerk on the "Express Mail Next Day Service-Post Office to Addressee" label and the postmark on both the envelope or wrapper and on the original receipt from the U.S. Postal Service. "Postmark" has the same meaning as defined in paragraph **(d)** of this provision, excluding postmarks of the Canadian Postal Service. Therefore, offerors or quoters should request the postal clerk to place a legible hand cancellation bull's eye postmark on both the receipt and the envelope or wrapper.

(9 Notwithstanding paragraph (a) of this provision, a late modification of an otherwise successful proposal that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

(g) Proposals may be withdrawn by written notice or telegram (including mailgram) received at any time before award. If the solicitation authorizes facsimile proposals, proposals may be withdrawn via facsimile received at any time before award, subject to the conditions specified in the provision entitled "Facsimile Proposals." Proposals may be withdrawn in person by an offeror or an authorized representative, if the representative's identity is made known and the representative signs a receipt for the proposal before award.

(h) If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the office designated for receipt of proposals by the exact time specified in the solicitation, and urgent Government requirements preclude amendment *of* the solicitation or other notice of an extension of the closing date, the time specified for receipt *of* proposals will be deemed to be extended to the same time *of* day specified in the solicitation on the first work day on which normal Government processes resume. If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office.

L.10 PREPARATION **OF** OFFERS (FAR **52.215-13)** (APR 1984

(a) Offerors are expected to examine the drawings, specifications, Schedule, and all instructions. Failure to do so will be at the offeror's risk.

(b) Each offeror shall furnish the information required by the solicitation. The offeror shall sign the offer and print or type its name on the Schedule and each continuation sheet on which it makes an entry. Erasures or other changes must be initialed by the person signing the offer. Offers signed by an agent

shall be accompanied by evidence of that agent's authority, unless that evidence has been previously furnished to the issuing office.

(c) For each item offered, offerors shall (1) show the unit price/cost, including, unless otherwise specified, packaging, packing, and preservation and (2) enter the extended price/cost for the quantity of each item offered in the "Amount" column of the Schedule. In case of discrepancy between a unit price/cost and an extended price/cost, the unit price/cost will be presumed to be correct, subject, however, to correction to the same extent and in the same manner as any other mistake.

(d) Offers for supplies or services other than those specified will not be considered unless authorized by the solicitation.

(e) Offerors must state a definite time for delivery of supplies or for performance of services, unless otherwise specified in the solicitation.

(9 Time, if stated as a number of days, will include Saturdays, Sundays, and holidays.

L.11 EXPLANATION TO PROSPECTIVE OFFERORS (FAR 52.215-1**4)** (APR 1984)

Any prospective offeror desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing soon enough to allow a reply to reach all prospective offerors before the submission of their offers. Oral explanations or instructions given before the award *of* the contract will not be binding. Any information given to a prospective offeror concerning a solicitation will be furnished promptly to all other prospective offerors as an amendment of the solicitation, if that information is necessary in submitting offers or if the lack of it would be prejudicial to any other prospective offerors.

L.12 FAILURE TO SUBMIT OFFER (FAR 52.215-15) (MAY 1997)

Recipients of this solicitation not responding with an offer should not return this solicitation, unless it specifies otherwise. Instead, for paper transactions, they should advise the issuing office by letter, postcard, or established electronic commerce methods, whether they want to receive future solicitations for similar requirements. Electronic solicitations do not require notification of desire to receive future solicitations, since these solicitations will be openly available to any interested party. If a recipient does not submit an offer and does not notify the issuing office that future solicitations are desired, the recipient's name may be removed from the applicable mailing list.

L.13 CONTRACT AWARD (FAR 52.215-16) (OCT 1995)--ALTERNATE II (OCT 1995)

(a) The Government will award a contract resulting from this solicitation to the responsible offeror whose offer conforming to the solicitation will be most advantageous to the Government, cost or price and other factors, specified elsewhere in this solicitation, considered.

(b) The Government may (1) reject any or all offers if such action is in the public interest, (2) accept other than the lowest offer, and (3) waive informalities and *minor* irregularities in offers received.

(c) The Government intends to evaluate proposals and award a contract without discussions with offerors (except communications conducted for the purpose of minor clarification). Therefore, each initial offer should contain the offeror's best terms *from* a cost or price and technical standpoint. However, the Government reserves the right to conduct discussions if later determined by the Contracting Officer to be necessary.

(d) The Government may accept any item or group of items of an offer, unless the offeror qualifies the offer by specific limitations. Unless otherwise provided in the Schedule, offers may be submitted for quantities less than those specified. The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit cost or prices offered, unless the offeror specifies otherwise in the offer.

(e) A written award or acceptance of offer mailed or otherwise furnished to the successful offeror within the time for acceptance specified in the offer shall result in a binding contract without further action by either party. Before the offer's specified expiration time, the Government may accept an offer (or part of an offer, as provided in paragraph (d) above), whether or not there are negotiations after its receipt, unless a written

notice of withdrawal is received before award. Negotiations conducted after receipt of an offer do not constitute a rejection or counteroffer by the Government.

(f) Neither financial data submitted with an offer, nor representations concerning facilities or financing, will form a part of the resulting contract. However, if the resulting contract contains a clause providing for price reduction for defective cost or pricing data, the contract price will be subject to reduction if cost or pricing data furnished is incomplete, inaccurate, or not current.

(g) The Government may determine that an offer is unacceptable if the prices proposed are materially unbalanced between line items or subline items. An offer is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation *to* cost for other work, and if there is a reasonable doubt that the offer will result in the lowest overall cost to the Government, even though it may be the low evaluated offer, or it is so unbalanced as to be tantamount to allowing an advance payment.

(h) The Government may disclose the following information in post-award debriefings to other offerors; (1) the overall evaluated cost or price and technical rating *of* the successful offeror, (2) the overall ranking of all offerors, when any ranking was developed by the agency during source selection; (3) a summary of **the** rationale for award; and **(4)** for acquisitions of commercial end items, the make and model of the item to be delivered by the successful offeror.

L.14 FACILITIES CAPITAL COST OF MONEY (FAR 52.215-30) (SEP 1987)

(a) Facilities capital cost of money will be an allowable cost under the contemplated contract, if the criteria for allowability in subparagraph 31.205-10 (a)(2) of the Federal Acquisition Regulation are met. One of the allowability criteria requires the prospective Contractor to propose facilities capital cost of money in its offer.

(b) If the prospective Contractor does not propose this cost, the resulting contract will include the clause Waiver of Facilities Capital Cost of Money.

L.15 TYPE OF CONTRACT (FAR 52.216-1) (APR 1984)

The Government contemplates award of a cost plus award fee contract resulting from this solicitation.

L.16 PREAWARD ON-SITE EQUAL OPPORTUNITY COMPLIANCE REVIEW (FAR 52.222-24) (APR 1984)

An award in the amount *of* $1 million or more will not be made under this solicitation unless the offeror and each of its known first-tier subcontractors (to whom it intends to award a subcontract of $1 million or more) are found, on the basis of a compliance review, to be able to comply with the provisions of the Equal Opportunity clause of this solicitation.

L.17 EVALUATION **OF** COMPENSATION FOR PROFESSIONAL EMPLOYEES (FAR 52.222-46) (FEB 1993)

(a) Recompetition of service contracts may in some cases result in lowering the compensation (salaries and fringe benefits) paid or furnished professional employees. This lowering can be detrimental in obtaining the quality of professional services needed for adequate contract performance. It is therefore in the Government's best interest that professional employees, as defined in 29 CFR 541, be properly and fairly compensated. **As** a part of their proposals, offerors will submit a total compensation plan setting forth salaries and fringe benefits proposed for the professional employees who will work under the contract. The Government will evaluate the plan to assure that it reflects a sound management approach and understanding of the contract requirements. This evaluation will include an assessment of the offeror's ability to provide uninterrupted high-quality work. The professional compensation proposed will be considered in terms of its impact upon recruiting and retention, its realism, and its consistency with a

total plan for compensation. Supporting information will include data, such as recognized national and regional compensation surveys and studies of professional, public and private organizations, used in establishing the total compensation structure.

(b) The compensation levels proposed should reflect a clear understanding of work to be performed and should indicate the capability of the proposed compensation structure to obtain and keep suitably qualified personnel to meet mission objectives. The salary rates or ranges must take into account differences in skills, the complexity of various disciplines, and professional job difficulty. Additionally, proposals envisioning compensation levels lower than those of predecessor Contractors for the same work will be evaluated on the basis of maintaining program continuity, uninterrupted highquality work, and availability of required competent professional service employees. Offerors are cautioned that lowered compensation for essentially the same professional work may indicate lack of sound management judgment and lack of understanding of the requirement.

(c) The Government is concerned with the quality and stability of the work force to be employed on this contract. Professional compensation that is unrealistically low or not in reasonable relationship to the various job categories, since it may impair the Contractor's ability to attract and retain competent professional service employees, may be viewed as evidence of failure to comprehend the complexity of the contract requirements.

(d) Failure to comply with these provisions may constitute sufficient cause to justify rejection of a proposal.

L.18 SERVICE OF PROTEST (FAR 52.233-2) (AUG 1996)

(a) Protests, as defined in Section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from Head, Acquisition Support Office A.

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

L.19 AUTHORIZED DEVIATIONS IN PROVISIONS (FAR 52.252-5) (APR 1984)

(a) The use in this solicitation of any Federal Acquisition Regulation (48 CFR Chapter 1) provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the provision.

(b) The use in this solicitation of any NASA FAR Supplement **(48** CFR Chapter 18) provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

L.20 EXPENSES RELATED TO OFFEROR SUBMISSIONS (NASA 1852.215-75) (DEC 1988)

This solicitation neither commits the Government to pay any cost incurred in the submission of the offer or in making necessary studies or designs for preparing the offer, nor to contract for services or supplies. Any costs incurred in anticipation of a contract shall be at the offeror's own risk.

L.21 SMALL BUSINESS AND SMALL DISADVANTAGED BUSINESS SUBCONTRACTING PLAN (NASA 1852.219-73) (DEC 1988) ALTERNATE **I** (DEC 1988)

(a) This provision is not applicable to small business concerns.

(b) The contract expected to result from this solicitation will contain FAR clause 52.219-9, "**Small** Business and Small Disadvantaged Business Subcontracting Plan. Each offeror must submit the complete plan with its initial proposal.

L.22 REQUESTS FOR WAIVER OF RIGHTS TO INVENTIONS (NASA 1852.227-71) (APR 1984)

(a) In accordance with the NASA Patent Waiver Regulations, 14 CFR Section 1245, Subpart 1, waiver of rights to any or all inventions made or that may be made under a NASA contract or subcontract with other than a small business firm or a domestic nonprofit organization may be requested at different time periods. Advance waiver of rights to any or all inventions that may be made under a contract or subcontract may be requested prior to the execution of the contract or subcontract, or within 30 days after execution by the selected Contractor. In addition, waiver of rights to an identified invention made and reported under a contract or subcontract may be requested, even though a request for an advance waiver was not made or, if made, was not granted.

(b) Each request for waiver of rights shall be by petition to the Administrator and shall include an identification of the petitioner; place of business and address; if petitioner is represented by counsel, the name, address and telephone number of the counsel; the signature of the petitioner or authorized representative; and the date of signature. No specific forms need be used, but the request should contain a positive statement that waiver of rights is being requested under the NASA Patent Waiver Regulations; a clear indication of whether the request is for an advance waiver *or* for a waiver of rights for an individual identified invention; whether foreign rights are also requested and, if so, the countries, and a citation of the specific section or sections of the regulations under which such rights are requested; and the name, address, and telephone number *of* the party with whom to communicate when the request is acted upon. Requests for advance waiver of rights should, preferably, be included with the proposal, but in any event in advance of negotiations.

(c) Petitions for advance waiver, prior to contract execution, must be submitted to the Contracting Officer. All other petitions will be submitted to the Patent Representative designated in the contract.

(d) Petitions submitted with proposals selected for negotiation of a contract will be forwarded by the Contracting Officer to the installation Patent Counsel for processing and then to the Inventions and Contributions Board. The Board will consider these petitions and where the Board makes the findings to support the waiver, the Board will recommend to the Administrator that waiver be granted, and will notify the petitioner and the Contracting Officer of the Administrator's determination. The Contracting Officer will be informed by the Board whenever there is insufficient time or information or other reasons to permit a decision to be made without unduly delaying the execution of the contract. In the latter event, the petitioner will be so notified by the Contracting Officer. All other petitions will be processed by installation Patent Counsel and forwarded to the Board. The Board shall notify the petitioner of its action and if waiver is granted, the conditions, reservations, and obligations thereof will be included in the Instrument of Waiver. Whenever the Board notifies a petitioner of a recommendation adverse to, or different from, the waiver requested, the petitioner may request reconsideration under procedures set forth in the Regulations.

L.23 DETERMINATION OF COMPENSATION REASONABLENESS (1852.231-71) (MAR 1994)

(a) The proposal shall include a total compensation plan. This plan shall address all proposed labor categories, including those personnel subject to union agreements, the Service Contract Act, and those exempt from both of the above. The total compensation plan shall include the salaries/wages, fringe benefits and leave programs proposed for each of these categories of labor. The plan also shall include a discussion of the consistency *of* the plan among the categories of labor being proposed. Differences between benefits offered professional and non-professional employees shall be highlighted. The requirements of this plan may be combined with that required by the clause at FAR 52.222-46, "Evaluation of Compensation for Professional Employees."

(b) The offeror shall provide written support to demonstrate that its proposed compensation is reasonable.

(c) The offeror shall include the rationale for any conformance procedures used *or* those Service Contract Act employees proposed that do not fall within the scope of any classification listed in the applicable wage determination.

(d) The offeror shall require all service subcontractors (1) with proposed cost reimbursement or non-competitive fixed-price type subcontracts having a total potential value in excess of $500,000 and (2) the cumulative value of all their service subcontracts under the proposed prime contract in excess of 10 percent of the prime contract's total potential value, provide as part of their proposals the information identified in (a) through (c) of this provision.

L.24 PROTESTS TO NASA (1852.233-70) (MAR 1997)

Potential bidders or offerors may submit a protest under 48 CFR Part 33 (FAR Part 33) directly to the Contracting Officer. As an alternative to the Contracting Officer's consideration of a protest, a potential bidder or offeror may submit the protest to the Deputy Associate Administrator for Procurement, who will serve as or designate the official responsible for conducting an independent review. Protests requesting an independent review shall be addressed to Deputy Associate Administrator for Procurement, NASA Code **H,** Washington, DC 20546-0001.

L.25 IDENTIFICATION OF UNCOMPENSATED OVERTIME (FAR 52.237-10) (OCT 1997)

(a) Definitions. As used in this provision--

"Uncompensated overtime" means the hours worked without additional compensation in excess of an average of 40 hours per week by direct charge employees who are exempt from the Fair Labor Standards Act. Compensated personal absences such as holidays, vacations, and sick leave shall **be** included in the normal work week for purposes of computing uncompensated overtime hours.

"Uncompensated overtime rate" is the rate that results from multiplying the hourly rate for a 40-hour work week by 40, and then dividing by the proposed hours per week. For example, **45** hours proposed on a 40-hour work week basis at $20 per hour would be converted to an uncompensated overtime rate of $17.78 per hour ($20.00 x 40 divided by 45 = $17.78).

(b) For any proposed hours against which an uncompensated overtime rate is applied, the offeror shall identify in its proposal the hours in excess of an average of 40 hours per week, by labor category at the same level of detail as compensated hours, and the uncompensated overtime rate per hour, whether at the prime or subcontract level. This includes uncompensated overtime hours that are in indirect cost pools for personnel whose regular hours are normally charged direct.

(c) The offeror's accounting practices used to estimate uncompensated overtime must be consistent with its cost accounting practices used to accumulate and report uncompensated overtime hours.

(d) Proposals that include unrealistically low labor rates, or that do not otherwise demonstrate cost realism, will be considered in a risk assessment and will be evaluated for award in accordance with that assessment.

(e) The offeror shall include a copy of its policy addressing uncompensated overtime with its proposal.

L.26 BIDDERS LIBRARY

A bidders library has been established and is located at *4* Langley Boulevard (Bldg. 1230), Room 268 at NASA LaRC. Information regarding the library and its contents is included in Attachment 10 - Bidder's

Library Contents. The library contains NASA Handbooks (NHB's), Langley Handbooks (LHB's), Langley Management Instructions (LMI's), and other standards and guidelines referenced in the RFP. The hours of operation are from 8:30 a.m. to 4:00 p.m. Monday through Friday, excluding holidays. The library will be open for operation from release of the draft RFP through the proposal due date. Offerors wishing to visit the bidders library should contract Mr. Jim Walsh at (757) 864-4640 to schedule an appointment. All users of the bidders library must have a proper NASA Visitor's Badge, which may be obtained from the NASA Langley Badge and Pass Office located at the Main Gate (I Langley Boulevard). Limited copying support will be provided for materials in the bidders library. The maximum total number of pages (single side, one copy each side) which may be copied per offeror is twenty (20).

L.27 COMMUNICATIONS REGARDING THIS SOLICITATION (LARC 52.204-95) (OCT 1993)

Any communications in reference to this solicitation shall cite the solicitation number and be directed *to* the following Government representative:

Name:	David H. Jones
Phone:	(757) 864-2421 (COLLECT CALLS NOT ACCEPTED)
Facsimile:	757-864-8863
E-mail:	d.h.jones@larc.nasa.gov
Address:	National Aeronautics and Space Administration Langley Research Center Attn: David H. Jones, Mail Code 126 Hampton, VA 23681-0001

Any written communications must include the mail code on the envelope or on the telex.

L.28 ACKNOWLEDGEMENT OF SOLICITATION AMENDMENTS BY FACSIMILE

(a) OFFERS MAY NOT SUBMIT FACSIMILE PROPOSALS AS RESPONSES TO THIS SOLICITATIONS.

(b) Offerors *may* acknowledge amendments to this solicitation by facsimile transmission.

(c) Facsimile transmission of amendment acknowledgments must contain the required signatures.

(d) The NASA Langley Acquisition Division has only one secure facsimile machine for the purpose of receiving amendment acknowledgment. Facsimile receiving data and characteristics are as follows:

Telephone: 757-864-7898
Make and Model: Pitney Bowes Model 8050
Receiving Speed: Variable

L.29 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA (FAR 52.215-41) (OCT 1995) – ALTERNATE IV (OCT 1995)

(a) Submission of cost or pricing data is not required.

(b) The Contractor shall provide cost and pricing information as prescribed in L.33, Paragraph D, Business Proposal (Volume II) Instructions.

L.30 PROPOSAL PAGE LIMITATIONS (NASA 1852.215-81) (JAN 1994)

(a) The following page limitations are established for each portion of the proposal submitted in response to this solicitation.

Proposal Section	Page Limit
Volume I *	75 pages

* Except Mission Suitability Subfactor 2, Element C - Initial Staffing and Phase-In, and Contractor's Facility(s), which is exempt from this limitation.

(b) A page is defined as one side of a sheet, 8 1/2" x 11", with at least one inch margins on all sides, using not smaller than 12 characters per inch (or equivalent) type. Foldouts count as an equivalent number of 8 1/2" x 11" pages. The metric standard format most closely approximating the described standard 8 1/2" x 11" size may also be used.

(c) Title pages and tables of contents are excluded from the page counts specified in paragraph *(a)* of this provision. In addition, Volume II of your proposal is not page limited. However, Volume II is to be strictly limited to cost and price information, REPP information, the executed Section K, Representations, Certifications, and Other Statements of Offerors, and the actual contract offer. (The Small and Small Disadvantaged Business Subcontracting Plan will be considered part of the contract offer, and should not be included with the response to Mission Suitability Subfactor 2, Element D - Offeror's Approach to Meeting the 12% Small Disadvantaged Business (SDB) Participation Goal, and thus will not count against the Volume I page limitation. The remainder of the response to Subfactor 2, Element D WILL count against the Volume I page limitation.) Information that can be construed as belonging in Volume I of the proposal will be so construed and counted against that section's page limitation.

(d) If Best and Final Offers (BAFOs) are requested, separate page limitations will be specified in the Government's request for that submission.

(e) Pages submitted in excess of the limitations specified in this provision will not be evaluated by the Government and will be returned to the offeror.

L.31 CONTRACTOR'S OFF-SITE FACILITY

The Contractor shall provide an off-site facility to house all personnel, Contractor-furnishedequipment, appropriate Government-furnished equipment (listed in Exhibit "C"), Government-Furnished Materials (GFM), and documentation. The facility must meet the minimum requirements set forth below. In addition, the successful *offeror* shall provide a T-1 data communications circuit at the off-site facility that will be used to interface with LaRCNET.

Facility Requirements:

The facility shall have adequate floor space to house the GFE, GFM, and personnel and should be configured such that work can be performed in an orderly and efficient manner. The Contractor must furnish and connect utilities required to properly operate GFE. The facility should include the following:

A. COMPRESSED AIR–Not less than 150 psi with flow rates to 15 cfm, with suitable regulators to comply with OSHA requirements and oil and water separators.

B. ELECTRIC POWER–Main service 880 kilowatts, 3 phase.

C. ACCESS DOOR–At least one 9- by 12 - foot door suitable for truck loading and unloading.

D. LABORATORY ENVIRONMENT:

(1) Temperature:

(a) Calibration Lab - 23° C +/- 2° C with relative humidity between 35 - 55%.

(b) All Other Labs - 23° C +/- 5° C with relative humidity between 35 - 55%.

(2) Secured stock room/spare-repair parts storage room.

(3) Network cabling to provide an Ethernet local area network to support functional areas.

E. SUITABLE OFFICE AND WORK AREAS INCLUDING THE FOLLOWING:

(1) Receipt and Inspection – Separate partitioned area with access door for truck loading and unloading; suitable storage shelves for incoming and outgoing instruments; secured area for storing new equipment prior to acceptance testing.

(2) Work Areas – Benches to accommodate personnel; storage area for standard equipment and delicate transducers and standards; ventilated area for thermal calibrations, water and compressed air, area to accommodate machine shop equipment and functions, files for approximately 14,000 service manuals, separate vented clean room with paint booth and acid cleaning facilities and an antenna with lead-ins for VLF and WWV receivers.

(3) Suitable office environment to support engineering activities. Secured computer tape storage area for archiving master files.

(4) Adequate parking space for Government-furnished instrumentation vans and other instrumented vehicles; security against loss from theft, vandalism, etc., shall be provided by the Contractor.

L.32 SMALL DISADVANTAGED BUSINESS (SDB) PARTICIATION GOAL

Offerors are advised that, in keeping with Congressionally-mandated goals, NASA seeks to place a fair portion of its contract dollars, where feasible, with small disadvantaged business concerns as defined in 52.219-8 of the FAR and 18-52.219-76 of the NASA FAR Supplement. For this procurement, the Contracting Officer has established a goal of 12 percent for SDB participation. The goal is stated as a percentage of the total contract value, including all options, and not as a percentage of the total planned subcontracting dollars. SDB participation includes participation by small business concerns owned and controlled by women, Historically Black Colleges and Universities and other minority educational institutions.

NASA encourages all offers to propose to meet or exceed this goal to the maximum extent practicable and to continue to encourage small disadvantaged business development throughout the contract period. Proposals will be evaluated on proposed SDB participation in comparison with the 12 percent goal, and on the methods proposed for achieving the goal. Additionally, the extent that the prime Contractor in any resultant contract meets or exceeds this goal will be a factor considered in award fee determinations.

L.33 PROPOSAL PREPARATION AND SUBMISSION--SPECIAL INSTRUCTIONS

A. General Information

1. Number of Proposals, Time and Place of Submission—The offeror shall submit the original and 10 hard copies of each volume of his proposal, plus one electronic copy on 3 1/12 inch diskette, to the address shown in Block 8 of the Standard Form (SF) 33 (face page of this solicitation), or if hand carried, to the depository listed in Block 9 of the SF 33. Offers must be received at the place indicated on or before the date and hour shown in Block 9 of the SF 33.

2. Proposal Clarity—Your proposal should be specific, complete, and concise. The offeror is urged to examine this solicitation in its entirety and to assure that his proposal contains all the necessary information, provides all required documentation and is complete in all respects since evaluation of the proposal will be based on the actual material presented and not on the basis of what is implied. You should ensure that your cost proposal is consistent with your technical proposal in all respects since the cost proposal may be used as an aid to determine the offeror's understanding of the technical requirements. Discrepancies may be viewed as a lack of understanding.

B. Proposal Format and Content

1. Proposals must be submitted in two (2) volumes: Volume I, Technical Proposal, and Volume II, Business Proposal. No cost information shall be presented in the Technical Proposal, except where specifically requested for a sample task.

2. Any work functions which the offeror expects to obtain through subcontracting and/or consulting agreements should be described and explained. Such features as the rationale for this arrangement, the qualifications of the subcontractor, magnitude of effort, facilities/equipment and commitment of parties providing such goods and/or services should be addressed.

3. Refer to L.30 for page limitations on Proposal Volume I.

4. Each volume should be specific and complete. Each volume should include the detailed information outlined below in order that it can be evaluated in accordance with the evaluation factors set forth in Section M, M.3. You should structure each volume to adhere to the Factor, Subfactor, and Element headings listed below:

C. FACTOR 1 - MISSION SUITABILITY

Technical Proposal (Volume I) Preparation Instructions

Offerors shall propose their approach to meeting the Government's requirements through **their** responses to the Subfactors and Elements listed below. These Subfactors and Elements will be used by the government to evaluate the merit of your technical proposal. Responses to Subfactor 1, Elements A, B, and C shall be in accordance with paragraphs (a) through (c) below. (NOTE: Element A has ADDITIONAL proposal requirements specified in the body of the Element, in addition to those contained in paragraphs (a) through (c) below.) Responses to Element **D** and E of Subfactor 1 and all Elements *of* Subfactor 2 shall be as specified in each individual Element. If a consultant has prepared any portion of the technical proposal, that consultant should be identified, along with the reason for their selection.

(a) The offeror should address his technical approach, including any proposed subcontractor effort, for the Representative Task Orders identified in Subfactor 1, Elements A, **B,** & C, supported by the estimated resources proposed, including labor hours and costs (see (c) below), equipment , facilities, and materials as detailed in the offeror's proposed budget. **(DO NOT include indirect Costs such as**

overhead and G&A, or profitlfee, in the Representative Task Budgets.) The offeror should address his demonstrated technical expertise in the various areas covered by the Representative Task Orders through the proposed approaches to accomplishing the work in a timely manner with acceptable technical risk. The offeror should identify potential problems and suggest resolutions. The offeror should also identify areas where choices might be made that would represent significant differences in risk, time, equipment use, etc. (The offeror is reminded that the Representative Task Orders are typical examples only.).

(b) For each Representative Task Order in Subfactor 1, Elements A, B, & C, propose a schedule for completion of work, including task start times and key milestone dates. This schedule should be reasonable, based on the technical approach and resources proposed.

(c) The offeror's proposal should address staffing for each Representative Task Order in Subfactor 1, Elements A, B, & C, including numbers, types, and qualifications of personnel. If a subcontractor is proposed this source must be identified.

1. Subfactor 1 - Understanding of the Requirement and Approach:

Your response to this Subfactor is important to the Government's evaluation, since it conveys your understanding of the technical requirements of the contract. Insure that your proposal includes all information necessary to clearly convey that you understand the work and can efficiently and effectively perform it.

Element A: Wind Tunnel Data Acquisition Representative Task Order

(a) The Government has a requirement for the contractor to design, furnish, install, and maintain a real-time data acquisition system to support a new wind tunnel which will operate in the Mach 2 to 4 range. The primary functions of this system will be (1) to acquire, display, and record analog, digital, force measurement, thermal, and pressure data, (2) provide real-time engineering unit calculations and computed parameters for real-time display, control, and archiving of tunnel data, and (3) networking to workstations for final analysis. The operational schedule requires the system to be ready one (1) year from the date of this Task Order.

(b) Summary Requirements:

(1) **Static Data Acquisition** - The system shall acquire up to 256 channels of static data at a frame rate of 20 frames per second. Analog inputs will be from wire strain gauge balances, discrete pressure transducers, thermocouples, LDVTs, and other devices. Up to 128 computed parameters snaii be displayed at a minimum of 4 times per second for reai-time aispiay. in addition, computed data from 20 channels will be provided through an interface to a control system workstation at 10 updates per second. Real-time data will be displayed in both tabular form as well as graphical form on 6 Xterminal/workstation displays. An additional requirement for 1024 channels of pressure data exists, for pressures in the 5 to 20 pound range with a required accuracy of 0.1 percent full-scale. There is also a requirement to read 10 digital channels from Ruska pressure systems, shaft encoders, tachometers, voltmeters, and other various switch inputs. At the operator's request, point related data shall be computed, displayed, and archived to disk.

(2) **Dynamic Data Acquisition** - Up to 20 channels of dynamic data shall be provided with a **frequency of interest of 10 kHz (please note that this is a change from the draft RFP).** Real-time data shall be computed and calculated for up to any four selected channels from the 20 available. The real-time display shall be provided in the form of an FFT (4096 points) for up to 4 channels at an update rate of 2 times per second. At either the operator's request or from an external trigger source

from the tunnel control system hardware, 20 channels of data shall be recorded for 5 seconds and archived.

(3) Assumptions:

a. A Neff Analog Data System Model 500/600/300 is available with 256 analog channels that meets the accuracy requirements for the job.

b. **A** Neff Model 730 is available with 20 analog channels that meets the accuracy requirements for the job.

c. The job is anticipated to take about 300,000 source lines of code. There is an existing library of legacy code (some in C and some in FORTRAN) that potentially can provide 150,000 lines of source code that will meet the requirements. Components of this library include aerodynamic computations software, graphics display software, data acquisition software, some drivers, and some configuration management software.

d. All other components and interfaces for the data system are to be provided by the contractor as part of the Task Order.

e. The Government will assign a project manager and a Government research customer as interfaces during the project implementation.

(c). Additional Proposal Requirements: The response to this Element shall also address Parts 1, 2 and 3 below:

Part 1 - In response to this portion of the Representative Task Order, the respondent shall address the activities required to design, furnish, install, and maintain the required data system including, but not limited to, project management, staffing, interface design, software development methodology, design rationale, requirements traceability, costs, deliverables, GFE equipment required, and life cycle support. The response should assume that all of the staffing resources are not readily available from the existing staff and should address how two of the required staffing positions (one senior analyst and one hardware engineer) will be provided through alternate means. Rationale should be given as to what role legacy software will play in the final solution. Rationale should also be given for any exceptions taken to meeting the system requirements. Response to this Representative Task Order should be in narrative form and may include charts, schedules, block diagrams, and other formats necessary to demonstrate your understanding of the requirement and to describe your approach to management and implementation.

Part 2 - In response to this portion of the Representative Task Order, the respondent is to address a data system set-up configuration problem that was encountered during initial system testing:

a. Problem: The wind tunnel test model has an angular offset between the force balance and the model axes. The Model is also supported by a bent sting which is mounted in a roll coupling. The balance cavity is normal to the balance axis and the base is swept forward 2 degrees.

b. Requirement: Determine the aerodynamic coefficients in the model axis for any model orientation. Correct for the balance cavity and base area. List the parameters which must be measured and the model geometry which must be known.

Part 3 - In response to this portion of the Representative Task Order, the respondent shall address how to handle the change order identified below ("Problem") and the impact to the

delivered product, schedule, and cost

a. Problem: It has been determined one month before installation of the data system that a new high priority test has been scheduled for the *first* use of the data system. This new test requires a change from 256 analog channels to 512 channels.

b. Requirement: Briefly explain the impact to the data system design, impact to the schedule, and the anticipated impact to cost. How would this change be managed?

Element **B:** Acoustics Field Test Representative Task **Order**

The Contractor shall acquire acoustic measurements of XDC-55 aircraft fly-overs at the Supercollider site near Dallas, Texas, deploying 30 microphone systems with a flat frequency response of 5hz-10khz. The microphones are to be omni-directional type with windscreens mounted on a constant impedance surface at ground level, such that the aircraft flight path is in the plane of the microphone diaphragm. The microphones shall be located in an asymmetrical grid pattern along the flight path with 500 ft. spacing between microphones as requested by the project director. The Contractor shall place the microphones on the grid with a maximum deviation of ± 1 inch. Standard 1000 ft. cable lengths will be exceeded at some locations. Within the microphone array, the Contractor shall perform three ground impedance measurements a minimum of 1500 ft. apart in typical terrain or at sites selected by project manager, and record results. The Contractor shall provide three visible lights on the flight path to aid the aircraft pilot in flight alignment. The Contractor shall acquire weather data within the microphone array during flight testing from ground level to 10 meters altitude, and record results. At a site selected by project director, the Contractor shall acquire and record weather data from 0-2000 *ft.* in 200 ft. increments during flight testing. The Contractor shall conduct real time aircraft position tracking during flight testing, and shall conduct simultaneous data recording. **All** data taken is to be time synchronized within 10 milliseconds. Voice radio communications between the project director and all data acquisition sites shall be provided by the Contractor during flight testing. Data analysis of sound pressure levels, pressure vs. time, and spectral analysis in constant percentage and constant bandwidth shall be performed by the Contractor. The Contractor shall provide Noise metrics including dBA max, sound exposure levels, tone corrected perceived noise levels, effective perceived noise levels, and ground noise contours or acoustic footprints for selected cases of test conditions in "on-site time" (within 24 hrs. *or* less). **All** test parameters shall be incorporated in data analysis. All data that has been analyzed shall be provided in graphic and digital formats with post-processed data stored on optical disk. Assume that the task order request has been issued three weeks prior to the beginning of the test and that the test duration is four weeks.

Element **C:** Test Techniques Representative Task Order

Flow Visualization System Development: A focused schlieren system will be designed by the Measurement Science and Technology Branch, Fluid Mechanics and Acoustics Division (FMAD), for implementation in the Unitary Plan Wind Tunnel.

(Information on the Unitary Plan Wind Tunnel is available on the internet at http://ad-www.larc.nasa.gov/facility/upwt/upwt.html.)

The FMAD designer will supply a complete set of design drawings to the contractor prior to work beginning. The **FMAD** designer will be available for consultation should questions or difficulties arise. The selection of components, optical and mechanical design and installation details, installation and test will be completed by the contractor. The contractor will be responsible for selecting light sources, video cameras, computers, grid materials, optical components, computer interfaces, image storage systems, electronics and controls, and for assembly *of* all components into a working system in the Unitary wind tunnel. The contractor will set up the system in the laboratory and demonstrate successful operation prior to wind tunnel installation. The contractor shall develop a comprehensive

implementation plan, including preliminary layout of the systems, a schedule for implementation, assembly and test plans coordinated with the wind tunnel schedule, fabrication and assembly drawings, and shall provide documentation of the complete system including an operations manual. The contractor shall install and demonstrate the performance of the system and train facility personnel *in* its operation. Development of the system and installation is required within nine months after issuance of the task order.

Element D: CalibrationIInstrurnentation Applications Representative ESR

ESR # *544* : ESR # 544 has been approved by the cognizant TAM to design, furnish, and install the STI necessary to support the measurement requirements requested in pre-test meeting for Wind Tunnel Test #602. Test #602 is scheduled to begin in three months.

Wind Tunnel Test # 602 has identified a need for the following measurements :

1. Two exhaust gas temperatures in a 4 diameter cylinder, (ambient to 1400C **MAX)**

2. Two Inlet temperatures, -50 to 200C MAX (air, fast response, 2" diameter pipe)

3. Three sting (stainless steel) surface temperatures, -80 to 100C (+/- 0.5F)

4. One temperature and One pressure, 0-300 psig in a 2" stainless steel tube, O_2 line

5. Barometric pressure with standard instrument uncertainty of 0.025%FS.

6. Verify the moisture level in the 2" pipe is less than 10 PPMv (water vapor in air) and provide a mass flow system with overall accuracy of 0.25% of reading with a permanent pressure loss not to exceed 20% of static line pressure. The air to be measured is flowing through a closed conduit 2" stainless steel pipe with a static line pressure of 3 atmospheres +/- 5 PSIA @ 75 +/- 10 degrees **F;** at the point of measurement, 20 diameters of straight tubing upstream and 10 diameters downstream exists. The expected mass flow is 0.5 to 4 lb./sec.

Assumptions:

Facility has Neff 300/600 signal conditioning/amplifiers and associated data system.

For this sample task, generate and state your assumptions for any questions not defined in the pre-test meeting.

Proposai Response Requirements:

Your response to this element should include instrumentation, components, and interfaces necessary to input data to the Neff 300/600 (excluding software). Provide a description of : response and work tracking process, estimates of and rationale for equipment and other non-personnel resources necessary to design, furnish, and install the required STI. Response to this ESR may include block diagrams, drawings, other formats, and any pertinent data necessary to demonstrate your understanding of the requirement and to describe your approach to management and implementation.

Element E: Technical Approach/Innovation

The offeror's proposal should detail their approach for performing in each *of* the various areas covered under the Statement *of* Work, including any innovative methods for meeting the work requirements of the contract. The offeror should discuss their expertise in each of the Statement of Work areas.

2. Subfactor 2 - Management Approach:

Your response to this subfactor should convey your proposed approach for managing the areas identified in the Elements below, which are considered by NASA as areas critical to the success of this contract effort.

Element A: ISO 9000 Compliance Plan

(a) The offeror shall submit a comprehensive plan detailing all necessary steps for achieving ISO third party certification in accordance with contract clause H.13 - QUALITY MANAGEMENT SYSTEM POLICY (ISO 9000 REQUIREMENTS). This plan shall include a detailed schedule of activities, a resource plan, and a cost estimate for securing the registration certificate(s) by the required date. Other details, such as consultants or subcontractors to be utilized, the identity of the certified third party registrar that will perform the ISO audit, etc., shall be included in the plan. (If your firm is already third party certified, provide a copy of the registration certificate with your proposal.) compliance without certification by a third party registrar is NOT acceptable. In addition to the above, your plan should include the following:

(1) A Description of your plans and processes for insuring that industry/Government standards (ref. Paragraph 1.7 of the Statement of Work) are maintained; and that inspections, tests, traceability, configuration control of software and hardware, and documentation standards meet the established guidelines as defined in ISO 9001.

(2) A description of the procedures that you will implement to ensure that Langley Research Center metrology programs are included in the ISO 9001 quality system.

Element B: Total Compensation Plan

Your proposal should provide details of your compensation plans for both professional and non-professional employees proposed to perform the Statement of Work; including any teaming partners and subcontractors. Include salaries, hourly rates, and a detailed description of your Fringe Benefits. Itemize the benefits that require employee contributions and the amount of the contribution as a percentage of the total cost of the benefit and the employee's salary or wage. Describe your policies and procedures for establishing salaries or wages for any retained incumbent contractor employees and any eligibility and vesting requirements relative to your fringe benefits (e.g., vacation, medical, insurance, sick leave and retirement). Describe how pre-existing medical conditions for incumbents and their dependents will be handled under your insurance plan. The rationale and methodology used to estimate the uncompensated overtime (if any) for you and your subcontractors shall be addressed. Detail and provide a copy of your policies and procedures relative to uncompensated overtime and the historical basis therefor for any uncompensated overtime proposed (reference paragraph L.25). The effect of the uncompensated overtime on the effective hourly rate for all Fair Labor Standards Act (FLSA)-exempt employees shall be included. Your compensation plan shall also address the information required by FAR 52.22246 and NFS 1852.231-71 (reference paragraphs L.17 and L.23).

Element C - Initial Staffing and Phase-In, and Contractor's Facility(s)

This Element will be used to evaluate the effectiveness of your plan to minimize changeover difficulties and to maximize continuity of services to the Government. Your proposal should detail your phase-in plan to include the specific schedule for completion of each phase-in activity. Your initial staffing plan should detail sources of personnel for the entire complement, recruiting methods, and initial orientation and training. You should specify the expected amount of incumbent personnel retention and the basis therefor. You should also identify your plan for obtaining and making operational any non-personnel resources required for contract performance (facility, equipment, materials, etc.)

Note: If necessary, relocation of Government Furnished Equipment and Materials from the incumbent's facility to the successful offeror's facility will be at the expense of the Government. Also, for purposes of establishing your phase-in plan milestones, assume contractor selection by March 1, 1998, contract award by March 7, 1998 and contract start date of April 1, 1998.

This Element will also be used to evaluate the adequacy of the facility resources proposed for the contract (see L.31 for facility requirements). Your proposal should specify the location, size, general description and interior layout of the facilities. You should describe your lease or purchase arrangements and your plan for maintaining the operational status of the facilities. (Members of the Source Evaluation Board may inspect the facilities.) Your proposal should include a discussion of the impact that the geographic location of your facilities will have on your abiiity to meet the response time requirements in the Statement of Work.

Element D - Offeror's Approach to Meeting the 12% Small Disadvantaged Business (SDB) Participation Goal

While small businesses are not required to submit a subcontracting plan in accordance with FAR 52.219-9 and NASA FAR Supplement (NFS) 18-52.219-73, small businesses as well as large businesses are subject to the 12 percent small disadvantaged business (SDB) participation goal for this procurement. Offerors shall make an independent assessment of subcontracting opportunities and the SDB participation goal - expressed as a percentage of the total contract dollar value rather than as a percentage of subcontracting dollars (see L.32) - and shall propose methods for achieving this goal. Offerors shall include in their proposal a discussion of the types and amount of work (in dollars) that will be performed by SDB's. This discussion shall include any plans for utilizing high-technology SDB firms. (High-technology, as defined in NFS 1819.7202, means research and/or development efforts that are within or advance state-of-the-art in a technology discipline and are performed primarily by professional engineers, scientists, and highly skilled and trained technicians or specialists.) Any proposed participation in the NASA Mentor-Protégé Program shall also be addressed. An initial proposal **will not** be rejected as unacceptable solely as a result of an offeror proposing a goal that is less than the 12 percent goal specified by this RFP.

Subfactor 3 - Cost Realism

Cost Realism is the degree to which all costs proposed for the total contract (CLIN's 1 - 4) are realistic for the work to be performed, reflect a clear understanding of the requirements, and are consistent with the various elements of the offeror's technical proposal. Paragraph D of Section L.33 requires the offeror to submit a Cost Proposal for the total contract. This Cost Proposal will be the primary source for determining Cost Realism, as discussed in paragraph M.2.A.3. A separate discussion concerning Cost Realism is not required.

D. BUSINESS PROPOSAL - VOLUME II

Proposal Preparation Instructions

1 FACTOR 2 - COST

It is expected that this contract will be awarded based upon a determination that there is adequate price competition. However, under requirements of the Federal Acquisition Regulation (FAR), the Contracting Officer is responsible for determining reasonableness of pricing. To assist in determining whether the prices proposed in offers under this solicitation are "fair and reasonable," offerors are required to submit cost or pricing information with your proposal.

a. Standard Form (SF) 1448 Instructions

(1) In submitting the cost proposal, the offeror shall submit a fully executed SF 1448, Contract Pricing Proposal Cover Sheet, a copy of which is included as Attachment 3 of this solicitation. Each subcontract expected to exceed $500,000 shall also be supported by fully executed SF 1448, to be submitted no later than the date specified for receipt of offers. This submission deadline also applies to proprietary cost infomation submitted under separate cover directly to the Government.

(2) The offeror shalt fully comply with the requirements set forth in Table 15-3, Instructions for Submission of a Contract Pricing Proposal, of FAR 15.804-6(b)(2). This compliance requires you to include in your cost proposal sufficient detail to support and explain all costs proposed, giving figures and narrative explanation. A complete and timely evaluation of your proposal cannot be performed without this information being submitted with your proposal.

(3) The cost proposal as represented by the SF 1448 should be prepared in a manner consistent with your current accounting system and Cost Accounting Standards Disclosure Statement, if applicable.

b. Computerized Cost Proposal Input Instructions

(1) The Government intends to use an IBM-compatible personal computer with 32 MB RAM and LOTUS 1-2-3 for Windows, Release 5 software to aid in the evaluation of the cost proposal. The offerors and subcontractors providing direct labor are requested to submit cost data on floppy diskettes, two copies, 3-1/2 inch, formatted under MS DOS. Cost data must be submitted as a Lotus 1-2-3 spreadsheet or any spreadsheet retrievable under LOTUS 1-2-3 for Windows, Release 5, in formats with the identical data that is supplied on all Government and Contractor paper form in order to be useful in the Government's evaluation. In the event *of* any inconsistency between the diskettes and the paper forms, the paper forms will be considered the intended version. Any questions related to the computerized cost proposal shall be directed to Jeanne D. Covington at (757) 864-2545.

(2) Each diskette should have affixed an external label indicating the name of the offeror and the RFP number. Provide all data under one file name.

ALL DISKETTE SUBMISSIONS SHALL BE TRUE SELF-CALCULATING SPREADSHEETS. Include on your diskette all rates and formulas used to derive your proposed costs. For example, your straight time hours might show a formula that, either directly or by referencing other cells, multiplies positions in a labor category times the productive man-hours in a man-year for that category and your overhead elements might show a formula that, either directly or by referencing other cells, multiplies a rate times the applicable base. Any absolute values must be explained and their values supported.

c. Other Cost and Pricing Information Required

(1) All cost and pricing information should be Submitted in a format consistent with the contract's initial one-year base period and four one-year option periods, and should be submitted separately and in detail for each CLIN. Cost shared among the CLIN's, such as vehicles and management, shall be apportioned among the CLIN's with the apportionment rationale provided. The prime Contractor, as well as all direct labor subcontractors, should submit cost and pricing information in support of their proposal.

(2) Labor - You must propose the labor hours necessary to provide the services set forth in Section C, Statement of Work. Your proposal must show the hours and costs by labor classification; however, the resultant contract will not reflect a specified level-of-effort. If any of the positions are classified by your accounting system as other than direct labor, or if you propose to subcontract any of the positions, so indicate. Any composite hourly rates must be explained.

To assist you in your proposal preparation for this solicitation, the Government is providing the following estimates. These estimates are not restrictive for proposing CLINs 1, 2, and 4; however, for CLINs 1, 2, and 4, your technical and cost proposals must correlate and support each other fully. Since all work under CLIN 3 will be Task Order driven and very difficult to project, you shall propose CLIN 3 according to the estimates provided below.

Estimated Direct Productive Labor Hours by CLINs

	CLIN 1	CLIN 2	CLIN 3	CLIN 4
Base Period	25,900	42,550	147,075	42,550
Option 1	25,900	42,550	168,825	42,550
Option 2	25,900	42,550	172,975	42,550
Option 3	25,900	42,550	172,975	42,550
Option 4	25,900	42,550	172,975	42,550

The "direct labor hours" specified above are defined as those productive hours expended by Contractor personnel in performing the engineering, programming, technician and direct support functions (see chart below) required to complete the Statement of Work as defined in Section C (including subcontractors). It does not include administrative or other labor which the Contractor may charge as direct labor under its established accounting policy and procedures. The term does not include sick leave, vacation, holiday leave, military leave, or any type of administrative leave, but does include overtime hours and direct labor hours provided under subcontracts.

Estimated Skill Mix by Labor Categories and CLINs

	Percentage of CLIN			
	CLIN 1	CLIN 2	CLIN 3	CLIN 4
Job Title				
Engineers (E.E. and M.E.)	8%	9%	10%	4%
Acoustical Enaineer			1%	
Laser/Optical Engineer			1%	
Digital Systems Engineer			6%	
Systems Analyst / Programmer	7%		46%	
Sr. Engineering Technician		4%	7%	4%
Engineering Technician			29%	
Calibration Technician				
Electronic Technician	14%	30%		83%
Machinist		4%		
Production Control Specialist	36%			
Clerical	14%			
Technical Editor	7%			
TOTAL	**100%**	**100%**	**100%**	**100%**

Additionally, historical workload data for equipment calibration and repair is provided in Attachment 5, and historical workload data for equipment receipt, inspection, and acceptance testing is provided in Attachment 6. Other historical workload data is available in the Bidders Library (see L.26). Any variance from the estimated labor hours and skill mix shown above should be fully supported by your technical proposal.

A copy of the Register of Wage Determinations (WD) and Fringe Benefits issued by the Department of Labor for employees under this proposed contract is included in Exhibit D. It should be noted that the wage rates specified therein are minimum rates. It should also be noted that the wage determination may not list all labor classes to be employed under this contract. Paragraph (a) of the Section I clause entitled "Service Contract Act of *1965"* states that in this event, conformable rates must be established for those service employees to be employed under the contract but not listed on the wage determination. These conformable wage rates will be the result of a three-party agreement between the employees, Contractor and the Government.

(3) Overhead - Provide the fringe benefits, payroll tax, and other overhead costs applicable to direct labor costs. Show bases, rates, and calculations. Your proposal must provide details to allow analysis and comparison to the professional compensation plan. For personnel covered by the WD, confirm the minimum benefits are met and provide the confirming calculations.

If it is your normal practice to account for fringe benefits and payroll taxes as direct costs, or if you intend to include these costs in a fringe benefit or overhead pool dedicated to the proposed contract only, estimate the costs for each element. If these costs are part *of* a fringe benefit or overhead pool that will allocate to other cost objectives as well as to the proposed contract, and you normally estimate such costs by projecting a fringe benefit or overhead rate *to* be applied to a base such as direct labor cost, estimate the costs according to the normal practice and divide the costs among the various individual elements in a logical manner. Explain the basis for your estimating.

(4) Allocated Labor Other Than G&A - Enter any non-G&A labor costs that will be allocated to the proposed contract other than through an indirect cost pool. This includes administrative personnel. Labor categories shall be specified and details provided.

(5) Spare Parts - For estimating purposes use $250K annually for spare parts for work to be performed in CLIN 2 and $500K annually for spare parts under CLIN 4.

(6) Hardware/Software - For estimating purposes use $1.25M annually for work to be performed in CLIN 3.

(7) General Purpose Plant Equipment - For estimating purposes, use the following annual amounts for equipment: CLIN 2 - $25K, CLIN 3 - $15K, and CLIN 4 - $10K (Reference G.5).

(8) Travel - For estimating purposes use $35K annually for all travel directly required by the SOW in CLIN 1, and $50K for all travel required by CLIN 3. Provide support and rationale for all other travel costs proposed.

(9) Other Direct Costs - Provide a comprehensive itemized breakdown and detailed explanation of all other ODC costs proposed for this effort. For vehicles dedicated to this contract, include your lease vs. purchase analyses. If you are leasing your facility, provide a copy of your lease agreement.

(10) City/County Business License Tax - Consult applicable local jurisdictions to determine any applicable business license taxes and enter your estimates. Consult the City of Hampton regarding personnel to be housed at LaRC even if your facility will not be located in Hampton.

(11) G&A - Enter G&A costs, and identify separately the rates and basis used to determine the costs. Provide the composition of the G&A pool costs and allocation bases upon which the rates were determined.

(12) Facilities Capital Cost of Money (FCCOM) - Enter FCCOM if you choose to include it in your proposal (ref. FAR 52.215-30). If you do not propose FCCOM, Clause 52.215-31,

Waiver of Facilities Capital Cost of Money (SEPT 1987) will be included in the contract. As required by NASA FAR Supplement 18-15.970-3, when facilities capital cost of money is included as an item of cost in the Contractor's proposal, a reduction in the profit objective shall be made in an amount equal to the amount of facilities capital cost of money allowed in accordance with FAR 31.205-10(a).

(13) Escalation - Escalation factors should be clearly stated and escalated amounts shown for each these items. Discuss the derivation and rationale for the proposed escalation.

(14) Award Fee - Provide the amounts of award fee by CLIN for the initial contract, as well as for the four one-year options.

(15) Provide three year history of your indirect rates and escalation.

(16) Phase-In - Phase-In Costs, if proposed, should be fully detailed and supported, and should correlate with your technical proposal.

d. Cost Forms and Instructions are included as Attachment 11 to this RFP.

2. FACTOR 3 - RELEVANT EXPERIENCE AND PAST PERFORMANCE

Each offeror will be evaluated on its relevant experience and past performance, and that of significant subcontractors or teaming partners, if any, under existing or prior contracts for similar products or services. Past performance information will be used to assess the extent to which contract objectives (including technical, management, cost and small and small disadvantaged subcontracting goals) have been achieved on related efforts. Relevant experience is the accomplishment of work which is comparable or related to the work or effort required by this RFP. This factor includes the evaluation of overall corporate or offeror experience and past performance, but not the experience and performance of individuals who are proposed to be involved with work pursuant to this RFP. For newly formed businesses having little or no company experience, the relevant experience and past performance of a predecessor firm, the company's principal owner(s) or corporate officer(s) will be considered. You are cautioned that omissions or an inaccurate or inadequate response to this evaluation factor will have a negative effect on your overall evaluation.

The Form REPP – Relevant Experience and Past Performance (Form REPP), included in Attachment 1 to this RFP, will be used to collect information concerning the relevant experience and past performance of the offeror and any subcontractor and/or teaming partner. The offeror shall select three of its customers and three customers for each subcontractor and/or teaming partner, for which It has performed relevant work within the past three years and forward copies of the Form REPP to those agencies and/or firms for completion and submission to the Contract Specialist for this solicitation. Your customers should retum or fax this form to the Contract Specialist no later than the closing date of the solicitation. The address and fax number are listed at the bottom of the first page of the Form REPP. Offerors shall include in their proposal the written consent of their proposed significant subcontractors to allow the Government to discuss the subcontractors' past performance evaluation with the offeror during the discussion phase of this procurement.

Offerors shall include with their proposal a list of the firms that will submit evaluation forms. The offeror shall also include a list of other contracts it has held and any significant subcontractors and/or teaming partners have held within the past five years for requirements similar to those being solicited in this acquisition. Other references, aside from those provided by the offeror, may be contacted and their comments considered during the source selection process. The information submitted may be verified by the Government through discussions with the references provided. While the Government may elect to consider data obtained from other sources, the burden of providing relevant references that the Government can readily contact rests with the offeror.

M.2 EVALUATION FACTORS

A. Factor 1 - Mission Suitability – The contents of this section of your proposal will be evaluated and scored in accordance with the Mission Suitability Subfactors set forth below:

1. Subfactor 1 - Understanding of the Requirements and Approach: This subfactor will be used to evaluate the offeror's understanding of the technical requirements of the contract.

(a) Elements A, B, and C - Representative Task Orders

(1) The offeror's technical approach, including the estimated resources proposed for labor (see paragraph *(3)* below), equipment, facilities, and materials (as detailed in the Contractor's proposed budget) will be evaluated for the Representative Task Orders in Elements A, B, and C. The offeror will be evaluated on demonstrated technical expertise in the various areas covered by the Representative Task Orders, as displayed in the proposed approaches to accomplishing the tasks in a timely manner with acceptable technical risks. The Contractor's ability to identify potential problems and suggest resolutions will be evaluated. The Contractor's ability to identify areas where significant differences in risk, time, equipment use, etc. exist will be evaluated.

(2) The offeror's proposed time schedule for each representative task, including key milestone dates proposed, will be evaluated as to their reasonableness based on the technical approach and resources proposed.

(3) The adequacy of the offeror's proposed staffing for each of the representative tasks, both in terms of number and type of personnel, and the appropriateness of their qualifications, will be evaluated.

(b) Element D - Calibration/Instrumentation Applications Representative ESR

The proposed instrumentation, components, and interfaces necessary to input data to the Neff 300/600 (excluding software) will be evaluated as to their appropriateness and reasonableness. The offeror's proposed work tracking process and estimates of/rationale for equipment and other non-personnel resources to be used to design, furnish, and install the required STI will be evaluated as to their appropriateness and reasonableness. Any block diagrams, drawings, other formats, and any pertinent data included in the proposal to demonstrate the offeror's understanding of the requirement, and approach to management and implementation, will be evaluated.

(c) Element E - Technical Approach/Innovation

The offeror's proposed approach for performing in each of the various areas covered under the Statement of Work, including any proposed innovative methods for meeting the work requirements of the contract, will be evaluated. The offeror's demonstrated expertise in each of the Statement of Work areas will be evaluated.

2. Subfactor 2 - Managernent Approach

(a) Element A - ISO-9000 Compliance Plan

(1) The offeror's comprehensive plan detailing all necessary steps for achieving ISO third party certification, including a detailed schedule of activities, a resource plan, and a cost estimate for securing the registration certificate(s) by the required date in accordance with contract clause H.13 - QUALITY MANAGEMENT SYSTEM POLICY (ISO 9000), will be evaluated. Other proposed details, such as consultants or subcontractors to be utilized, the identity of the certified third party registrar that will

perform the ISO audit, etc., will also be evaluated. ISO compliance without certification by a third party registrar will not be considered acceptable.

(2) Your proposed plans and process for insuring that industry/Government standards (ref. Paragraph 1.7 of the Statement of Work) are maintained; and that inspections, tests, traceability, configuration control of software and hardware, and documentation standards meet the established guidelines as defined in ISO 9001, will be evaluated as to their appropriateness and reasonableness.

(3) Your proposed procedures that you plan to implement to ensure that Langley Research Center metrology programs are included in the ISO 9001 quality system will be evaluated.

(b) Element B - Total Compensation Plan:

The suitability of the offeror's professional and nonprofessional compensation plans, including those of any teaming partners or subcontractors, will be evaluated in accordance with L.17, Evaluation of Compensation for Professional Employees (FAR 52.222-46) (FEB 1993) and L.23, Determination of Compensation Reasonableness (NASA 18-52.231-71) **(MAR 1994)**. The offeror's policies and procedures on uncompensated overtime, as well as the historical basis for any uncompensated overtime proposed and the rationale and methodology used to estimate uncompensated overtime, will be evaluated (reference paragraph L.25). The effect of uncompensated overtime on the effective hourly rates for all Fair Labor Standards Act - exempt employees will also be evaluated.

(c) Element C - Initial Staffing and Phase-In. and Contractor's Facility(s)

Your proposal will be evaluated as to the effectiveness of your plan to minimize changeover difficulties and to maximize continuity of services to the Government. Your proposed schedule for completion of each phase-in activity, your initial staffing plan detailing sources of personnel for the entire complement, proposed recruiting methods, and proposed initial orientation and training will be evaluated. Your proposed amount of incumbent personnel retention and the basis therefor will be evaluated. Your plan for obtaining and making operational any non-personnel resources required for contract performance (facility, equipment, materials, etc.) will be evaluated.

The adequacy of the facility resources proposed for the contract, including the location, size, general description and interior layout of the facilities, will be evaluated against the requirements set forth in L.31, CONTRACTOR'S OFF-SITE FACILITY. Your plan for maintaining the operational status of the facilities will be evaluated. (Members of the Source Evaluation Board may inspect the facilities.) Your discussion of the impact that the geographic location of your facilities will have on your ability to meet the response time requirements in the Statement of Work will also be evaluated.

(d) Element D - Offeror's Approach to Meeting the 12% Small Disadvantaged **Business** Participation Goal:

The offeror's proposed plan for meeting the 12% Small Disadvantaged Business Participation Goal will be evaluated. A review of the offeror's plan will be made to determine the extent of the offeror's compliance with NASA policy to afford maximum practicable opportunity for small and small disadvantaged business (SDB) concerns to participate in Government contracts. Proposed participation in the NASA Mentor-Protege Program will be considered under this element. An initial proposal **will not** be rejected as unacceptable solely as a result of an offeror proposing a goal that is less than the 12 percent goal specified by this RFP.

3. Subfactor 3 - Cost Realism

Cost Realism is the degree to which all costs proposed for the total contract (CLIN's 1 - 4) are realistic for the work to be performed, reflect a clear understanding of the requirements, and are

consistent with the various elements of the offeror's technical proposal. The offeror's Cost Proposal for the total contract will be evaluated for Cost Realism. An unrealistic proposed cost may indicate a lack of understanding under the offeror's technical approach, which will negatively impact tha offeror's total Mission Suitability score in accordance with M.3, Paragraph C.

B. Factor 2. Cost and Fee – An analysis of the proposed cost and fee for the basic and priced option periods will be conducted to determine their reasonableness and realism, and the extent *to* which they reflect performance addressed in the technical proposal. An assessment will be made of the offeror's capability to accomplish the contract objectives within the estimated cost proposed. The allowability of the award fee will also be evaluated, in accordance with FAR 15.903. A probable cost for each proposal will be developed in accordance with NASA FAR Supplement 1815.608(a)(1)(C)(a). The probable cost plus proposed fee for each offeror, not the proposed cost plus fee, will form the basis for price comparison in the selection of an offeror for contract award. The cost proposal will be used as an aid to determine the offeror's understanding of Mission Suitability reauirements.

C. Factor 3. Relevant Experience and Past Performance – Experience and past performance will be assessed to determine the extent to which contract objectives (including technical, schedule, and cost) have been achieved on related efforts. Experience will be viewed as the demonstrated accomplishment of work which is comparable and relevant to the objectives of this procurement. This factor includes the evaluation of overall corporate or offeror (including major subcontractors) experience and past performance, but not the experience and performance of the individuals who are proposed to be involved in the required work.

The following adjective ratings will be used for Relevant Experience and Past Performance:

EXCELLENT - Exemplary performance of exceptional merit in a timely, efficient, and economical manner; very minor (if any) deficiencies with no adverse effect on overall performance. Experience is highly relevant to this procurement.

VERY GOOD - Very effective performance, fully responsive to contract requirements accomplished in a timely, efficient, and economical manner for the most part; only minor deficiencies. Experience is highly relevant to this procurement.

GOOD - Effective performance; fully responsive to contract requirements; reportable deficiencies, but with little identifiable effect on overall performance. Experience is relevant to this procurement.

FAIR - Meets or slightly exceeds minimum acceptable standards; adequate results; reportable deficiencies with identifiable, but not substantial, effects on overall performance. Experience is somewhat relevant to this procurement.

POOR - Does not meet minimum acceptable standards in one or more areas; remedial action required in one or more areas; deficiencies in one or more areas which adversely effect overall performance. Experience is not relevant to this procurement.

M.3 RELATIVE IMPORTANCE OF EVALUATION FACTORS

A. The weights to be used in the scoring of the Mission Suitability Subfactors are presented below:

Subfactors	Points
1. Understanding *of* the Requirements and Approach	800

2. Management Approach		200
		1,000
3. Cost Realism	up to	-100

The numerical weights assigned to the above subfactors are indicative of the relative importance of those evaluation areas. The weights will be utilized only as a guide.

B. Overall, in the selection of a Contractor *for* contract award, Mission Suitability, Cost, and Relevant Experience and Past Performance will be of essentially equal importance. **All** evaluation factors other than Cost, when combined, are significantly more important than Cost.

C. **As** stated in ***B.*** above, a pool *of* 100 points will be used to adjust the offeror's Mission Suitability score to account for any weaknesses associated with a lack of Cost Realism in the offeror's proposal. This adjustment will be made if the proposed cost for the total contract is unrealistically high or low according to the following guidelines:

If the Cost Realism adjustment (i.e., the adjustment from proposed to probable cost) is ± 5% of the proposed cost or less, no adjustment will be made to the offeror's Mission Suitability score. If the Cost Realism adjustment is 30% or more of the offeror's proposed cost, all 100 points will be deducted from the offeror's Mission Suitability score. When the Cost Realism adjustment is greater than 5% but less than 30% of the offeror's proposed cost, the point deduction from the offeror's Mission Suitability score will be as follows:

Cost Realism Adjustment	Point Deduction
> 5% - 10%	2 points per each 1% above 5%
>10% - 15%	10 points + 3 points per each 1% above 10%
>15% - 20%	25 points + 4 points per each 1% above 15%
>20% - 25%	45 points + 5 points per each 1% above 20%
>25% - 30%	75 points + 6 points per each 1% above 25%

ATTACHMENT I

FORM REPP – RELEVANT EXPERIENCE AND PAST PERFORMANCE

Solicitation No. 1-137-GH.2959

Evaluation Instructions

Send the completed form directly to the address or fax number listed at the bottom of page 2. Some space is provided in Item VII for comments. Please use additional pages where necessary; **additional comments would be particularly appreciated where ratings *of* "excellent" or "poor" are given.** The adjective ratings to be used in completing the form REPP are defined as follows:

- **EXCELLENT -** Exemplary performance of exceptional merit in a timely, efficient, and economical manner; very minor (if any) deficiencies with no adverse effect on overall performance.

- **VERY** GOOD **-** Very effective performance, fully responsive to contract requirements accomplished in a timely, efficient, and economical manner for the most part; only minor deficiencies.

- **GOOD -** Effective performance; fully responsive to contract requirements; reportable deficiencies, but with little identifiable effect on overall performance.

- **FAIR -** Meets or slightly exceeds minimum acceptable standards; adequate results; reportable deficiencies with identifiable, but not substantial, effects on overall performance.

- **POOR -** Does not meet minimum acceptable standards in one or more areas; remedial action required in one or more areas; deficiencies in one or more areas which adversely effect overall performance.

ATTACHMENT 1

FORM REPP – RELEVANT EXPERIENCE AND PAST PERFORMANCE
Solicitation No. 1-137-GH.2959

Send the completed form directly to the address listed at the bottom of page one.

Space is provided for comments (additional pages may be used if desired) and commends would be particularly appreciated concerning excellent and less than satisfactory performance. Good performance **is** effective performance, fully responsive to contract requirements; identified deficiencies ***do*** not have substantial effects on overall performance.

I. CONTRACT INFORMATION

A. Name of Company Being Evaluated: _____

B. Address: _____

C. Contract Number: _____ D. Contract Type: _____

E. Contract Value: _____

F. Period *of* Performance: From: _____ To: _____

II. DESCRIPTION **OF** CONTRACT: _____

_____

_____

During the contract performance being evaluated, this firm was the:
_____ Prime Contractor; _____ Significant Subcontractor; _____ Team Member;
_____ Other (describe)

_____

_____

Does a corporate or business relationship exist between the firm being evaluated and your organization?
___ Yes, ___ No. **If so,** please describe. _____

_____

III. EVALUATOR

Name: _____

Title: _____

Organization: _____

Address: _____

Telephone No.: _____ Fax No.: _____

SEND TO: ATTN: 126/David H. Jones **TO BE OPENED BY ADDRESSEE ONLY**
NASA LANGLEY RESEARCH CENTER
9A LANGLEY BOULEVARD
HAMPTON VA 23681-0001
TELEPHONE: 757-864-2421
FAX: 757-864-7898
E-Mail: d.h.jones@larc.nasa.gov

This form contains Source Selection Information when completed. See FAR 3.104.

IV. OVERALL PERFORMANCE

How would you rate the Contractor in the following areas (Circle One):

A.	Local Management Authority	E	VG	G	F	P	N/A
B.	Contract Compliance	E	VG	G	F	P	N/A
C.	Subcontract Administration	E	VG	G	F	P	N/A
D.	Responsiveness to Technical Direction	E	VG	G	F	P	N/A
E.	Phase-in	E	VG	G	F	P	N/A
F.	Planning, Estimating and Scheduling	E	VG	G	F	P	N/A
G.	Work Control	E	VG	G	F	P	N/A
H.	Responsiveness to Changing Requirements	E	VG	G	F	P	N/A
I.	Management of Diverse Tasks	E	VG	G	F	P	N/A
J.	Early Identification of Problems and Timely Resolution	E	VG	G	F	P	N/A
K.	Labor Relations	E	VG	G	F	P	N/A
L.	Innovativeness	E	VG	G	F	P	N/A

V. FINANCIAL MANAGEMENT PERFORMANCE

A. How would you rate the Contractor in the following areas (Circle One):

1.	Complete and Timely Reporting	E	V	G	G	F	P	N/A
2.	Cost Control (contract level)	E	VG	G	F	P	N/A
3.	Procurement System	E	VG	G	F	P	N/A
4.	Property Management System (customer-furnished property)	E	VG	G	F	P	N/A
5.	Adherence to Cost Estimates (task level)	E	VG	G	F	P	N/A

B. If ceiling rates are contained in this contract, please indicate current ceiling rates:

Overhead: _____ Other: _____

G&A: _____

C. Has the Contractor experienced overruns or underruns? Yes No

If yes, please elaborate: _____

_____

_____

VI. TECHNICAL PERFORMANCE

A. How would you rate the Contractor's technical performance in the following areas:

1. Completeness and Accuracy	E	V	G	G	F	P
2. Timeliness	E	VG	G	F	P
3. Product Reviews/Product Assurance	E	V	G	G	F	P
4. Documentation	E	V	G	G	F	P
5. Qualifications of Technical Staff	E	V	G	G	F	P
6. Configuration Management	E	V	G	G	F	P
7. Ability to work without extensive guidance	E	V	G	G	F	P
8. Product Quality	E	V	G	G	F	P
9. Innovativeness	E	V	G	G	F	P

B. Comment on staffing stability in critical skill areas and supervisory positions:_____
_____
_____
_____

C. Is there an award or incentive fee? If so, please give the fee dollars and percentages earned for the last three reporting periods:

Review Period	Fee Dollars	% of Possible Fee
_____	$_____	_____%
_____	$_____	_____%
_____	$_____	_____%

VII. CONCLUSIONS

Would you recommend this Contractor for another contract? Why? Please add any comments you feel pertinent. _____
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ATTACHMENT 2

126 (NAS1-#/#)

TO: NASA Langley Research Center
126/Contract Specialist
Hampton, VA 23681-0001

FROM: (Insert Company Name)

SUBJECT: Monthly Progress Report for Socioeconomic Goals – NAS1-_____
for Period _____
month/day/year

10a.	Small Business Concerns: (include SDB, WOSB, HBCU/MI)	$_____
10b.	Large Business Concerns:	$_____
10c.	Total (sum of Sm & Lg Bus):	$_____
11.	Small Disadv. Bus. Concerns: (include HBCU/MI)	$_____
12.	Woman-Owned Small Bus.: (include as part of 10a & 11 above)	_____
	Historically Black Colleges/Univ.: and/or Minority Institutions (include as part of 10a & 11 above)	$_____

SAMPLE

ATTACHMENT 3

PROPOSAL COVER SHEET *(Cost or Pricing Data Not Required)*	1. SOLICITATION/CONTRACT/MODIFICATION NUMBER	OMB NO.: 9000-0013 Expires: 09/30/98

2a. *NAME* OF OFFEROR	3a NAME OF OFFEROR'S POINT OF CONTACT	3c. TELEPHONE	
2b FIRST LINE ADDRESS	3b TITLE OF OFFEROR'S POINT OF CONTACT	AREA CODE	NUMBER
2c. *STREET ADDRESS*			
2d CITY / 2e. STATE / 2f. ZIP CODE			

4. TYPE OF CONTRACT ACTION *(Check)*

	A NEW CONTRACT		D LETTER CONTRACT
	B CHANGEORDER		E UNPRICED OPTION
	C PRICE REVISION/ REDETERMINATION		F OTHER *(Specify)*

5. TYPE OF CONTRACT *(Check)*

☐ FFP ☐ CPFF ☐ CPIF ☐ CPAF
☐ FPI ☐ OTHER *(Specify)*

PLACE(S)		PERIOD(S)	
a.		a.	
b.		b.	
c.		c.	

(Continue on reverse. if necessary. Use same headings.)

a. LINE ITEM NO.	b. IDENTIFICATION	c. QUANTITY	d. TOTAL PRICE	e. PROP. REF. PAGE

NAVE OF CONTRACT ADMINISTRATION OFFICE			NAME OF AUDIT OFFICE		
STREET ADDRESS			STREET ADDRESS		
CITY	STATE	ZIP CODE	CITY	STATE	ZIP CODE
TELEPHONE ▶ AREA CODE	NUMBER		TELEPHONE ▶ AREA CODE	NUMBER	

This proposal is submitted in response to the solicitation, contract, modification, etc., in Item 1. By submitting **this proposal,** the offeror, if selected for discussions, **grants** the contracting officer or **an** authorized representative the right to examine, at any time before award, any of those **books,** records, documents, or other records directly pertinent to the information requested **or** submitted. ***See*** instructions at Table 15-3.

9a. NAME OF OFFEROR *(Typed)*	10. **NAMEOFFRM**
9b. TITLE OF OFFEROR *(Typed)*	
11. SIGNATURE	12. **DATE OF SUBMISSION**

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Prescribed by GSA - ***FAR*** (48 CFR) 53.215-2(a)

ATTACHMENT 4

AWARD FEE EVALUATION PLAN

NASA CONTRACT NASl-98____

October 31,1997

RESEARCH INSTRUMENTATION & MEASUREMENT

SUPPORT (RIMS) CONTRACT

CONTENTS

Chairperson

Voting Member (Alternate Chairperson)

Voting Member (Customer)

Alternate Voting Member

Technical Coordinator

Business Coordinator

Fee Determination Official

PART I -AWARD FEE EVALUATION BOARD CHARTER AND MEMBERS

A. General

The Award Fee Evaluation Board (AFEB) derives its authority from a Langley Research Center memorandum signed by the Center Director.

The Charter of the AFEB is to maintain an organization and establish a method of operation which will ensure acquisition of data necessary to permit a valid semi-annual assessment of the Contractor's performance in the following four areas: Technical Performance, Management, Cost, and Utilization of Small Disadvantaged Business (SDB) Subcontractors. The AFEB is to develop an evaluation plan, evaluate the Contractor's overall performance concerning the contract work, discuss such evaluations with the Contractor, receive and consider any additional performance data provided, and submit to the Fee Determination Official a fee recommendation for each evaluation period with applicable results and findings.

B. Award Fee Organization

The award fee organization is established as follows:

1. Fee Determination Official:

TBD

2. Award Fee Evaluation Board

Chairperson / Votins Member

TBD

Voting Member / Alternate Chairperson

TBD

Voting Member (Customer)

TBD

Alternate Voting Member

TBD

3. Coordinators:

Technical Coordinator

TBD

Business Coordinator

TBD

4. Recording Secretary:

TBD

5. Monitors

TBD

PART II - EVALUATION PROCESS

The participants in the award fee process and the process itself are described in the following paragraphs:

A. AFEB Meeting - The meetings will be scheduled so that the evaluation process can be completed and the Determination and Findings presented to the Fee Determination Official for action within 45 days following completion of the evaluation period. (An Evaluation Schedule is included as Exhibit B to this Plan.) At least three AFEB Voting Members or Alternates shall be present in order to conduct the meeting. One of the three Voting Members present must either be the Chairperson or the Alternate Chairperson.

B. AFEB Chairperson - A NASA Langley employee designated to lead the Award Fee evaluation process. The Chair is responsible for leading the preparation of the Award Fee Plan and for all Meetings of the AFEB. The Chair shall schedule all meetings so that the evaluation process can be completed within the time allotted. If the AFEB Chair is unavailable to schedule and conduct the meeting, the Alternate chairperson shall serve as Chairperson for that Award Fee Evaluation period.

C. AFEB Recording Secretary - A NASA Langley employee responsible for the documentation of the activities of the AFEB. The Recording Secretary is responsible for the minutes of meetings or other documentation that summarizes the information reviewed, including any additional information provided by the Contractor, and the consideration given to all such information. Announcements, documentation and files are important to support the meetings and recommendations of the AFEB.

D. Monitor - A NASA Langley employee designated to observe, assess, and report on the performance of the Contractor to the Technical Coordinator.

The Monitor will compile semi-annual performance data in a report using the metrics specified in Part III of this award fee plan as the basis for evaluation. In addition, areas in need of improvement, as well as any other information sufficient to provide the Technical Coordinator with a clear understanding of the Contractor's performance will be provided. The Monitor will recommended an adjective and numerical ratings to performance by Contract Line Item Number (CLIN) in their specific area of cognizance, using the adjective definitions and corresponding score ranges set forth in Exhibit **A.**

E. Contractor - The Contractor shall submit a self-evaluation ofperformance within 10 business days from the end of each Award Fee evaluation period. This report will be used by the Technical and Business Coordinators in assessing the Contractor's performance for the period.

F. Coordinators - NASA Langley employees designated to receive, validate, and assess the Monitors' reports and present performance information to the AFEB. Coordinators **have** been appointed as set forth in Part I above by the Fee Determination Official. All changes to these appointments will be approved by the AFEB Chairperson.

There are two Coordinators for this contract. The Technical Coordinator is responsible for documenting and presenting the evaluation of the Contractor's Technical Performance, SDB Performance of Work, and Technical Management. The Business Coordinator will address Business Management, the Cost Factor, and Mentor-Protege Program Performance under the Utilization of Small Disadvantaged Business Subcontractors Factor.

The Technical Coordinator will provide a comprehensive report to the AFEB which documents strong **and** weak points and fully justifies each rating recommended, based on the metrics set forth in Part III below. The Technical Coordinator will review and consolidate the Monitors' reports, will make an independent assessment of the performance rendered by the contractor, and will assign a recommended adjective rating (see Exhibit A) for Technical Performance under each CLIN. The Technical Coordinator will follow the same process in developing a recommended adjective rating for SDB Performance of Work. In deriving

these technical performance ratings, the Technical Coordinator will also take into account the amount of effort and technical complexity associated with each of the Monitor's work areas. The Technical Coordinator will then perform and document a comprehensive review of the Contractor's performance under the Technical Management Subfactor, detailing strengths and weaknesses and assigning an adjective rating.

The Business Coordinator will evaluate the Business Management Subfactor, the Cost Factor, and the Mentor-Protege Program Performance Subfactor under the Utilization of SDB Subcontractors Factor, and will assign an adjective rating as described in Exhibit A for each. In deriving a rating for the Business Management Subfactor, the Business Coordinator will take into account the effectiveness of the Contractor under the following performance elements: (a) recognition and resolution of business problems, (b) quality and timeliness of required documentation; (c) cooperation and working relationships with Government personnel; (d) compliance with contract terms and conditions; (e) adequacy and soundness of Contractor management systems; (f) extent, quality, and timeliness of corporate level support and assistance provided to the local staff; and (g) any other factors relevant to business management performance. The Business Coordinator will then perform and document a complete review of the effectiveness of the Contractor's management of costs in accordance with the cost metrics for each CLIN. The Business Coordinator will recommend an adjective rating for Cost for each CLIN. (CLIN's 1 & 2 will receive a combined Cost rating.) The Business Coordinator will also evaluate the performance of the Contractor in its mentor role under the Mentor-Protege Program, fully document strengths and weaknesses, and assign a recommended adjective rating. The Business Coordinator will provide a comprehensive report to the AFEB which documents strong and weak points and fully justifies the ratings recommended.

The Coordinators' reports will be forwarded to the other members of the AFEB at least 2 business days prior to the scheduled AFEB meeting. The Coordinators will present an informal oral briefing of their evaluation results to the AFEB at the evaluation meeting.

G. AFEB - A Board of NASA Langley employees who perform an in-depth review of all aspects of Contractor performance and recommend an appropriate performance rating and fee amount to the Fee Determination Official. All changes to the AFEB voting membership, including Chairperson and Alternate Chairperson designations, will be approved by the Fee Determination Official.

The AFEB will develop an evaluation plan for evaluating the Contractor's performance and will periodically review the plan to determine if it is still current and whether any changes are necessary. The AFEB will convene after each semi-annual evaluation period to evaluate the Contractor's performance, on a schedule consistent with the completion of the total Award Fee Process through fee payment within 60 days of the end of the award fee evaluation period. As requested by the Chairperson, any other personnel involved in performance evaluation will attend the meeting and participate in discussions.

The AFEB will receive written and oral evaluation reports from the coordinators. Using the approved evaluation plan and giving due consideration to all known performance data, the AFEB will assess the Contractor's overall performance. The AFEB will develop an adjective rating as set forth in Exhibit A for each of the Evaluation Factors: Technical Performance, Management, Cost, and Utilization of Small Disadvantaged Business Subcontractors. The adjective ratings will then be converted to a numerical rating. The AFEB will then weigh each of the factor numerical ratings by the Factor weights shown below, except in the case of CLM 3 Task Orders, for which the Technical Performance and Cost Performance weights will be varied to direct the Contractor's emphasis as deemed necessary by the Task Area Monitors.

Technical Performance	*50%*	
cost		*25%*
Management		15%
Utilization of SDB Subcontractors	10%	
SDB Performance of Work Subfactor *(5%)*		
Mentor-Protege Program Subfactor *(5%)*		

(NOTE: If the prime Contractor is a large business but does not propose participation in the Mentor-Protege Program, the **10%** weight will be applied to Performance **vs.** Small Business and **SDB** Subcontracting Plan. **If** the Prime Contractor is a small business, the Utilization **of SDB** Subcontractors Factor will be eliminated, and the **10%** weight will be redistributed among the other three factors in a manner as yet to be determined.)

The AFEB will then sum the factor weighted scores to derive a recommended award fee rating. The AFEB will review the rating to ensure that it reflects the consensus regarding the Contractor's total overall performance for the period. The AFEB will then derive a recommended fee amount.

The AFEB will provide the Contractor with a comprehensive briefing of the evaluation findings. The AFEB will consider any further performance data offered by the Contractor, and if necessary, will revise evaluation findings, adjective ratings, and recommended fee rating to reflect this additional information. The AFEB will document its evaluation results and recommended fee amount for transmittal to the Fee Determination Official. If the Fee Determination Official's final determination of award fee is different from that recommended by the AFEB, the Fee Determination Official will document the rationale for the AFEB's file. The Business Coordinator will prepare a "Notice of Award Fee" for transmittal by the Contracting Officer to the Contractor.

The AFEB Recording Secretary will maintain the Award Fee evaluation files containing: the AFEB Establishment Memorandum and revisions, Evaluation Plan and revisions, minutes of meetings, Coordinators' and Monitors' reports, Contractor submittals, general correspondence, memoranda to the Fee Determination Official, Determinations of Award Fee, Notices of Award Fee, and other documents of significance.

H. Fee Determination Official - A member of Langley Research Center's management designated to review the semi-annual recommendation of the Award Fee Board in order to make a final determination of award fee. The appointment and any change of the Fee Determination Official is made by the Center Director.

PART III - EVALUATION FACTORS AND CONSIDERATIONS

The following is a description of evaluation factors to be considered. The factors differ for each CLIN, and in some cases within a CLM. These factors are outlined in the paragraphs below. Separate fee pools will be established for each CLIN (see I. 17, AWARD FEE FOR SERVICE CONTRACTS (NASA 1852.216-76) (OCT 1996)), and separate ratings will be given for each CLM for Technical Performance and Cost Performance (except that the Cost Performance evaluation will be combined for CLIN's 1 & 2). Management and Small Disadvantaged Business Utilization will be evaluated at the contract level (these two factor descriptions follow the CLIN factor descriptions below). 15% of the available fee from each CLM will be set aside for the contract level Management factor, and 10% of the available fee fiom each CLIN will be set aside for the contract level Small Disadvantaged Business Utilization factor. The Award Fee Evaluation Rating for each period will be formally communicated to the Contractor as an overall contract rating only. (The Contractor will, however, be debriefed informally on performance by CLIN in the areas of Technical and Cost Performance, as well as on performance under the Management and SDB Utilization Factors.) The Contractor's performance levels will be assessed for each factor using the adjective ratings described in Exhibit A. The evaluation process will encompass actual performance and the conditions under which it was achieved. For example, performance will be considered in light of the priorities and workload existing during the evaluation period, taking into consideration factors beyond the Contractor's control which either enhanced or detracted fiom performance.

CLIN 1 **(On-Going Services):**

Technical Performance will be evaluated based on the quality and timeliness of the services provided, based on assessments by the Task Area Monitors. Technical Performance will carry a weight of 50% for CLIN 1.

Cost Performance will be evaluated by comparing the actual cost incurred for CLIN's 1 & 2 combined to the combined baseline value for CLIN's 1 & 2, which is the contract value (proposed cost). The Contractor may submit a month-by-month time-phased baseline plan for each year of the contract, so long as the sum of the baseline values for the 12 individual months equals the contract value for that contract year. Cost Performance will carry a weight of 25% for both CLIN 1 and CLM 2. A numerical score will be assigned for cost performance under CLM's 1 & 2 using the following scoring scheme:

- When actual cost = baseline cost for the AF Period, Cost Score = 90%.
- When actual cost > baseline cost for the AF Period, Cost Score = 90% - (2 × n).
  [n is the percentage by which actual cost exceeds baseline; a Cost Score of 60% or less (n greater than or equal to 15%) will result in a score of zero percent for the cost factor under CLM's 1 & 2.]
- When actual cost < baseline cost for the AF Period, Cost Score = 90% + n.
  [n is the percentage by which actual cost is below the baseline; the cost score cannot exceed 100%.]

CLIN 2 (Instrument **Support Services):**

Technical Performance will be evaluated based on quality and timeliness metrics, and will carry a weight of 50% for CLIN 2. The general approach is as follows:

A file containing information on every Instrument Work Order (IWO) processed is created in the information management system (INFOPC). The file is transmitted into the instrument services tracking program (ISTP) used by Government personnel to evaluate the Contractor's performance. This program is used to compute numerical scores for quality and timeliness. The following general outline describes the process:

Quality - (Quality carries a weight of 25% of the total fee for CLIN 2, or ½ of the Technical Performance weight.) Random samples of 10% of the work performed will be inspected for quality. The inspection process may be based on a review of documentation, adequacy of standard(s) used, satisfaction of user requirements, accuracy of Contractor entered INFOPC data, and/or an analysis of the number of service rejects/retests. Depending upon the inspection results; if the work is found unsatisfactory, the job will be classified as a reject, major deficiency, or minor deficiency and annotated in the ISTP to determine a numerical score for the appropriate evaluation period. Unsatisfactory work will be weighted in the quality score calculation as follows: Reject = 1.0, Major Deficiency = 0.4, and Minor Deficiency = 0.2. Jobs will be classified as a "Reject" if the equipment has to be returned to the Contractor for rework; as a "Major Deficiency" if the user's data has to be corrected at the Contractor's facility; and as a "Minor Deficiency" if the deficiency is corrected at ETTD or at the user's site. The Quality Score is derived by the following formula:

$$Quality = 100\left[1 - \left\{5\ x\ \frac{Sum\ of\ weighted\ rejects}{\#\ Jobs\ completed\ \mathbf{x}\ .10}\right\}\right]$$

2. Timeliness - (Timeliness carries a weight of 25% of the total fee for CLIN 2, or ½ of the Technical Performance weight.) All IWO's are scored for timeliness. The user requested due date is compared to the actual shipped date is to compute the numerical score for each IWO processed (see formula below). The ISTP subtracts predetermined amounts of time *from* the actual delivery time for IWO's with extenuating circumstances. These circumstances and their corresponding time reductions are as follows: 1. Job requires parts to be ordered - 14 calendar days; 2.) Job requires factory service that is not warranty work - 21 calendar days; and 3.) Job requires warranty work - 25 calendar days. Additionally, the TAM may adjust the IWO numerical score by authorizing additional time for extenuating circumstances at his/her discretion. The numerical scores for individual IWO's will fall within the range of 0% to 100%. (If the computed score is greater than 100%, then the actual score equals 100%. If the computed score is less than 0%, then the actual score is 0%.) The ISTP combines and compiles the numerical scores for each IWO, subtracts the percentage of late jobs (unexcused) from the aggregate numerical scores derived by the formula to determine an overall Timeliness score for the appropriate evaluation period. The Timeliness score is multiplied by the available fee under the CLIN 2 Timeliness subfactor to determine the fee recommended. The Numerical Score for each IWO is derived using the following formula:

$$IWO\ Numerical\ Score\ (\%) = 66.67\left[2.5 - \frac{\{\#\ days\ to\ complete - \#\ days\ (*)\ \}}{Estimated\ \#\ days\ to\ complete}\right]$$

$(*)\ Parts = 14$

$Factory\ service = 21$

$Warranty\ service = 25$

$TAM\ authorized = \text{variable}$

note : *if timeliness is less than zero then timeliness equals zero*

Cost Performance - combined with CLIN 1 Cost Performance (see description above).

CLIN 3 (Data Systems Development and Instrumentation Engineering):

1. Task **Orders**

Task Orders will typically be used for work under CLIN 3 that is of higher risk or of longer duration, and that will require intensive use of resources. The evaluation of performance, schedule, and cost for these activities is described below:

a. Fee is earned on a per Task Order basis and will depend on the Contractor's ability to meet metrics pertaining **to** Performance **as** specified in the applicable Task Order (TO), **as** well **as** standard metrics (described below) for Schedule and Cost. The overall Task Order Fee structure **is as** follows:

(i) Task Order Fee Arrangements (TOFA): Performance, Schedule, and Cost will carry a combined evaluation weight of 75% for each Task Order under CLIN *3.* This 75% of fee will henceforth be referred to **as** Task Order (TO) Fee. (The remaining 25% goes into the contract level fee pools for Management and Small Disadvantaged Business Utilization.) The distribution of the TO Fee will be defined by one of the six task fee arrangements detailed in the table below. Each TOFA defines the priorities unilaterally established by the Government for specific task(s) involved. The Government will establish the relative importance of performance, schedule, and cost for each TO and select the appropriate TOFA accordingly . The TOFA used will be identified in the statement of requirements and in its subsequent Task Order Request using its letter designator (A-F).

T.O. FEE ARRANGEMENTS (% of Fee)

FEE	A	B	C	D	E	F
PERFORMANCE	25	50	22.5	*30*	*0*	TBD
SCHEDULE	0	0	15.0	20	0	TBD
COST	50	25	37.5	25	75	TBD *

* COST must always be greater than or equal to *25%*.

A minimum numerical score of **61 for each element must be met to earn any fee on a Task Order.**

Fee Scenarios:

Fee Arrangement **A** or B: Will typically be used when both performance and cost incentives are deemed necessary (e.g., a system design task order).

Fee Arrangement C: Will typically be used when the job requires some emphasis on delivery time is needed, but cost and performance are still the greater concerns. Examples include software development and a small engineering project which is on the critical path of a program.

Fee Arrangement D: Will typically be used when Performance is most important, delivery also important, and cost significantly less important **than** the other two factors combined. This could occur on tasks where high value actions take place requiring critical work on a mission critical schedule, such **as** wind tunnel operations requiring data acquisition, software, equipment, or engineering services.

Fee Arrangement E: Will typically be used when cost control is of very high importance and when Performance is based on well established methods and the action is of routine nature-such as data analysis activities.

Fee Arrangement F: This arrangement is for unusual circumstances where the fee arrangements **"A"** through "E' described above are not suitable. This fee arrangement is open to negotiation with the only stipulation being that cost receive no less incentive than ***25%*** of the available fee.

The evaluation criteria for Performance, Schedule, and Cost are as described below:

Performance - Metrics for performance will be stated in the Task Order (TO). For large Task Orders that are resource intensive and high risk, the performance will be judged based on satisfying the requirements stated in the Task Order. End item deliverables will be evaluated against those requirements during the fmal acceptance test. **A** formal acceptance test plan shall be developed and an acceptance test performed to demonstrate the operational readiness of the end product. For smaller task orders, adherence to meeting the requirements will still be the primary factor in judging the performance, but a less formal acceptance test plan and demonstration will be required. The end product will be judged based on the specific task metrics as either "Excellent", "Very Good", "Good", "Satisfactory", or "Poor/Unsatisfactory", using the adjective descriptions in Exhibit **A** of this Plan. **A** corresponding numerical score will assigned, consistent with the adjective rating. The performance fee recommended will then be determined by multiplying the percentage Performance score by the amount of fee assigned to performance in the TO Fee Arrangement. If the minimum performance is not met, then no fee shall be recommended for performance, schedule, or cost.

Schedule - The amount of available fee for Schedule will be determined based on the TO Fee Arrangement assigned to that Task Order. The task score for schedule will based on the proposal response time and delivery time metrics outlined below. The recommended Schedule fee will then be determined by multiplying the percentage Schedule score by the available fee for Schedule.

Proposal Response Time - This element will carry 10% of the weight under Schedule. A due date for a formal proposal response will be negotiated at task inception. If the Contractor meets the due date, a score of 100% will be earned. If the proposal is late, the score will reduced by n% for each n% of the delivery time that it is late. For example, if a proposal is due in **4** days, but is not submitted until the 5th day, the score is 75%.

[Example Calculation: $[100\% \times (1 - \frac{1}{4})] = 75\%$]

Deliverv Performance - This element will carry 90% of the weight under Schedule. **A** delivery due date will be established when the task implementation plan is approved, and the Contractor is directed to proceed with the work. If the Contractor meets that due date, a score of 100% will be earned. If the Contractor is late in completing the task order, the score will reduced by $5 \times n\%$ for each n% of the delivery time that delivery is late. For example, if a task order is due to be completed in 300 days, but is not completed until day 3 18, the score is 70%.

[Example Calculation: $\{100\% \times (1 - [(18 \div 300) \times 5])\} = 70\%$]

Cost - The amount of available fee for Cost will be determined based on the TO Fee Arrangement assigned to that Task Order. The Cost score for each Task Order will be derived by comparing the negotiated (issued) cost to actual cost using the scoring scheme outlined below. The recommended Cost fee will then be determined by multiplying the percentage Cost score by the available fee for Cost.

- When actual cost = negotiated cost for the **Task** Order, Cost Score = 90%.

- When actual cost > negotiated cost for the Task Order, Cost Score = 90% - (6 × n).
  [n is the percentage by which actual cost exceeds negotiated cost; a cumulative Cost Score of 60% or less for CLIN 3 will result in a score of zero percent for the cost factor under CLIN 3.]

- When actual cost < negotiated cost for the Task Order, Cost Score = 90% + n.
  [n is the percentage by which actual cost is below the negotiated cost; the cost score cannot exceed 100% for an individual Task Order.]

Engineering Service Requests

Government generated Engineering Service Requests (ESR's) under CLM 3 will be evaluated based on Task Area Monitor (TAM) evaluations or against ESR-specific performance metrics in the area of Quality, and against standard metrics in the areas of Timeliness and Cost.

Technical Performance carries a weight of 50% for ESR's under CLIN **3,** with 25% (½) assigned to Quality and 25% (½) assigned to Timeliness. The evaluation criteria for Quality and Timeliness are as follows:

Quality - In cases where no specific and measurable performance metrics can be identified, the quality of the end product will be rated by the requester. When the ESR is completed, a service evaluation form is provided to the requester for comments on job performance and is forwarded to the appropriate ETTD TAM. An adjective rating of "Excellent", "Very Good", "Good", "Satisfactory", or "Poor/Unsatisfactory" will be assigned, using the adjective descriptions in Exhibit A of this Plan. **A** corresponding numerical score will assigned, consistent with the adjective rating.. The TAM will then review the comments from the requester, consider other available performance data and assign fmal recommended numerical ratings for each ESR. For ESR's with specific, measurable performance memcs which have been identified and included in the negotiated ESR, the end product will be evaluated against those metrics, and an appropriate numerical score for Quality will be calculated. The recommended performance fee will then be determined by multiplying the score for Quality by the amount of fee available for Quality under the ESR.

Timeliness - The ESR score for Timeliness will based on the proposal response time and delivery time metrics outlined below:

Proposal Response Time - This element will carry 20% of the weight under Timeliness, or 5% of the total weight for each ESR. ESR proposals, approved by the Contractor's authorizing official, shall be submitted within 3 days of the initiate date of the ESR. If the Contractor meets the **3** day requirement, a score of 100% will be earned. If the proposal is late, the score will reduced by 33% for each day that it is late (i.e., a proposal that is submitted in 6 or more days will earn a numerical score of zero for Timeliness of Proposal Response).

Delivery Performance - This element will carry 80% of the weight under Timeliness, or 20% of the total weight for each ESR. **A** required completion date will be established when the ESR is negotiated and issued. If the Contractor meets that due date, a score of 100% will be earned. If the Contractor is late in completing the ESR, the score will reduced by *2* × n% for each n% of the delivery time that delivery is late. For example, if an ESR is to be completed in 30 days, but is not completed until day 33, the score is 80%.

[Example Calculation: $\{100\% \times (1 - [(3 - 30) \times 2])\} = 80\%$]

Cost Performance - This factor carries a weight of *25%* for CLIN *3* ESR's. The Cost score for each ESR will be derived by comparing negotiated (issued) cost to actual cost using the scoring scheme outlined below:

- When actual cost = negotiated cost for the ESR, Cost Score = 90%.
- When actual cost > negotiated cost for the ESR, Cost Score = 90% - (6 × n).
  [n is the percentage by which actual cost exceeds negotiated cost; a cumulative Cost Score of 60% or less for CLIN 3 will result in a score of zero for the cost factor under CLIN **3** for all Task and ESR's.]
- When actual cost < negotiated cost for the ESR, Cost Score = 90% + n.
  [n is the percentage by which actual cost is below the negotiated cost; the cost score cannot exceed 100% for an individual ESR.]

CLIN 4 (On-Site Instrument Services and Digital Systems Support Services):

Technical Performance will be evaluated based on Quality as evaluated by the Task Area Monitors, and on Timeliness as measured against standard metrics. Technical Performance will carry a weight of 50% in the Award Fee calculation for CLIN **4.** The details for each of these two subfactors are as follows:

Quality - (Quality carries a weight of *25%* of the total fee for CLIN **4,** or ½ of the Technical Performance weight.) Customer feedback will be submitted to the Task Area Monitors for each IWO completed under CLM **4.** This feedback will include a narrative evaluation, an adjective rating based on the scoring guidelines in Exhibit A of this Plan, and a numerical score commensurate with the recommended adjective rating. The Task Area Monitors will review each customer evaluation, consider any unusual circumstances, and assign a final numerical rating for each IWO. The weighted average score (weights based on cost) of the individual IWO scores will be multiplied by the available fee for Quality under CLIN **4** to compute the fee recommended under the Quality subfactor.

Timeliness - (Timeliness carries a weight of *25%* of the total fee for CLM 4, or ½ of the Technical Performance weight.) A file is created in the information management system (INFOPC) which is exported into the instrument services tracking program (ISTP) used by Government personnel to evaluate the Contractor's performance. This file contains information on every Instrument ESR (IWO) processed, and is used to compute numerical scores for timeliness. The following general outline describes the process:

All IWO's are scored for timeliness. The user requested due date is compared to the actual shipped date is to compute the numerical score for each IWO processed (see formula below). The ISTP subtracts predetermined amounts of time from the actual delivery time for IWO's with extenuating circumstances. These circumstances and their corresponding time reductions are as follows: 1. Job requires parts to be ordered - 14 calendar days; *2.)* Job requires factory service that is not warranty work - 21 calendar days; and 3.) Job requires warranty work - *25* calendar days. Additionally, the TAM may adjust the IWO numerical score by authorizing additional time for extenuating circumstances based on customer feedback. The numerical scores for individual IWO's will fall within the range of 0% to 100%. (If the computed score is greater than 100%, then the actual score equals 100%. If the computed score is less than 0%, then the actual score is 0%.) The ISTP combines and compiles the numerical scores for each IWO, then subtracts the percentage of late jobs (unexcused) from the aggregate numerical scores derived by the formula to determine

an overall Timeliness score for the appropriate evaluation period. The Timeliness score is multiplied by the available fee under the CLIN **4** Timeliness subfactor to determine the fee recommended. The Numerical Score for each IWO is derived using the following formula:

$$IWO\ Numerical\ Score\ (\%) = 66.67\left[2.5 - \frac{\{\#\ days\ to\ complete - \#\ days\ (*)\}}{Estimated\ \#\ days\ to\ complete}\right]$$

$(*)\ Parts = 14$

$Factory\ service = 21$

$Warranty\ service = 25$

$TAM\ authorized = \text{variable}$

note : *if timeliness is less than zero then timeliness equals zero*

Cost Performance will be evaluated by comparing the actual cost incurred for CLIN **4** to the baseline value for CLIN **4,** which is the contract value (proposed cost). The Contractor may submit a month-by-month time-phased baseline plan for each year of the contract, so long as the sum of the baseline values for the 12 individual months equals the contract value for that contract year. Cost Performance will carry a weight of 25% for CLIN **4.** A numerical score will be assigned for cost performance under CLIN **4** using the following scoring scheme:

- When actual cost = baseline cost for the **AF** Period, Cost Score = 90%.
- When actual cost > baseline cost for the **AF** Period, Cost Score = 90% - (2 × n).
  [n is the percentage by which actual cost exceeds baseline; a Cost Score of 60% or less (n greater than or equal to 15%) will result in a score of zero percent for the cost factor under CLIN 4.]
- When actual cost < baseline cost for the **AF** Period, Cost Score = **90%** + n.
  [n is the percentage by which actual cost is below the baseline; the cost score cannot exceed 100%.]

****

Management - This factor is evaluated at the contract level, and carries a weight of 15% of the total available fee for CLM's 1 - **4** for each Award Fee Period. The effectiveness of the Contractor's overall management will be evaluated. Consideration will be given to:

1. Technical - Recognition and resolution of technical problems; quality and timeliness of required routine operating reports and other technical documentation; extent, quality, and timeliness of corporate level support and assistance provided to the local staff; and any other factors relevant to technical management performance.

2. Business - Recognition and resolution of business problems; quality and timeliness of required documentation; cooperation and working relationships with Government personnel; compliance with contract terms and conditions; adequacy and soundness of Contractor management systems such as purchasing and subcontracting, time and attendance, efficiency in task order placement, and Government Property control; extent, quality, and timeliness of corporate level support and assistance provided to the local staff; and any other factors relevant to business management performance.

Both coordinators will consider any other actions which significantly contribute to or detract from effective management. If the Contractor's failure to successfully complete work in a timely fashion prevents a critical research facility or project from meeting its test schedules, the score under the Management Factor will be severely impacted, and may result in a rating of Poor/Unsatisfactory.

Utilization of Small Disadvantaged Business (SDB) Subcontractors - This factor is evaluated at the contract level, and carries a weight of 10% of the total available fee for CLIN's 1 - 4 for each Award Fee Period. The effectiveness of the Contractor'soverall SDB utilization will be evaluated. Consideration will be given to:

1. SDB Performance of Work - (5% weight) The effectiveness of the overall technical performance on work assigned by the Contractor to SDB's will be evaluated. Consideration will be given to quality and timeliness, using the metrics for the specific CLIN(s) under which the SDB firm(s) performed during the period.

2. Mentor-Protégé Program Performance - (5% weight) Performance of the Contractor in its mentor role will be evaluated. Consideration will be given to the following:

   a) Specific actions taken by the Contractor during the evaluation period to increase the participation of proteges as subcontractors and suppliers.

   b) Specific actions taken by the Contractor during the evaluation period to develop the technical and corporate administrative experience of each protege as defined in the Mentor-Protege Agreement(s).

   c) The extent to which each protege has met the developmental objectives in the agreement(s).

   d) The extent to which each protege's participation in the Mentor-Protege Program has resulted in the protege receiving contracts and subcontracts from private firms (other than the mentor) and from Government agencies through competitive procurements.

(NOTE: If the prime Contractor does not propose Mentor-Protege Program participation and is not a small business, then the 10% weight will be used to evaluate the Contractor's actual subcontracting performance against the goals set forth in their Small and Small Disadvantaged Business Subcontracting Plan. Goals will be proposed as a percentage of estimated contract cost, and performance will be measured as percentage of cost incurred.)

PART IV - CHANGES TO EVALUATION PLAN

Throughout the period of performance, both parties to the contract are encouraged to submit suggestions for changing management emphasis, motivating higher performance levels, or improving the evaluation process. Both the Government and the Contractor should work to eliminate any unnecessary contractual, organizational, or conceptual barriers that diminish information sharing and other communications needed for successfuljoint problem solving.

Any changes to this Award Fee Evaluation Plan will be made by the AFEB. Changes will be made available to the Contractor, through the Contracting Officer, prior to the first evaluation period in which the change will be effective.

EXHIBIT A

SCORING GUIDELINES

Each evaluation factor is scored based on these guidelines. The determining percentage for each factor is weighted to derive a recommended award fee rating.

Adjective	Description	Performance Points
Excellent	Of exceptional merit; exemplary performance in a timely, efficient, and economical manner; very minor (if any) deficiencies with no adverse effect on overall performance.	91-100
Very Good	Very effective performance, fully responsive to contract requirements accomplished in a timely, efficient, and economical manner for the most part. Only minor deficiencies.	81-90
Good	Effective performance; fully responsive to contract requirements; reportable deficiencies, but with little identifiable effect on overall performance.	71-80
Satisfactory	Meets or slightly exceeds minimum acceptable standards; adequate results. Reportable deficiencies with identifiable, but not substantial, effects on overall performance.	61-70
Poor/ Unsatisfactory	Does not meet minimum acceptable standards in one or more areas; remedial action required in one or more areas; deficiencies in one or more areas which adversely affect overall performance	0*

* Any factor/subfactor (either at the CLIN or contract level) receiving a rating of Poor/Unsatisfactory will be assigned zero performance points for the purposes of calculating the award fee amount. An aggregate rating for all factors of Poor/Unsatisfactory will result in a fee of zero dollars for the period.

Cost Factor Score Limitations: The Contractor will normally be rewarded for an underrun within its control, up to the maximum score allocated for Cost, provided the weighted average numerical rating for all other evaluation factors is 81 or greater. An underrun shall be rewarded as if the Contractor has met the estimated cost of the CLIN, Task Order, or ESR when the weighted average numerical rating for all other factors is less than 81 but greater than 60. A score of zero for Cost shall be given if the weighted average numerical rating for all other evaluation factors under a CLIN, Task Order, or ESR is iess than 61.

EXHIBIT B

ACTIONS AND SCHEDULES FOR AWARD FEE DETERMINATIONS

The following is a summary of the principal actions involved in determining the award fee for each evaluation period and meeting NASA's metrics for Contractor Notification and Payment of Fee.

	Action	Schedule (Calendar Days)
1.	AFEB Chair and members appointed	Prior to contract award.
2.	AFEB considers reports and other requested performance information.	on-going
3.	Contractor submits self-evaluation report.	NLT 10 business days after end of each award fee period.
4.	AFEB meets and summarizes preliminary findings.	NLT 37 calendar days after end of each award fee period.
5.	AFEB meets with the Contractor to discuss preliminary findings.	NLT 38 calendar days after end of each award fee period.
6.	AFEB establishes findings and recommendations for the AFER.	NLT 39 calendar days after end of each award fee period.
7.	AFEB submits AFER to the FDO.	NLT 40 calendar days after end of each award fee period.
8.	FDO considers the AFER and discusses it with AFEB, as appropriate.	NLT 43 calendar days after end of each award fee period.
9.	FDO sends award fee determination memorandum to C.O.	NLT 44 calendar days after end of each award fee period.
10.	**C.O. sends award fee notification letter to Contractor**	**NLT * 45 calendar days after end of each award fee period.**
11.	**Payment made to Contractor.**	**NLT * 60 calendar days after end of each award fee period.**

*** NASA Award Fee Payment Metrics**

ATTACHMENT 5

INSTRUMENTS CALIBRATED/REPAIRED

Note: This attachment is in the form of an Excel 7.0 spreadsheet, and is provided as a stand-alone document Ne.

ATTACHMENT 5

EQUIPMENT CALIBRATED/REPAIRED 1996

EQUIPMENT TYPE	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
General Purpose Electronic Test Equipment	92	112	150	92	109	144	81	113	145	82	108	88	1,316
Electro-Mechanical Equipment	52	99	85	86	66	84	84	113	139	54	93	63	1,018
Pressure, Vacuum & Flow transducers, gauges, meters	211	243	404	201	230	181	127	143	409	120	105	167	2,541
Accelerometers, Vibration & displacement transducers	28	266	285	97	100	67	60	103	76	34	69	50	1,235
Temperature, Voltage, Current, Resistance, Acoustic Calibrations	83	215	298	240	244	239	184	211	282	105	149	202	2,452
Mobile Calibration Carts (CLIN 4)	201	177	94	129	230	198	179	273	268	257	214	205	2,425
Computers & Peripherals (CLIN 4)	270	272	332	330	254	300	292	227	285	156	202	182	3,102
	937	1,384	1,648	1,175	1,233	1,213	1,007	1,183	1,604	808	940	957	14,089

NOTE: Approximately 30% of the work in the first three categories in the above table was performed on-site (CLIN 4); all work in the table not identified as CLIN 4 work is CLIN 2 work.

ATTACHMENT 6

EQUIPMENT TO BE DELIVERED FOR RECEIPT, INSPECTION, AND ACCEPTANCE AT CONTRACTOR OPERATED FACILITY

1. Accelerometers and Angle-of-Attack (AOA) packages
2. Rate Sensors and Gyros
3. LVDT's
4. Tachometers
5. String Pots and Potentiometers
6. Velocity Pickups
7. Electrolytic Bubbles and Tilt Sensors
8. Inclinometers
9. Impact Hammers
10. Displacement Sensors
11. Synchro Resolvers
12. Resistance Temperature Detectors (RTD)
13. Thermocouple Wire
14. Pressure Transducers and Sensors
15. Oxygen Monitors
16. Vacuum Controllers (Ionization gages)
17. Flowmeters

Total Number Acceptance Tested in 1996 was 192 instruments

ATTACHMENT 7

ENGINEERING SERVICE REQUEST

NATIONAL AERONAUTICS *AND* SPACE ADMINISTRATION
LANGLEY RESEARCH CENTER, HAMPTON, VIRGINIA

Engineering Service Request # _____
Name/Title of Service Request:_____
Contractor Contact:_____
Customer Contact:_____Org. Code_____
Job Order Number:_____

Initiate Date:_____
Required Completion Date:_____

Location: Facility_____ Building_____ Room_____

CUSTOMER REQUIREMENTS

_____
_____
_____
_____
_____

Contractor Estimated: Labor $ _____ Materials $ _____

Contractor Authorizing Official: Name_____ Date_____

NASA TAM / COTR approval: Name_____ Date_____
Configuration Control Required: *Yes* — No____

ESR REMARKS and ACTIVITY

_____
_____
_____
_____

Completed by: Name(s) _____
Actual Completion Date:_____
Actual Labor Cost:_____
Actual Materials $:_____

RATING:_____

ATTACHMENT 8

TASK ORDER REQUEST (SAMPLE)

This document is used to define **Task** Order Requirements for work to be performed under the RIMS contract.

1) REQUESTOR INFORMATION:

REQUESTER NAME _____ ORG. CODE _____

REQUESTER PHONE _____ MAIL STOP _____

REQUESTER SIGNATURE _____ DATE: _____

DSISB BRANCH LEVEL SIGNATURE _____ DATE: _____

MONITOR SIGNATURE _____ DATE: _____

CONTRACT MANAGER SIGNATURE _____ DATE: _____

COTR SIGNATURE _____ DATE: _____

CONTRACT OFFICER SIGNATURE _____ DATE: _____

TASK ORDER FEE ARRANGEMENT (TOFA): _____

CRITICAL TASK: YES __NO___

ELEMENTS WEIGHTS:

PERFORMANCE	____%
SCHEDULE	____%
COST	___%

A MINIMUM NUMERICAL SCORE OF **61** FOR EACH ELEMENT MUST BE MET TO EARN ANY FEE

ATTACHMENT 9

TASK ORDER REQUEST INFORMATION FORMAT
(SAMPLE)

This task order request statement of requirements is intended to (check one) :
-------- Initiate a new **task** order with the Contractor
-------- Modify existing **Task** Order Number: ----------

NAME OF TASK ORDER: _____

PLANNED START DATE :_____ **PLANNED STOP DATE:** _____

Please describe in general terms the task order requirements , including the goals of the **task** order.

1.0 GOALS: Describe the anticipated result(s) expected upon successful completion of this task order.

2.0 BACKGROUND: List all related issues (hardware, software, environments, schedules and etc.) which may have an effect on this task order.

3.0 PRELIMINARY REQUIREMENTS: The information needed here includes a description of the work to be done, the milestones, the required schedule, and any known constraints. Include the pertinent information for each work element in the task order. Attach additional pages as needed.

3.1 DESCRIPTION OF WORK: Explain and describe in detail in the nature and scope of the work being requested.

3.2 MILESTONES AND SCHEDULE: List all known and required milestones with calendar dates associated with this request.

4.0 DRAWINGS: Include all visual aids including but not limited to drawings, charts, diagrams, schematics, pictures, photographs, etc. that are relative and pertinent for clarification of the work being requested.

ATTACHMENT 9
(continued)

5.0 DELIVERABLES: This is the heart of the performance based contracting system in obtaining adequate and identifiable metrics for task orders. Please be specific, thorough, and concise when selecting deliverable items associated with your task order request. Identify and list all deliverables items (hardware, requirements, designs, estimates , interfaces, demonstrations, status reports, training, documentation , test plan, etc.) which are pertinent to the requested task order, with associated schedule dates as expected for successful completion of the work being requested.

6.0 EQUIPMENT TO BE FURNISHED: List all Equipment to be Furnished with associated dates of available use that will be required for successful completion of the work being requested.

7.0 REQUIREMENTS FOR MEETINGS AND REVIEWS WITH CONTRACTOR TASK MANAGER: State the type and frequency of review /meetings required and/or expected between the Contractor and Government technical representative.

8.0 TASK ORDER INCENTIVE FEE CRITERIA: Select and specify the proposed type of incentive fee that is to be used in performance rating of this work request (Reference Task Fee Arrangement - Attachment A)

9.0 LOCATION AND SHIFT REQUIREMENTS: Specify location(s) where work is to be performed and where final work is to be delivered/operational. Also note any scheduling/ shift changes other than first shift operation requirements.

(NOTE: This form is submitted by the end user to the Task Area Monitor to initiate the task order placement process.)

ATTACHMENT 10

BIDDER'S LIBRARY CONTENTS

1.	Sample Work Orders - Instru. And Repair	
2.	Sample Instrumentation Service Requests	
3.	Shipping/Transfer Document	IRD N-620
4.	Work Order & Shipping Memo	LaRC 165
5.	Receipt & Inspection Report (Cancellation or Correction)	LaRC 32
6.	Receipt & Inspection Report (Nonstandard Items)	LaRC 131
7.	Maintenance Shipping Form	LaRC 145
8.	Maintenance Shipping Form (Continuation)	LaRC 145A
9.	Delivery Ticket	LaRC 68
10.	Instrument/Controlled Property Delivery Ticket	LaRC 162
11.	LaRC Metrology Program	LHB 5330.9
12.	NASA Equipment Management User's for Property Custodians	NHB 4200.2A
13.	Equipment Management Manual	NHB 4200.1d
14.	Instrument Loan Pool Catalog	9/92
15.	ANSI/NCSL 2540-1-1994	
16.	NASA Metrology & Calib. Program	LO-PL-5
17.	ISO 9001	1987-03-15
18.	User's Guide of the Product Specification of the INFOPC	SD621 10 453R1-D6
19.	NASA Software Documentation STD	NASA STD-2100-91
20.	Sample Work Orders - Hardware & Software	

ATTACHMENT 11

COST FORMS AND INSTRUCTIONS

Note: This attachment is in the form of a Lotus 1-2-3 file, and is provided as a stand-alone document file.

CONTRACTOR:_____
Research Instrumentation and Measurement Services (RIMS)
Solicitation 1-137-GH.2959

COST FORM A
PROPOSED COSTS FOR TOTAL EFFORT
Solicitation 1-137-GH.2959 - RIMS

PROPOSER:_____

	TOTAL	PHASE-IN	INITIAL PERIOD (Year 1)	FIRST OPTION (Year 2)	SECOND OPTION (Year 3)	THIRD OPTION (Year 4)	FOURTH OPTION (Year 5)
DIRECT LABOR HOURS:							
Straight Time							
Overtime							
Subcontract							
Total Direct Labor Hours							
DIRECT LABOR COSTS:							
Straight Time							
Overtime Excluding Premium							
Overtime Premium							
Subcontract							
Total Direct Labor Costs							
OVERHEAD:							
Payroll Taxes/Fringe Benefits							
Other Overhead							
Total Overhead							
OTHER:							
Profit and Costs Other than Labor							
in Direct Labor Subcontracts							
Allocated Labor Other than G&A							
Supplies/Material Costs							
GP Plant Equipment Costs (CLINs 2, 3, 4)							
Spare Parts (CLINs 2 & 4)							
Data Sys Hardware/Software (CLIN 3)							
Travel							
Business License Tax							
Costs not Shown Elsewhere							
Total ODC							
G&A							
FCCOM							
TOTAL COST							
FEE							
COST PLUS ξξξ							

NOTES
(1) Cost Form A is the summary of all proposed costs. It summaries Cost Forms A1-A4, which are the details of CLINs 1-4.
(2) Provide formulas (bases and rates) used to derive all dollars shown on all Cost Forms)

DISKETTE INSTRUCTIONS FOR COST FORMS A-C

1. NASA Langley Research Center thanks you for your interest in this procurement. We, like all organizations, are finding ways to improve efficiency. Although your cost proposal must be submitted on a SF 1448 and supported as required by Table 15-3, we now require "selected" cost information (Cost Forms A-C) to be submitted in a NASA designated format. This reduces duplication of effort, minimizes errors, and allows a consistent evaluation of all proposals. Your help in this matter is extremely important. Following the instructions found in Section L.33.D. 1. of the RFP and those below will help insure a timely and fair evaluation.

2. Submit all Cost Forms A-C, along with supporting rates and factor data, under a single file name. This allows data produced by formulas, referenced cells, etc. to "flow" through the applicable portions of all Cost Forms.

3. Identify, explain, and reconcile any differences between Cost Form classifications and/or rates and those classifications and/or rates in your established accounting system. This establishes an audit trail from the Cost Forms to DCAA approved rates and factors.

4. Do not move cells and do not insert or delete rows or columns (the exception is the line spacing on Forms B1 and C1). This makes your proposal data on the Cost Forms compatible with our evaluation software. However, you may change column widths, formats, fonts, etc.

5. Provide two copies of your diskette(s) to allow evaluation in the event one is damaged.

6. Your diskettes shall be true self-calculating, i.e., including all rates, factors, and formulas used to derive your costs. If possible, do not use absolute values; however, if absolute values are used they must be explained and their values supported. This allows for verification of formulas and lets changes "flow" through the Cost Forms.

7. Read carefully and follow the instructions provided as "NOTES on each Cost Form.

8. Cost Forms A: The 'Total Direct Labor Hours" should correspond to those hours specified in paragraph L.33.D. 1.c.(2) of the RFP and those itemized on Cost Form B. Any variance shall be explained according to the instructions of that paragraph.

9. Cost Forms A: "Subcontract Direct Labor Costs" plus "Profit and Costs Other than Labor in Direct Labor Subcontracts" shall equal the SF 1448's submitted by Subcontractors and be supported by their **fully** executed Cost Forms A-C.

10. Cost Forms **A:** The costs shown for "Payroll Taxes/Fringe Benefits" will not necessarily correlate with Cost Form C; however, the derivations of the cost must be traceable and their relationship clear.

11. Cost Forms **A:** "Other Overhead should include costs of elements in your overhead pool other than those payroll taxes and fringe benefits detailed on Cost Form C. Costs on this line shall be itemized and **fully** explained.

12. Cost Forms **A:** "OTHER: Costs not Shown Elsewhere" are other direct costs not included in other lines. They shall be itemized and fully explained and supported.

13. Cost Form B: Labor Category "Other" is to be used if you propose to use a labor category other than those listed to perform the direct labor hours in each CLIN. If more than one additional category is proposed for each CLIN, put the composite information on this line, itemizing and detailing as backup.

BEFORE YOU SUBMIT THIS COST PROPOSAL:

- Be sure you have complied with the instruction provided in Section L.33.D.1. of the RFP and on the diskette.
- Verify the cell contents are showing formulas rather than absolute values.
- Confirm all categories and elements been addressed.
- Delete this instruction sheet from your spreadsheet.
- Save all Cost Forms and supporting data under a single file name.

COST FORM A1
PROPOSED COSTS FOR TOTAL EFFORT - CLIN 1
Solicitation 1-137-GH.2959 - RIMS

PROPOSER:_____

	TOTAL	PHASE-IN	INITIAL PERIOD (Year 1)	FIRST OPTION (Year 2)	SECOND OPTION (Year 3)	THIRD OPTION (Year 4)	FOURTH OPTION (Year 5)
DIRECT LABOR HOURS: (Note 1)							
Straight Time							
Overtime							
Subcontract							
Total Direct Labor Hours							
DIRECT LABOR COSTS: (Note 1)							
Straight Time							
Overtime Excluding Premium							
Overtime Premium							
Subcontract							
Total Direct Labor Costs							
OVERHEAD:							
Payroll Taxes/Fringe Benefits (Note 2)							
Other Overhead (Note 3)							
Total Overhead							
OTHER:							
Profit and Costs Other than Labor							
in Direct Labor Subcontracts							
Allocated Labor Other than G&A (Note 4)							
Supplies/Material Costs							
Travel (Note 5)							
Business License Tax							
Costs not Shown Elsewhere (Note 3)							
Total ODC							
G&A							
FCCOM							
TOTAL COST							
FEE							
COST PLUS FEE							

NOTES

(1) Support with Cost Form B.
(2) Support with Cost Form C for Year 1 (See Note 4 on Cost Form C).
(3) Itemize and provide details.
(4) Include any portion of "Allocated Labor Other than G&A" that is normally in your "Overhead" under "Other Overhead
(5) Include the $35,000 annual estimate specified in Solicitation paragraph D.1.c.(7).

COST FORM A2

PROPOSED COSTS FOR TOTAL EFFORT - CUN 2

Solicitation 1-137-GH.2959 - RIMS

PROPOSER: _____

	TOTAL	PHASE-IN	INITIAL PERIOD (Year 1)	FIRST OPTION (Year 2)	SECOND OPTION (Year 3)	THIRD OPTION (Year 4)	FOURTH OPTION (Year 5)
DIRECT LABOR HOURS: (Note 1)							
Straight Time							
Overtime							
Subcontract							
Total Direct Labor Hours							
DIRECT LABOR COSTS: (Note 1)							
Straight Time							
Overtime Excluding Premium							
Overtime Premium							
Subcontract							
Total Direct Labor Costs							
OVERHEAD:							
Payroll Taxes/Fringe Benefits (Note 2)							
Other Overhead (Note 3)							
Total Overhead							
OTHER:							
Profit and Costs Other than Labor							
in Direct Labor Subcontracts							
Allocated Labor Other than G&A (Note 4)							
Supplies/Material Costs							
GP Plant Equipment Costs	$125,000		$25,000	$25,000	$25,000	$25,000	$25,000
Spare Parts	$1,250,000		$250,000	$250,000	$250,000	$250,000	$250,000
Travel							
Business License Tax							
Costs not Shown Elsewhere (Note 3)							
Total ODC							
G&A							
FCCOM							
TOTAL COST							
FEE							
COST PLUS FEE							

NOTES

(1) Support with Cost Form B.

(2) Support with Cost Form C for Year 1 (See Note 4 on Cost Form C).

(3) Itemize and provide details.

(4) Include any portion of "Allocated Labor Other than G&A" that is normally in your "Overhead" under "Other Overhead."

COST FORM A3
PROPOSED COSTS FOR TOTAL EFFORT - CLIN 3
Solicitation 1-137-GH.2959 - RIMS

PROPOSER:_____

	TOTAL	PHASE-IN	INITIAL PERIOD (Year 1)	FIRST OPTION (Year 2)	SECOND OPTION (Year 3)	THIRD OPTION (Year 4)	FOURTH OPTION (Year 5)
DIRECT LABOR HOURS: (Note 1)							
Straight Time							
Overtime							
Subcontract							
Total Direct Labor Hours							
DIRECT LABOR COSTS: (Note 1)							
Straight Time							
Overtime Excluding Premium							
Overtime Premium							
Subcontract							
Total Direct Labor Costs							
OVERHEAD:							
Payroll Taxes/Fringe Benefits (Note 2)							
Other Overhead (Note 3)							
Total Overhead							
OTHER:							
Profit and Costs Other than Labor							
in Direct Labor Subcontracts							
Allocated Labor Other than G&A (Note 4)							
Supplies/Material Costs							
GP Plant Equipment Costs	$75,000		$15,000	$15,000	$15,000	$15,000	$15,000
Data Sys Hardware/Software	$6,250,000		$1,250,000	$1,250,000	$1,250,000	$1,250,000	$1,250,000
Travel (Note 5)							
Business License Tax							
Costs not Shown Elsewhere (Note 3)							
Total ODC							
G&A							
FCCOM							
TOTAL COST							
FEE							
COST PLUS εεε							

NOTES
(1) Support with Cost Form B.
(2) Support with Cost Form C for Year 1 (See Note 4 on Cost Form C).
(3) Itemize and provide details.
(4) Include any portion of "Allocated Labor Other than G&A" that is normally in your "Overhead" under "Other Overhead."
(5) Include the $50,000 annual estimate specified in Solicitation paragraph D.1.c.(7).

COST FORM A4
PROPOSED COSTS FOR TOTAL EFFORT - CLIN 4
Solicitation 1-137-GH.2959 - RIMS

PROPOSER:_____

	TOTAL	PHASE-IN	INITIAL PERIOD (Year 1)	FIRST OPTION (Year 2)	SECOND OPTION (Year 3)	THIRD OPTION (Year 4)	FOURTH OPTION (Year 5)
DIRECT LABOR HOURS: (Note 1)							
Straight Time							
Overtime							
Subcontract							
Total Direct Labor Hours							
DIRECT LABOR COSTS: (Note 1)							
Straight Time							
Overtime Excluding Premium							
Overtime Premium							
Subcontract							
Total Direct Labor Costs							
OVERHEAD:							
Payroll Taxes/Fringe Benefits (Note 2)							
Other Overhead (Note 3)							
Total Overhead							
OTHER:							
Profit and Costs Other than Labor							
in Direct Labor Subcontracts							
Allocated Labor Other than G&A (Note 4)							
Supplies/Material Costs							
GP Plant Equipment Costs	$50,000		$10,000	$10,000	$10,000	$10,000	$10,000
Spare Parts	$2,500,000		$500,000	$500,000	$500,000	$500,000	$500,000
Travel							
Business License Tax							
Costs not Shown Elsewhere (Note 3)							
Total ODC							
G&A							
FCCOM							
TOTAL COST							
FEE							
COST PLUS FEE							

NOTES
(1) Support with Cost Form B.
(2) Support with Cost Form C for Year 1 (See Note 4 on Cost Form C).
(3) Itemize and provide details.
(4) Include any portion of "Allocated Labor Other than G&A" that is normally in your "Overhead" under "Other Overhead."

COST FORM B

DETAILS OF PRODUCTIVE HOURS AND DIRECT LABOR COSTS

Solicitation 1-137-GH.2959 - RIMS

PROPOSER:_____

YEAR _____ LABOR CATEGORY	NO. OF POSIT.	RODUCT-IVE MAN-YEAR	STRAIGHT-TIME HOURS	OVERTIM HOURS	HOURLY LABOR RATE	HOURLY LABOR RATE	STRAIGHT-TIME COSTS	OVERTIME COST (EXCLUDING PREMIUM)	OVERTIME PREMIUM COST
CLIN 1									
Engineers (E.E. and M.E.)									
Systems Analyst/Programmer									
Calibration Technician									
Electronic Technician									
Production Control Specialist									
Clerical									
Technical Editor									
Other (Note 3)									
Total - CLIN 1									
CLIN 2									
Engineers (E.E. and M.E.)									
Sr. Engineering Technician									
Calibration Technician									
Electronic Technician									
Machinist									
Other (Note 3)									
Total - CLIN 2									
CLIN 3									
Engineers (E.E. and M.E.)									
Acoustical Engineer									
Laser/Optical Engineer									
Digital Systems Engineer									
Systems Analyst/Programmer									
Sr. Engineering Technician									
Engineering Technician									
Other (Note 3)									
Total CLIN 3									
CLIN 4									
Engineers (E.E. and M.E.)									
Sr. Engineering Technician									
Calibration Technician									
Electronic Technician									
Other (Note 3)									
Total - CLIN 4									
YEAR TOTAL									

NOTES

(1) Provide formulas (bases and rates) used to derive all dollars shown.

(2) Annotate with a # any category provided by a subcontractor, in whole or in part. Provide separate Cost Forms for prime and subcontractor data.

(3) If you propose any categories not listed above, provide details and explain.

COST FORM B1

DETAILS OF PRODUCTIVE HOURS AND DIRECT LABOR COSTS

Solicitation 1-137-GH.2959 - RIMS

PROPOSER:_____

YEAR _____	NO. OF POSIT.	PRODUCTIVE MAN-YEAR	STRAIGHT-TIME HOURS	OVERTIM HOURS	HOURLY LABOR RATE	HOURLY LABOR RATE	STRAIGHT-TIME COSTS	OVERTIME COST (EXCLUDING PREMIUM)	OVERTIME PREMIUM COST

Other than G&A" and Overhead personnel allocable to this contract.

(1) Provide formulas (bases and rates) used to derive all dollars shown.

(2) Specify where these costs are reflected in your proposal.

(3) If you propose any categories not listed above, provide details and explain.

COST FORM C

DETAILS OF YEAR 1 PAYROLL TAX AND FRINGE BENEFIT COSTS FOR DIRECT LABOR POSITIONS

Solicitation 1-137-GH.2959 - RIMS

PROPOSER:_____

LABOR CATEGORY	NO. OF POSIT.	TOTAL	FICA	FUI	SUI	WORKER'S COMP	GENERAL LIABILITY INSURANCE	MEDICAL/ DENTAL INSURANCE	PAID ABSENCE	PENSIONS/ SAVINGS PLANS	OTHER (Note 3)
CLIN 1											
Engineers (E.E. and M.E.)											
Systems Analyst/Programmer											
Calibration Technician											
Electronic Technician											
Production Control Specialist											
Clerical											
Technical Editor											
Other											
Total - CLIN 1											
RATE (Note 4)											
CLIN 2											
Engineers (E.E. and M.E.)											
Sr. Engineering Technician											
Calibration Technician											
Electronic Technician											
Machinist											
Other											
Total - CLIN 2											
RATE (Note 4)											
CLIN 3											
Engineers (E.E. and M.E.)											
Acoustical Engineer											
Laser/Optical Engineer											
Digital Systems Engineer											
Systems Analyst/Programmer											
Sr. Engineering Technician											
Engineering Technician											
Other											
Total CLIN 3											
RATE (Note 4)											
CLIN 4											
Engineers (E.E. and M.E.)											
Sr. Engineering Technician											
Calibration Technician											
Electronic Technician											
Other											
Total - CLIN 4											
RATE (Note 4)											

NOTES

(1) Provide formulas (bases and rates) used to derive all dollars shown.

(2) Annotate with a # any category provided by a subcontractor, in whole or in part. Provide separate forms for prime and subcontractor data.

(3) Use "Other" for any payroll tax or fringe benefit not listed. Itemize and explain.

(4) If the "Total" rate does not equal your overhead rate, explain and specify where any additional overhead costs are in your proposal. IF THESE CALCULATIONS OR RATES DIFFER SIGNIFICANTLY IN YEARS 2-5, COMPLETE THIS COST FORM FOR THOSE YEARS ALSO.

COST FORM C1

DETAILS OF YEAR 1 PAYROLL TAX AND FRINGE BENEFIT COSTS FOR NON-PRODUCTIVE LABOR POSITIONS

Solicitation 1-137-GH.2959 - RIMS

PROPOSER:_____

LABOR CATEGORY	NO. OF POSIT.	TOTAL	FICA	FUI	SUI	WORKER'S COMP	GENERAL LIABILITY INSURANCE	MEDICAL/ DENTAL INSURANCE	PAID ABSENCE	PENSIONS/ SAVINGS PLANS	OTHER (Note 3)

NOTES

Use this form to list labor categories and detail payroll tax and fringe benefit costs for "Allocated Labor Other than G&A" and Overhead personnel allocable to this contract.

(1) Provide formulas (bases and rates) used to derive all dollars shown.

(2) Specify where these costs are reflected in your proposal.

(3) Use "Other" for any payroll tax or fringe benefit not listed. Itemize and explain.

(4) IF THESE CALCULATIONS OR RATES DIFFER SIGNIFICANTLY IN YEARS 2-5, COMPLETE THIS FORM FOR THOSE YEARS ALSO.

ATTACHMENT 12 - DRAFT RFP QUESTIONS AND ANSWERS

RFP 1-137-GH.2959

Research Instrumentation & Measurement Support (RIMS)

1. Q: "Is the Contractor's proposal rated on their understanding of the SOW or only on the 7 QEC's?

Q: "It is our understanding based on paragraph C, section L.33, part IV "TECHNICAL PROPOSAL. - (VOLUME I): FACTOR 1 - QUALITATIVE MERIT" of the (Draft RFP) that a fully responsive technical proposal need only address the seven Qualitative Evaluation Criteria listed there, and need not specifically address the Statement of Work as defined in Section C Part I of the (Draft RFP). Is our understanding correct? If our understanding is not correct, can you please explain?"

A: Due to a change to NASA Source Evaluation Board (SEB) procedures, the QEC's have been replaced by a Mission Suitability Factor. The Subfactors and Elements of the Mission Suitability Factor are identical to the QEC's, with the exception of QEC 4, which has been deleted and will be replaced in the final RFP. The Contractor's Technical (Volume I) Proposal will be evaluated on the Contractor's response to the various Subfactors and Elements within Mission Suitability. One of the Elements (Element E of Subfactor 1) now calls for a section-by-section discussion of Statement of Work understanding. **THIS IS A CHANGE FROM THE ANSWER THAT WAS GIVEN AT THE PRESOLICITATION CONFERENCE.**

2. Q: "Who transports large equipment items (to be serviced) ?"

A: While most large instruments and ADP equipment will be repaired or calibrated on site at NASA Langley (LaRC), those large items that do require shipment to the Contractor's facility will be moved by the Government or one of its support service Contractors (other **than** the RIMS Contractor) at the Government's expense. (Large is defined **as** "over 50 lbs. and/or of physical dimensions such that lifting or moving cannot be safely accompiished by one person".)

3. Q: "Why the tighter environmental specs for labs - ± 2" C vs. ± 10" F in current contract?"

A: The ± 2" C specifications will only apply to Calibration Lab Environments. This requirement should have been in the current contract, but was inadvertently omitted. All other labs must meet ± 5" C. The final RFP will reflect these changes.

4. Q: "Is 1,000 NEMS transactions/year accurate?"

A: No. There are approximately 1,000 NEMS transactions per month, as is stated in Statement of Work paragraph 1.3.5.

5. Q: "Is 7,000 repair/calibration actions per year accurate?"

A: No - the total repair and calibration workload (CLINs 2 & 4) for 1996 was approximately 14,000 items. See RFP Attachment 5 for details.

6. Q: "Define 1/2 hour response."

A: "Response Time" is defined in the Scope paragraph of the Statement of Work.

7. Q: "How many Loan Pool issues were there from the 5,000 item inventory during 1996?"

A: There were 14, 316 Loan Pool **transactions** in 1996. "Transactions" consists of the following, each of which is considered a separate transaction: (1) issuance of a Loan Pool item; (2) return of a Loan Pool item; (3) extension of a current loan; (4) sending a Loan Pool item out for calibration or repair; and (5) receiving a Loan Pool item back from calibration or repair.

8. Q: "How many calls were answered for (Loan Pool) application or use advise during 1996?"

A: Approximately one per business day.

9. Q: "Are the Loan Pool items maintained calibrated or calibrated before use?'

A: Loan Pool items are maintained and calibrated under CLIN 2 (also see question 10 below).

10. Q: "Are they (Loan Pool items) calibrated after use, before going back to the Loan Pool?"

A: General purpose test equipment is not calibrated upon return to the Loan Pool, unless it is due for periodic calibration. Sensors and Transducers are always calibrated upon return to the Loan Pool.

11. Q: Are copies of forms available for bidders, or can copies be made at the bidders library? Examples: Form 131, (LF) 32, 165, Form N-620, NASA Form 165, 162.

A: Copies of these forms can be made at the bidders library. They may also be viewed on the internet at the following URL: **http://www-imforms.larc.nasa.gov**

12. Q: "Are Government-furnished vehicles provided to support CLIN 1 work?"

A: No, except for transport of large items (see question 2 above).

13. Q: "How many computers are provided to the Contractor as INFOPC LAN support?"

A: Approximately 40.

14. Q: "Is the INFOPC System now operating at the incumbent's facility with NEMS and WEB activity?'

A: Yes - web access is provided from 4 workstations. See SOW paragraph 1.5.4 for web page data transfer responsibilities.

15. Q: "What drives 14,000 calibrations with only 1,000 items on the instrument recall program?"

A: Facility test schedules are the main drivers of the calibration workload. *Also*, not all instruments are on the recall program.

16. Q: "Regarding the 80,000 item inventory with history records, what action is required of the Contractor other than historical records storage?

A: None, other than the proper input/processing of Instrument Work Orders (IWO's) in the INFOPC System.

17. Q: "Will the current library of hard copy and software calibration procedures be provided to the Contractor? How many four-drawer file cabinets are required to store the manuals?'

A: Yes. Approximately 200 four-drawer cabinets are required.

18. Q: "Is there a NASA LaRC Quality audit of the Contractor for compliance to ANSI/NCSL Z540-1?"

A: Yes - the Contractor will be subject to a possible Quality Audit by the **LaRC** Office of Safety, Environment, and Mission Assurance.

19. Q: "Will the present inventory of repair parts and common usage spares be provided to the Contractor, or will all stock require replenishment?"

A: The present inventory will be provided to the Contractor; however, replenishment of stock will be the responsibility of the Contractor.

20. Q: "Are the existing Sensors, Transducers and Instruments listed in the inventory of 80,000 items?'

A: Yes, they are included in the total of 80,000 items referenced in Statement of Work paragraph 1.5.2.

21. Q: "Does the inventory listing contain pertinent engineering specifications for the transducers?'

A: The listing includes the manufacturer's functional or performance specifications and calibration specifications for some items, but not engineering specifications such as physical dimensions.

22. Q: "In a case where the parts cost of $20,000 will be exceeded under an Engineering Service Request (ESR), what steps are required? Must a task order then be requested fiom the Contracting Officer?"

A: When the Contractor becomes aware that the cost of parts will exceed $20,000 during performance of an ESR, the Contractor must immediately notify the Contracting Officer **and** the COTR. It is anticipated that the Contracting Officer will grant approval to continue under the ESR format in most cases. This will not, however, excuse the Contractor fiom responsibility for the cost overrun in the award fee evaluation process. If a major change to the scope of an ESR pushes the estimated cost of parts and materials significantly above $20,000, a new Task Order will be required. These same guidelines apply to the $10,000 limit on loaded labor costs under ESRs as well.

23. Q: "Ref. 3.1 Application of Sensors: Is all installation and preparation work on models to be accomplished on-site at NASA provided facilities?'

A: Statement of Work paragraph 3.1 covers Sensors: Transducers and Instruments (STI). STI will not typically be installed on wind tunnel models by the RIMS Contractor, nor will the RIMS Contractor typically perform any wind tunnel model preparation functions. STI will be installed on some other test articles by the RIMS Contractor. Some of these installations will be on site, while others may be performed at the RIMS Contractor's facility. The proportion of on-site to off-site installation **work** is not known, since it varies greatly based on research requirements.

24. Q: "Is cable fabrication performed by the Contractor or by NASA?'

A: There is no specific requirement under the contract for "cable fabrication". When cabling is required as a **part** of a data acquisition system, the RIMS Contractor will be responsible for providing such cabling. Whether the cable is fabricated in-house or is subcontracted is up to the Contractor. While the Government does provide cable fabrication on a limited basis to the current Contractor, offerors are to assume for proposal purposes that neither the Government nor any of its contractors will provide cable fabrication services for the RIMS Contractor.

25. Q: "During on-site **DAS** operations, how often has third shift work been required of the support Contractor?"

A: Third shift data acquisition systems support varies with the research workload. Currently there are two full-time equivalents of effort dedicated to third shift **DAS** operations.

26. Q: ***"Are*** all requirements of 3.10, Documentation of Hardware and Software Configuration System Operational Procedures, Test Procedures and Results currently being met?"

A: Portions of this standard of documentation are applied on a case-by-case basis on the current contract. (With the implementation of ISO-9000 at Langley Research Center, it is expected that documentation requirements will increase under the new RIMS Contract. This increase is reflected in the labor hours provided in the Cost Proposal Instructions in L.33.)

27. Q: "Is the training indicated in 3.11 currently being documented? If so, Wall training records and course materials be available to the Contractor?"

A: Yes - the records and course materials will be provided to the successful Contractor.

28. Q: "Is the work (in CLIN **4)** limited to computers and peripherals or is other digital instrumentation involved?"

A: The work under CLIN **4** is not limited to computers and peripherals - please refer to Statement of Work paragraph **4.3.**

29. Q: "Is the midnight to 7:30 a.m. and weekend holiday support required continuously with personnel on site? Can one hour response be accomplished by on-call personnel throughout the year?"

A: Continuous on-site support under CLIN **4** is only required in selected facilities (currently the 14 x 22 Ft. Tunnel) at selected times; in all other cases an on-call personnel scheme **is** acceptable, so long as the required response times are met.

30. Q: "Will the present inventory of repair parts for computers and peripherals be provided to the Contractor?"

A: Yes; however, replenishment of this stock shall be the responsibility of the Contractor.

31. Q: "How many persons will require security clearances?"

A: It is estimated that approximately 35% of the Contractor's work force will require security clearances.

32. Q: "There appears to be no requirement for "key personnel". Will you have a key personnel requirement in the RFP? If so, can you define those requirements before the release of the RFP?"

A: There will be no "key personnel" requirement in the RFP.

33. Q: "In paragraph D, section L.33, Part IV you provide a table labeled "Estimated Skill Mix by Labor Categories and CLIN". There appears to be no qualifications defined for these labor categories. Will you define qualifications for these Iabor categories in the RFP? If so can you define the qualifications before the release of the RFP?"

A: Qualifications for the various labor categories will not be provided in the RFP. It is the responsibility of the offeror to determine and propose the qualifications and skills required based on the Statement of Work.

34. Q: "In paragraph C, section G.5, part I, PROVIDING FACILITIES TO CONTRACTORS, you provide two lists of equipment, GENERAL PURPOSE PLANT EQUIPMENT and SPECIAL TEST EQUIPMENT. Could you clarify which list contains facilities the contractor is responsible for replacing? Also, we have no basis to evaluate the operational status of the equipment. Is it your intention to provide an estimated cost for replacing facilities that reach the end of their useful life?

A: The Contractor is responsible for replacing the General Purpose Plant Equipment (GPPE) on the Government-Furnished Equipment List and the Installation-Provided Government Property List (all of which is GPPE) in accordance with the referenced Section G provision. The estimated annual costs for replacement of equipment for use in proposing ("plug numbers") will be included in the final RFP, and are as follows: CLIN 2 - $40K; CLIN 4 - $10K. All of the equipment to be furnished is in good or excellent condition.

35. Q: "Reference L.30, Proposal Page Limitations, sub-paragraph **b.** Does this paragraph apply to the Cost/Business Proposal?

A: Only the Technical Proposal (Volume I) is page limited. The Business Proposal (Volume II), which includes both Cost and Relevant Experience and Past Performance, is not page limited. However, information that belongs in Volume I cannot be included in Volume II. The wording of the section will be slightly revised in the final RFP to express the requirement more clearly.

36. Q: "Reference L.30, Proposal Page Limitations, sub-paragraph **b.** The 12 characters per inch requirements is difficult to interpret for modem proportional spaced typing. Is Helvetica 11-point type, under Microsoft Word, acceptable?"

A: The Contracting Officer does not have access to the font type referenced in the question, so a definitive answer cannot be provided; however, it is not expected that anything smaller than 12-point type, regardless of the font style employed, would meet the requirement.

37. Q: "Reference Cost Forms **A, A1,** A2, A3, and **A4.** Under Overhead, should "Total Fringes/Payroll Taxes" read: "Total Overhead" ?"

A: Yes. The forms will be revised for the final RFP.

38. Q: "Are there any exceptions to the Contract Specialist as single point of contact after final RFP issuance?

A: Yes. In the absence of the Contract Specialist, the Contracting Officer should be contacted. Also, the RFP designates two other points of contact for specific items. Jeanne Covington, the Price/Cost Analyst, is identified as the source for a disk containing the cost forms in Attachment 11 (these are also available on our web page), and Jim Walsh of ETTD is identified as the primary contact for admittance to the Bidders Library.

ATTACHMENT 13

RIMS PRESOLICITATION CONFERENCE - ATTENDEES LIST

NAME	COMPANY AFFILIATION	PHONE #
Jim Hooper	Radix Systems	(301)990-2840
Dan Seely	Space Applications Corp.	(703)242-4028
Leonard Melfi	STC	(757)865-0467
Charles S. Mote	PTSI	(770)396-0620
Thomas Pessa	PECO Nuclear	(610)971-7227
John Masten	Calspan SRL Corp.	(757)864-5156
Allen Kilgore	Calspan SRL Corp.	(757)864-5033
Rob Hodges	Micro Craft	(757)865-7760
Mike Doughery	Raytheon	(757)363-1273
Jalaiah Unnam	AS&M	(757)865-7093
Joel Trgsnansky (?)	Simco	(205)837-6996
Pete Haro	Self	(916)676-4276
James Fonner	Man Tech	(301)286-5684
Robert Swope	Man Tech	(301)286-3529
Richard White	Vigyan	(757)865-1400
Sudhir C. Mehrotra	Vigyan	(757)865-1400
Bill Holliday	Lord & Company	(757)825-8345
Marsha Holliday	Lord & Company	(757)825-8345
Art Friend	Science & Tech.	(757)229-8916
Greg Boeshaar	Science & Tech. Corp.	(757)865-1894
Cap Catalanotto	Calspan SRL	(757)864-6812
Bill Mahler	RSSC	(757)864-1095
Bill Kennedy	AS&M	(757)864-7093
Randy Edwards	Wyle	(757)865-0000
Ray Bates	Wyle	(757)865-0000
John Schwabe	Consultant	(301)942-1674
Lee Kenna	Simco	(408)727-3611
Earl German	Consultant	(757)253-2045
Connie Jenkins	GMR	(757)825-5249
Lonnie Landers	GMR	(703)330-1199
Jennie Williams	GMR	(703)330-1199
John Redmond	Man Tech	(301)670-0967
Steve Lloyd	Bionetics	(757)873-0900 X213
John Wood	Wyle	(757)865-0000 X200

ATTACHMENT 14

RIMS Presolicitation Conference Charts

Note: This attachment is in the form of a PowerPoint 7.0 file, and is provided as a stand-alone document file.

SOLICITATION 1-137-GH.2959

RESEARCH INSTRUMENTATION AND MEASUREMENT SERVICES

PRESOLICITATION CONFERENCE AGENDA

• INTRODUCTION	HEDGEPETH	1:00-1:15
• TECHNICAL EFFORT SYNOPSIS	KRIEGER, WALSH	1:15-1:45
• SOURCE EVALUATION PROCESS PROJECTED SCHEDULE	JONES	1:45-2:00
• BREAK		2:00-2:15
• QUESTIONS & ANSWERS	HEDGEPETH/ JONES et al	2:15-2:45
• UNITARY WIND TUNNEL TOUR	DILLON	3:00-3:45
• WYLE LABS TOUR	WALSH	4:00-4:45

SOLICITATION 1-137-GH.2959

INTRODUCTION

- MOST, IF NOT .ALL, DIVISIONS AT LARC RECEIVE SUPPORT UNDER THIS PROCUREMENT.
- SKILLS REQUIRED RANGE FROM CLERK TO SENIOR SOFTWARE SYSTEMS ANALYST.
- RESULTING CONTRACT WILL BE EXPECTED TO FEATURE A HIGH DEGREE OF FLEXIBILITY AND RESPONSIVENESS.
- EFFORT IS DEEMED “HIGHLY IMPORTANT” BY ALL LEVELS OF MANAGEMENT.

SOLICITATION1-137-GH.2959

SCOPE OF TECHNICAL EFFORT

- REPAIR, MAINTENANCE, CALIBRATION OF INSTRUMENTS
- EVALUATION OF MEASUREMENT REQUIREMENTS
- MAINTENANCE OF ADPE FOR WIND TUNNELS AND LABORATORIES
- IMPLEMENTATION OF INSTRUMENTS AND SYSTEMS TO SATISFY RESEARCH OBJECTIVES
- DEVELOPMENT OF TEST TECHNIQUES
- MAINTENANCE OF INSTRUMENT CAL & REPAIR HISTORY
- MAINTENANCE AND MODIFICATION OF AN INFORMATION MANAGEMENT SYSTEM
- OPERATING AN INSTRUMENT LOAN POOL
- DESIGN, FURNISH, INSTALL, OPERATE, MAINTAIN, REPAIR & PROVIDE CONFIGURATION CONTROL FOR RESEARCH DATA ACQUISITION SYSTEMS
- RECEIPT & INSPECTION OF LARC-PURCHASED INSTRUMENTS AT CONTRACTOR INSPECTION FACILITIES
- OPERATION OF MEASUREMENT ASSURANCE PROGRAM FOR LARC WITH TRACEABILITY TO NPST

SOLICITATION 1-137-GH.2959

SYNOPSIS OF TECHNICAL EFFORT

- INSTRUMENTATION

  ACCEPTANCE, INSTALLATION, MAINTENANCE, REPAIR AND CALIBRATION OF APPROX. 80,000 TRANSDUCERS, INSTRUMENTS, AND INSTRUMENTATION SYSTEMS (INCLUDING APPROX. 3000 ITEMS OF GFE VALUED AT $6.2M)

- DATA ACOIJISITION SYSTEMS

  DESIGN, FURNISH, INSTALL, MAINTAIN, REPAIR AND PROVIDE CONFIGURATION CONTROL FOR 35 LARGE DATA ACQUISITION SYSTEMS AND APPROX. 100 SMALLER DEDICATED SYSTEMS

- WIND TUNNEL AND LAB ADP SYSTEMS

  MAINTENANCE AND REPAIR OF APPROXIMATELY 1000 PERSONAL COMPUTERS **AND** WORK STATIONS AND 5000 PERIPHERALS FOR WIND TUNNELS AND LABS

SOLICITATION 1-137-GH.2959

ESTIMATED CONTRACT STATISTICS

DIVISION OF EFFORT

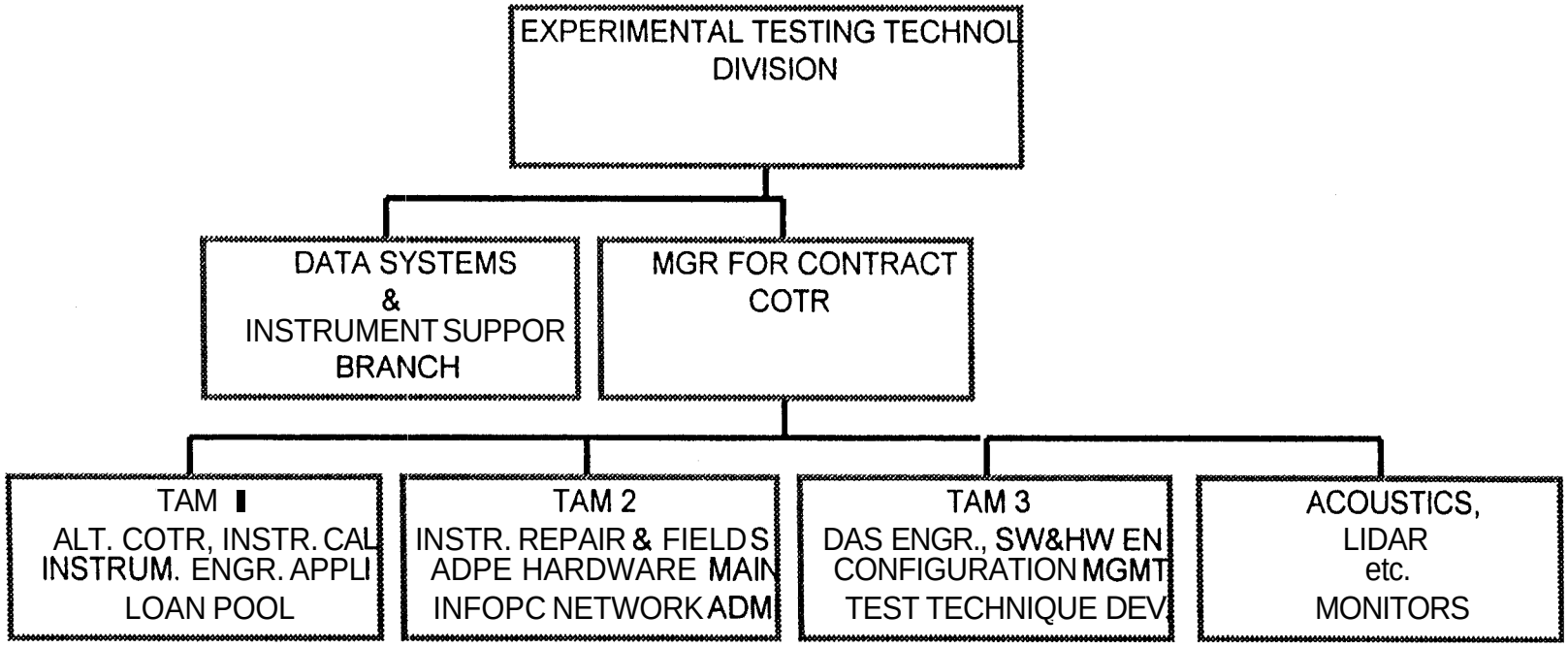
- CLIN 1 - ON-GOING SERVICES 9%
- CLIN 2 - INSTRIJMENT SUPPORT @ CONTRACTOR FACILITY 15%
- CLIN 3 - DAS DEVELOPMENT & INSTRUMENT ENGR 61%
- CLIN 4 - ON-SITE INSTR. SERVICES & DIGITAL SUPPORT 15%

VALUE OF ALL EQUIPMENT MAINTAINED(APPROX) $250M

ESTIMATED MY/YR REQUIRED 153

SOLICITATION 1-137-GH.2959

NASA TECHNICAL MONITOR INTERFACES



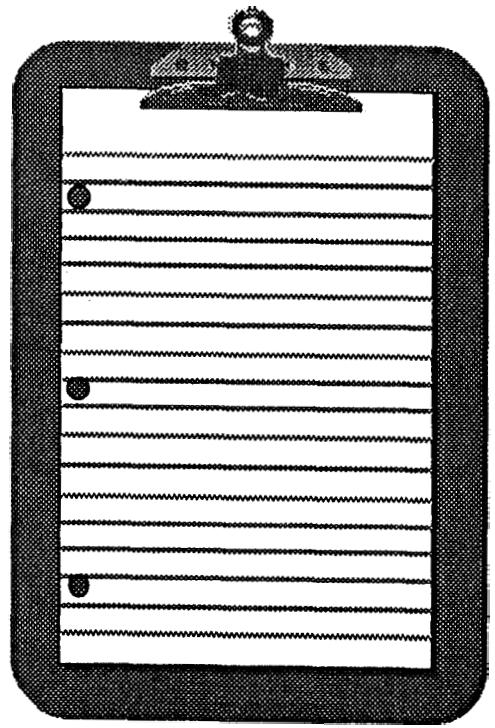
RESEARCH INSTRUMENTATION AND MEASUREMENT SERVICES

SOLICITATION 1-137-GH.2959

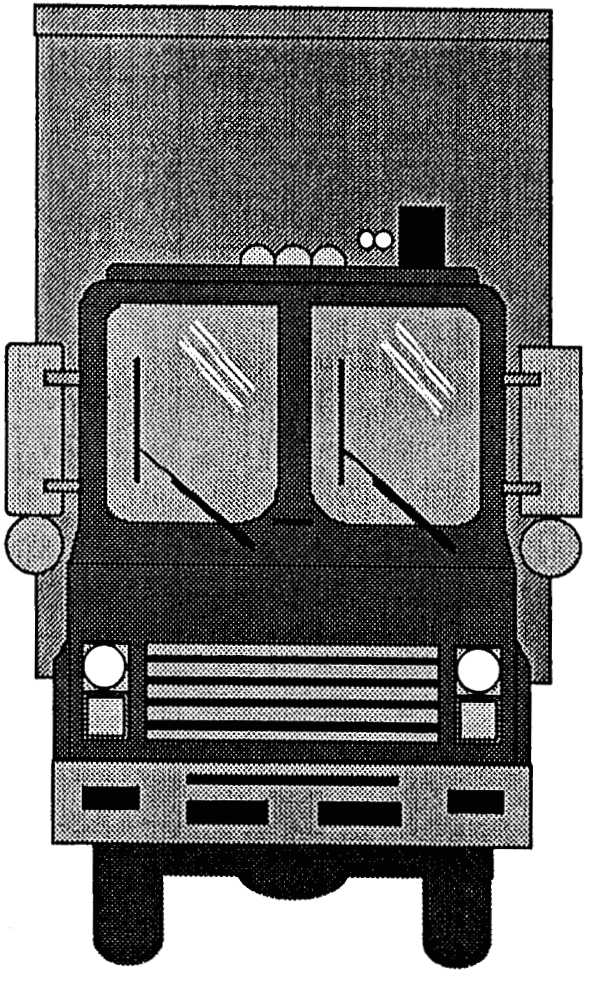
OCTOBER 9,1997

TECHNICAL PRESENTATION

1.1 RECEIPT & INSPECTION



1.2 PICK-UP & DELIVERY



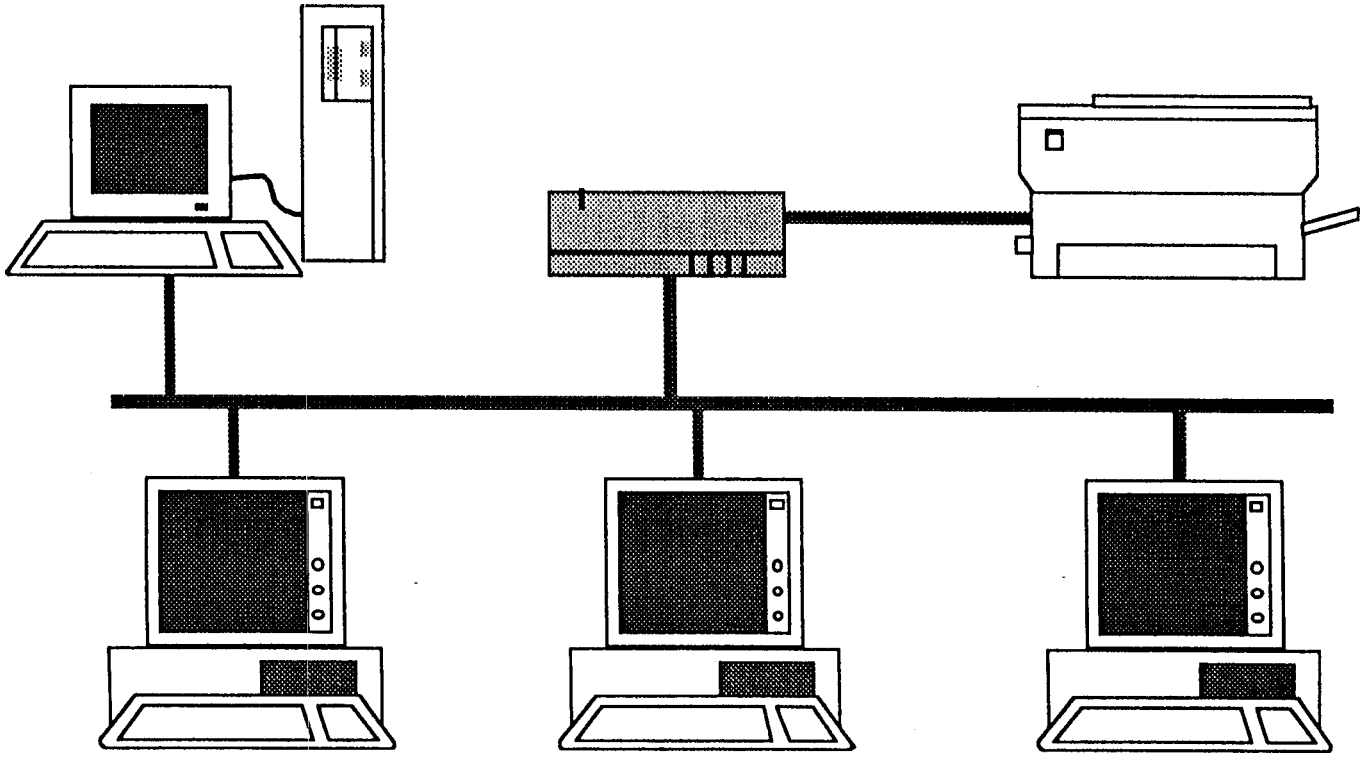
1.3 OPERATE INSTRUMENT CONTROL

- **4500+ LOANS/YEAR**
- **1000+ NEMS TRANSACTION/MONTH**
- **2500+ PR'S SCREENED**

1.4 MAINTENANCE OF GFE

- 3000+ TEST/CALIBRATION EQUIPMENT
- $6+MILLION CAPITALIZED VALUE

1.5 INFORMATION MANAGEMENT SYSTEM

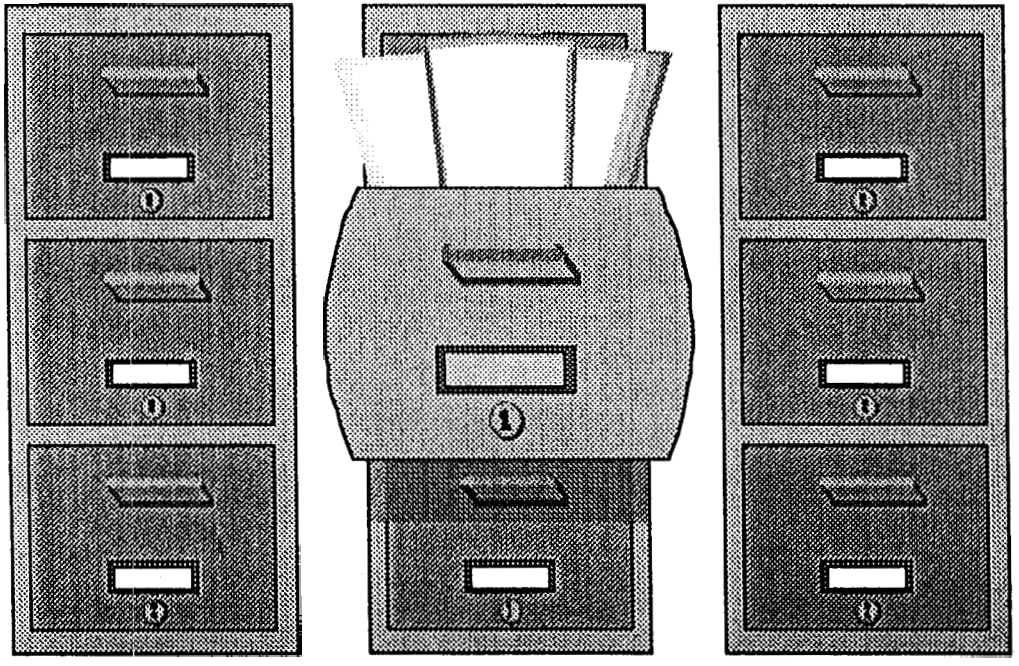


1.5 INFORMATION MANAGEMENT SYSTEM

- EQUIPMENT FILE
- WORK ORDER FILE
- GFE INVENTORY
- STOCK INVENTORY
- CALIBRATION SOFTWARE
- ENGINEERING DRAWINGS
- MULTIPLE ENTRY
- REAL TIME
- FORMS
- HISTORICAL
- CAL. DATA
- WEB ACCESS
- QUERY

1.6 CONFIGURATION & QUALITY CONTROL MANAGEMENT

- **DOCUMENTED PROCEDURES**
- **SECURED STORAGE**



1.7 METROLOGY ENGINEERING

- **CONSULTING**
- **ENGINEERING**
- **MANAGEMENT**

WORK STATEMENT TASK AREA
CLIN 2

2.1 ACCEPTANCE TESTING

- TRANSDUCERS & SENSORS

2.2 REPAIR, CALIBRATION, & MAINTENANCE

- 7000+ ITEMS/YEAR

2.2 REPAIR & MAINTENANCE (TYPES OF INSTRUMENTS)

AMPLIFIERS
CAMERAS
ESP SYSTEMS
COUNTERS
HOT WIRE PROBES
LASER SYSTEMS
MANOMETERS
MULTIMETERS
OSCILLOGRAPHS
OSCILLOSCOPES
POWER SUPPLIES
SIGNAL COND.
SIGNAL GEN.
TAPE RECORDERS
OTHERS

2.2 CALIBRATION
(TYPES OF EQUIPMENT)

ACCELEROMETERS & AOA SYSTEMS

ACOUSTIC SENSORS

AMPLIFIERS

DEAD WEIGHT TESTERS

FLOW METEIRS

MANOMETERS

MULTIMETERS

PRESSURE SENSORS

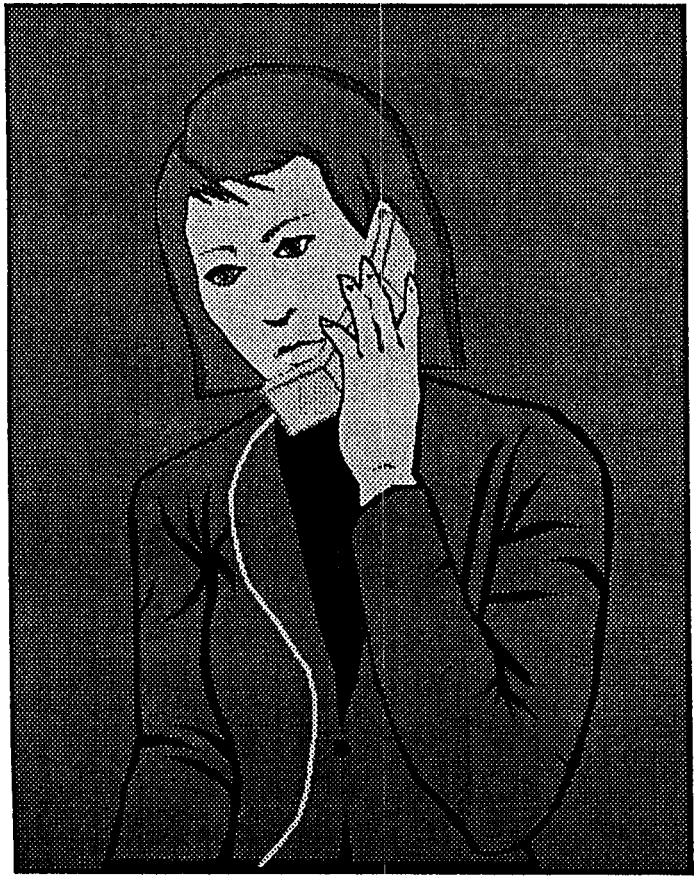
TEMPERATURE SENSORS

TIME/FREQUENCY

VELOCITY SENSORS

OTHERS

CLIN 2 INSTRUMENT SUPPORT SERVICES



- **INITIATED**
- **PICKED-UP**
- **IWO**
- **WORKED**
- **DOCUMENTED/EXPORTED**
- **DELIVERED/CLOSED**

CLIN 3

DATA SYSTEMS DEVELOPMENT & INSTRUMENTATION

ENGINEERING

FACILITIES:

- ACOUSTICAL
- AERONAUTICAL
- ENVIRONMENTAL
- MATERIALS
- STRUCTURES
- OTHERS

CLIN 3

ENGINEERING SUPPORT SERVICE ATTRIBUTES

- **WIDE RANGE OF REQUIREMENTS**
  - DESIGN, DOCUMENT, FURNISH, MODIFY, INSTALL, AND CALIBRATE INSTRUMENTATION AND DATA SYSTEMS
  - TROUBLESHOOT AND REPAIR MALFUNCTIONING SYSTEMS
  - DEVELOPMENT OF ADVANCED TEST TECHNIQUES AND INSTRUMENTATION SYSTEMS
- **REQUIRES GOOD TEAMWORK**
  - MUST WORK WELL **WITH** RESEARCH STAFF, ETTD TECHNICAL PERSONNEL, AND OTHER CONTRACTORS
  - FLEXIBILITY AND RESPONSIVENESS ARE KEY IN APPROACH TO WORK
- **REQUIRES GOOD COMMUNICATIONS**
  - CLARIFICATION OF RESEARCHER NEEDS
  - **MANY** SCHEDULES ARE CRITICAL - STATUS UPDATES ARE REQUIRED TO INSURE SCHEDULES ARE MET
- **FAMILIARITY WITH RESEARCH FACILITIES AND TEST TECHNIQUES**
  - APPLICATION OF RESEARCH INSTRUMENTATION AND REALTIME DATA & CONTROL SYSTEMS
  - UNDERSTANDING OF AERONAUTICAL AND STRUCTURAL TESTING
  - INTEGRATION **WITH** TEST **TEAMS** AND SUPPORTING ORGANIZATIONS
  - IMPACT OF MEASUREMENT UNCERTAINTY

RIMS CONTRACT
CLIN 3

- **CLIN 3 - DATA SYSTEMS DEVELOPMENT AND INSTRUMENTATION ENGINEERING**
  - **REQUIREMENTS EVALUATION AND APPLICATION OF SENSORS, TRANSDUCERS, AND INSTRUMENTS**
  - **THIS** WORK **INVOLVES**:
    - REQUIREMENTS ANALYSIS
    - PROTOTYPING, TRADE-OFF STUDIES, COST/BENEFITS ANALYSIS OF PROPOSED SOLUTIONS
    - ANALYSIS OF MEASUREMENT ERROR AND MEASUREMENT UNCERTAINTY
    - PURCHASE, DELIVERY, INSTALLATION, APPLICATION, AND MAINTENANCE
    - TROUBLE-SHOOTING AND OPERATIONS
  - **SOME** OF THIS 'WORK INVOLVES PERSONNEL DEDICATED ON-SITE AT THE FACILITIES

RIMS CONTRACT
CLIN 3

DESIGN, FURNISH, AND INSTALL NEW DATA ACQUISITION SYSTEMS

& MODIFY AND UPGRADE EXISTING DATA SYSTEMS

- WORK INVOLVES:
  - ANALYSIS OF REQUIREMENTS
  - TOP LEVEL AND DETAILED DESIGN
  - PROTOTYPING, TRADE-OFF STUDIES, PERFORMANCE ANALYSIS
  - MEASUREMENT UNCERTAINTY ANALYSIS
  - PROJECT MANAGEMENT, RESOURCE SCHEDULING, WORK BREAKDOWN STRUCTURE, DESIGN REVIEWS, COST/BENEFITS ANALYSIS, ETC..
  - DESIGN, PURCHASE, INTEGRATION, INTERFACING, INSTALLATION
  - INTEGRATION WITH CONTROL SYSTEMS AND FACLLITY SYSTEMS
  - ACCEPTANCE TESTING, CONFIGURATION CONTROL, DOCUMENTATION
  - LIFE-CYCLE: SUPPORT - MAINTENANCE, UPGRADES, ENHANCEMENTS, DIAGNOSTICS
  - PROTOTYPING AND DEVELOPMENT OF THE NEXT GENERATION OF DATA SYSTEMS
- **TO THE GREATEST EXTENT POSSIBLE, DESIGNS WILL BE BASED ON OPEN ARCHITECTURE STANDARDS WITH MAXIMUM USE OF COMMERCIALLY AVAILABLE PRODUCTS**

RIMS CONTRACT
CLIN 3

- **ANALYSIS OF MEASUREMENT DATA**
  - DATA ANALYSIS FOR AERONAUTICS, ACOUSTICS, AND STRUCTURAL TEST DATA DIRECTLY RELATED TO DATA ACQUISITION
  - MEASUREMENT UNCERTAINTY ANALYSIS, DEVELOPMENT OF PROCESSES, AND CALIBRATION TECHNIQUES
  - DOCUMENTATION, CONFIGURATION CONTROL, AND REPORT GENERATION
- **ON SITE AND OFF-SITE DATA ACQUISITION OPERATIONS AND ANALYSIS**
  - DAS DEVELOPMENT, CALIBRATION, OPERATIONS, AND DATA ANALYSIS OFF-SITE FROM LANGLEY (LIDAR SYSTEMS, ACOUSTIC VANS, RESEARCH AIRCRAFT AT WALLOPS ISLAND, WHITE SANDS, ETC.)
  - ON-SITE OPERATIONS OF DATA AND INSTRUMENTATION SYSTEMS IN AERO AND STRUCTURES RESEARCH FACILITIES
  - SOME SECOND AND THIRD SHIFT WORK IS REQUIRED
- **SYSTEMS ADMINISTRATION & OPERATING SYSTEMS SOFTWARE MAINTENANCE**
  - SYSTEM PERFORMANCE TUNING
  - OPERATING. SYSTEM UPGRADES, PASSWORD PROTECTION, SECURITY
  - INVOLVES DAS AND WORKSTATIONS CONNECTED TO DAS
  - DAS NETWORKING SOFTWARE

RIMS CONTRACT
CLIN 3

- **TEST TECHNIQUES DEVELOPMENT**
  - WORK INVOLVES ADVANCED DATA SYSTEMS ARCHITECTURES, OPTICAL SYSTEMS, TEMPERATURE AND PRESSURE SENSITIVE PAINTS, MEMS, ADVANCED SENSOR DEVELOPMENT, ETC.
  - ADVANCED ENGINEERING AND EXPERIMENTAL SYSTEMS DEVELOPMENT
  - PROTOTYPING, FEASIBILITY STUDIES, CONCEPTUAL DESIGNS
  - DEVELOPMENT AND INTEGRATION OF **NEW** TECHNOLOGY
  - TEST TECHNIQUES AND CALIBRATION SYSTEMS DEVELOPMENT
  - DATA COLLECTION AND ANALYSIS OF RESULTS RESULTING IN FORMAL PUBLICATIONS
- **TECHNICAL CONSULTING, DOCUMENTATION, AND TRAINING**
  - SYSTEM PERFORMANCE ANALYSIS AND TUNING
  - BENCHMARKING
  - COST BENEFITS ANALYSIS
  - DOCUMEWATION OF DAS AND INSTRUMENTATION SYSTEMS - DESIGN DOCUMENTS, USER GUIDES, OPERATIONS GUIDES, CONFIGURATION MANUALS, TEST PROCEDURES
  - CUSTOMER TRAINING FOR OPERATIONS, ETC.

RIMS CONTRACT
CLIN 3

- **CLIN 3 WORK IS ISSUED THROUGH AN ENGINEEFUNG SERVICE REQUEST (ESR)**

  OR A TASK ORDER

  - **ENGINEERING SERVICE REQUEST -**
  - AN ESR IS USED FOR SMALL JOBS OF UP TO $10,000 IN LABOR COSTS AND UP TO $20,000 IN MATERIALS COST
  - AN ESR CAN BE REQUESTED DIRECTLY BY THE CUSTOMER BUT WORK CAN NOT START **WITHOUT** TECHNICAL AREA MONITOR (TAM) APPROVAL **(UNLESS** IT IS AN EMERGENCY)

  - **TASKORDER-**
  - A TASK ORDER IS ISSUED FOR LARGE ENGINEERING JOBS SUCH AS A NEW DATA SYSTEM AND REQUIRES CONTRACTING OFFICER ACTION
  - FOR LARGE TASK ORDERS , A TWO PHASE APPROACH MAY BE USED -
    - REQUIREMENTS **STUDY** PHASE WITH RESOURCE ESTIMATES
    - IMPLEMENTATION PHASE FOR DESIGN, **FURNISH,** AND **INSTALL**

RIMS CONTRACT
CLIN 4
ON-SITE INSTRUMENTATION AND DIGITAL SYSTEMS SUPPORT ATTRIBUTES

- **WIDE RANGE OF REQUIREMENTS (ON-SITE)**
  - LARGE PURCHASED DAS ACCEPTANCE TESTING
  - INSTALLATION, SYSTEMS INTEGRATION, CONFIGURATION CONTROL
  - INSTRUMENTATION SYSTEMS AND DAS TROUBLESHOOTING AND REPAIR
- **REQUIRES GOOD COMMUNICATIONS**
  - RESPONSIVENESS TO PRIORITY SYSTEMS IS VERY IMPORTANT
  - COMMUNICATION WITH TAM WHEN PRIORITY DETERMINATION OR ESCALATION OF RESOURCES IS REQUIRED

  REQUIRES GOOD TEAMWORK
  - MUST INTEGRATE, WELL WITH OTHER SUPPORT ORGANIZATIONS, ETTD, AND OTHER CONTRACTORS
- **OFTEN REQUIRES A "SYSTEMS ENGINEERING PERSPECTIVE" TO DETERMINE SOURCE OF PROBLEM**
  - IS IT HARDWARE, SOFTWARE, MECHANICAL SYSTEMS, "WORK," OR OPERATOR ERROR'?

RIMS CONTRACT
CLIN 4

- **CLIN 4 - ON-SITE INSTRUMENT AND DIGITAL SYSTEMS SUPPORT SERVICES**
  - DIGITAL SYSTEMS MAINTENANCE AND REPAIR FOR APPROXIMATELY 1000 COMPUTER SYSTEMS, INCLUDING 5000 PERIPHERALS
    - 35 SYSTEMS ARE HIGH PRIORITY DATA SYSTEMS IN WIND TUNNELS REQUIRING 1/2 HOUR RESPONSE
  - COMPUTER SYSTEMS SERVICES INCLUDING LARGE DAS ACCEPTANCE TESTING, INSTALLATION, INTEGRATION, CONFIGURATION CONTROL, DIAGNOSTICS, PERFORMANCE TESTING, AND DOCUMENTATION
  - ON SITE INSTRUMENT SERVICE AND EMERGENCY REPAIR FOR ABOUT 4000 INSTRUMENTS
- INSTALLED BASE VALUE OF $24.5 MILLION WITH ABOUT 3,500 SERVICE CALLS PER ***YEAR***
- WORK IS ISSUED THROUGH AN INSTRUMENT WORK ORDER (IWO), OR ELECTRONIC EQUIVALENT BY ANY CUSTOMER

RIMS CONTRACT
CLIN 4

- **CLASSES OF EQUIPMENT -**

  35 MODCOMPS(MOTOROLA 88K)

  125 MINI/MICRO SYSTEMS

  70 WORKSTATIONS

  750 PC-BASED SYSTEMS

- **REPRESENTATIVE MANUFACTURERS -**
  - MODCOMP, MOTOROLA, DEC, HP, SUN, SILICON GRAPHICS, **AND** NUMEROUS OTHERS
- **ON-SITE INSTRUMENT SERVICE AND EMERGENCY REPAIR**
  - ELECTRONIC **PRESSURE** SCANNING SYSTEMS
  - **NEFF** ANALOG SYSTEMS **AND** DAS SYSTEMS
  - MOBILE CALIBRATION CARTS
  - MAGNETIC TAPE **AND** CHART RECORDERS
  - NON-PORTABLE EQUIPMENT

RIMS Procurement Process

David H. Jones
Acquisition Division
NASA Langley Research Center

Topics of Discussion

- Contracting Officer (CO) and
  Source Evaluation Board (SEB)
- Formal Communications with Offerors
- Source Evaluation Process
- Award Without Discussions and FAR Procedures

Contracting Officer and SEB

- Rosemary Froehlich of the Acquisition Division will be the Contracting Officer

- Source Evaluation Board Voting Members
  - Robert K. Hedgepeth (Chairperson), ETTD
  - Robert L. Krieger, ETTD
  - James L. Dillon, SGDD
  - David H. Jones, AD

Formal Communications With Offerors

- "Open Door" Policy will be in effect until the final RFP is issued - contact should be limited to the following:
  - Dave Jones & Rosemary Froehlich, AD
  - Bob Hedgepeth, ETTD

- Communications Blackout will be invoked at RFP issuance - all communications will be with the Contract Specialist

“Big Range” Process

- Mission Suitability Factor is scored at the subfactor level
- Relevant Experience & Past Performance and Cost are evaluated but not scored
  - Contractors responsible for REPP submissions
  - NASA will make probable cost adjustments as necessary
- Amendment with Section L & M changes reflecting SEB procedures will be out soon

Award Without Discussions

- NASA's preferred and intended method of competition is award without discussions

- Intent to take exceptions to terms and conditions should be communicated to NASA **BEFORE** offers are due

FAR Procedures

- Unlike the old NASA Part 15 procedures, negotiations are not typically conducted following selection.
  - Award will be made based on adequate price competition among initial offers or best and final offers (BAFOs)
  - The identities of those firms submitting proposals is **NO LONGER RELEASABLE** under FOIA until **after** selection and award

Key Points to Remember

- Single Point of Contact following RFP release - David H. Jones
  - e-mail: d.h.jones@larc.nasa.gov
  - phone: (757) 864-2421; fax: (757) 864-8863
- Award WITHOUT discussions is NASA's Objective for the RIMS Procurement
- Questions and comments on the Draft RFP are due no later than October 16, 1997