SOLICITATION, OFFER AND AWARD

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE 1 OF PAGES 304

2. CONTRACT NO.	3. SOLICITATION NO.	4. TYPE OF SOLICITATION	5. DATE ISSUED	6. REQUISITION/PURCHASE NO.
	DACW21-03-B-0005	[X] SEALED BID (IFB) [ ] NEGOTIATED (RFP)	04 Apr 2003	W33SJG-2326-9399

7. ISSUED BY	8. ADDRESS OFFER TO (If other than Item 7)
CODE ESF US ARMY ENGINEER DISTRICT SAVANNAH ATTN: CT-P/EDWINA FRAYALL 100 WEST OGLETHORPE AVE SAVANNAH GA 31401-3640 TEL: (912) 652-5987 FAX: (912) 652-6059	CODE See Item 7 TEL: FAX:

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and _____ copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in _____ until 02:00 PM (Hour) local time 06 May 2003 (Date)

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE (Include area code) (NO COLLECT CALLS)	C. E-MAIL ADDRESS
	EDWINA S FRAYALL	(912) 652-5987	edwina.s.frayall@sas02.usace.army.mil

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OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8)

14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):

AMENDMENT NO.	DATE	AMENDMENT NO.	DATE

15A. NAME AND ADDRESS OF OFFEROR	CODE	FACILITY	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)

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
	☐		

AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION

22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:	23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM
☐ 10 U.S.C. 2304(c)( ) ☐ 41 U.S.C. 253(c)( )		

24. ADMINISTERED BY (If other than Item 7)	CODE	25. PAYMENT WILL BE MADE BY	CODE

26. NAME OF CONTRACTING OFFICER (Type or print)	27. UNITED STATES OF AMERICA	28. AWARD DATE
TEL: EMAIL:	(Signature of Contracting Officer)	

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

The Government contemplates award of a firm fixed price contract resulting from this solicitation.

LINE ITEM QUANTITIES: No award will be made for less than the full quantity advertised on an item in the schedule.

F.O.B. DESTINATION: Bid prices under this invitation are required to be on a F.O.B. Destination basis. Any bid submitted on a basis other than F.O.B. Destination will be rejected.

ESTIMATED LINE ITEMS: The quantity for line items marked EST is estimated and shall not be exceeded without the prior approval of the Contracting Officer.

HARTWELL GOVERNOR REPLACEMENT UNITS 1-5
RICHARD B. RUSSELL GOVERNOR REPLACEMENT UNITS 1-8

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SECTION I CONTRACT CLAUSES
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SECTION J LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS
SECTION L INSTRUCTIONS, CONDITIONS, AND NOTICES TO OFFERORS
SECTION M EVALUATION FACTOR FOR AWARD

RICHARD B. RUSSELL UNITS 1-8, LINE ITEMS 0001-0009.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1	Lump Sum	$_____	$_____

Site Mobilization

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002		1	Lump Sum	$_____	$_____

Site Demobilization

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003		1	Lump Sum	$_____	$_____

Design Retrofit for Analog Electric Governors. (Section 16253)

ITEM NO	SUPPLIES/SERVICES
0004	

Provide Retrofit for Analog Electric Governors. (Section 16253)

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004AA		8	Each	$_____	$_____

Supply Equipment to Retrofit Analog Electric Governors.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004AB		8	Each	$_____	$_____

Install Equipment to Retrofit Analog Electric Governors.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005		1	Lump Sum	$_____	$_____

Governor Spare Parts. (Section 16253)

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006		1	Lump Sum	$_____	$_____

Training of Government Personnel. (Section 16253)

ITEM NO	SUPPLIES/SERVICES	EST. QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007		40	Hours	$_____	$_____

Electrician Hire. (Section 15995)

ITEM NO	SUPPLIES/SERVICES	EST. QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008		40	Hours	$_____	$_____

Other Skilled Craftsman Hire. (Section 15995)

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009			NSP		

Contract Data. (See DD Form 1423 Exhibit B)

HARTWELL UNITS 1-5, LINE ITEMS 0010-0018

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010		1	Lump Sum	$_____	$_____
OPTION	Site Mobilization (OPTIONAL)				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011		1	Lump Sum	$_____	$_____
OPTION	Site Demobilization (OPTIONAL)				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012		1	Lump Sum	$_____	$_____
OPTION	Design Retrofit for Mechanical Governors. (Section 16252) (OPTIONAL)				

ITEM NO	SUPPLIES/SERVICES
0013	
OPTION	Provide Retrofit for Mechanical Governors. (Section 16252) (OPTIONAL)

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AA		4	Each	$_____	$_____
OPTION	Supply Equipment to Retrofit Mechanical Governors.				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AB		4	Each	$_____	$_____

OPTION Install Equipment to Retrofit Mechanical Governors.

ITEM NO	SUPPLIES/SERVICES
0014	

OPTION Provide Retrofit for Analog Electric Governors. (Section 16252) (OPTIONAL)

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AA		1	Each	$_____	$_____

OPTION Supply Equipment to Retrofit Analog Electric Governors.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AB		1	Each	$_____	$_____

OPTION Install Equipment to Retrofit Analog Electric Governors.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0015		1	Lump Sum	$_____	$_____

OPTION Governor Spare Parts. (Section 16252) (OPTIONAL)

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0016		1	Lump Sum	$_____	$_____

OPTION Training of Government Personnel. (Section 16252) (OPTIONAL)

ITEM NO	SUPPLIES/SERVICES
0017	
OPTION	Asbestos Abatement Work. (Section 02080) (OPTIONAL)

ITEM NO	SUPPLIES/SERVICES	EST. QUANTITY	UNIT	UNIT PRICE	AMOUNT
0017AA		125	Each	$_____	$_____
OPTION	Asbestos Bulk Sampling of Materials.				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0017AB		1	Lump Sum	$_____	$_____
OPTION	Submittal Preparation for Asbestos Abatement Work, including Attending Pre-Work Meeting. (Section 02080)				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0017AC		1	Lump Sum	$_____	$_____
OPTION	Mobilization and Demobilization for Abatement Work.				

ITEM NO	SUPPLIES/SERVICES	EST. QUANTITY	UNIT	UNIT PRICE	AMOUNT
0017AD		800	Lbs.	$_____	$_____
OPTION	Disposal of Non-Friable Asbestos-Containing Materials as Construction Debris.				

ITEM NO	SUPPLIES/SERVICES	EST. QUANTITY	UNIT	UNIT PRICE	AMOUNT
0017AE		500	Lbs.	$_____	$_____

OPTION Disposal of Friable Asbestos-Containing Materials as Construction Debris.

ITEM NO	SUPPLIES/SERVICES	EST. QUANTITY	UNIT	UNIT PRICE	AMOUNT
0017AF		200	Hours	$_____	$_____

OPTION Services of a Certified Asbestos Abatement Worker.

ITEM NO	SUPPLIES/SERVICES	EST. QUANTITY	UNIT	UNIT PRICE	AMOUNT
0017AG		200	Hours	$_____	$_____

OPTION Services of a Certified Asbestos Abatement Supervisor.

ITEM NO	SUPPLIES/SERVICES	EST. QUANTITY	UNIT	UNIT PRICE	AMOUNT
0017AH		200	Hours	$_____	$_____

OPTION Services of Certified Air Monitoring Personnel.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0018				NSP	

OPTION Contract Data. (See DD Form 1423 Exhibit B) (OPTIONAL)

TOTAL AMOUNT: $_____

EA = Each
LS = Lump Sum
HR = Hour
LB = Pound
EST = Estimated
NSP = Not Separately Priced

SPECIFICATIONS - SECTION C

SECTION C

DESCRIPTIVE/SPECIFICATIONS

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1.6 CHANGES IN SPECIFICATIONS AND DRAWINGS
1.7 DEFINITIONS
1.8 CONTRACT DRAWINGS
1.9 SUBMITTAL OF CONTRACTOR'S DRAWINGS AND DATA
1.10 OTHER SUBMITTALS
1.11 OPERATION AND MAINTENANCE
1.12 BILL OF MATERIALS
1.13 PURCHASE ORDERS
1.14 SUBMITTAL DESCRIPTIONS

PART 2 PRODUCTS

(NOT USED)

PART 3 EXECUTION

(NOT USED)

SECTION C

DESCRIPTIVE/SPECIFICATIONS

1.1 DESCRIPTION OF WORK

This section covers the technical specifications to perform the following work: (1) Convert four mechanical governors to electronic digital governors, and (2) Convert nine analog electric governors to electronic digital governors. This list is a general summary of the required work and is not all inclusive.

1.2 MECHANICAL WORK

a. Replace existing four mechanical governors and one analog electric governor at Hartwell Powerplant with electronic digital governors.

b. Replace existing eight analog electric governors at Richard B. Russell Powerplant with electronic digital governors.

c. Remove and dispose of existing gate restoring and feedback mechanisms.

d. Replace existing permanent magnet generators (PMG's) with speed signal generators (SSG's).

e. Provide parallel control, indication, and communications at the actuator cabinet and at the control switchboards.

1.3 ELECTRICAL WORK

a. Design electronic digital retrofit governors for four mechanical governors and one analog electric governor at Hartwell Powerplant.

b. Design electronic digital retrofit governors for eight analog electric governors at Richard B. Russell Powerplant.

c. Supply and install conduit and wire for new governor control and feedback systems.

d. Make all necessary electrical interface connections.

1.4 MISCELLANEOUS WORK

a. Make all necessary modifications to the existing actuator cabinet and main control room switchboard to accommodate the new governor equipment.

b. Perform all work required for painting and providing a finished installation.

1.5 SPECIFICATIONS

Technical specifications listed below cover the detailed requirements for the equipment and services listed in the Schedule:

SECTION	TITLE
01010	CONTRACTOR'S SITE OPERATIONS
01101	SAFETY AND HEALTH PROVISIONS
01270	MEASUREMENT AND PAYMENT
01307	AS-BUILT RECORDS AND DRAWINGS
01355	ENVIRONMENTAL PROTECTION
01420	SOURCE OF REFERENCED PUBLICATIONS
02080	ASBESTOS ABATEMENT WORK
02081	HAZARDOUS MATERIALS
05501	METALWORK FABRICATION, MACHINE WORK, AND MISC. PROVISIONS
05502	WELDING
05503	NON-DESTRUCTIVE TESTING
09940	PAINTING
15995	MISCELLANEOUS HIRE
16050	MISCELLANEOUS ELECTRICAL EQUIPMENT AND WORK
16252	HARTWELL GOVERNORS
16253	RICHARD B. RUSSELL GOVERNORS

1.6 DEFINITIONS

1.6.1 Wherever in these specifications or upon the drawings the words "Contracting Officer" (CO) or "Contracting Officer's Representative" (COR), are used, it shall be understood to also mean "Government" unless otherwise expressly stated.

1.6.2 Wherever in these specifications the word "GQAR" is used, it shall be understood to mean "Government Quality Assurance Representative," unless otherwise stated.

1.6.3 Wherever in these specifications the word "weekend(s)" is used, it shall be understood to mean "Saturday, Sunday and Federal Holidays," unless otherwise expressly stated.

1.7 CONTRACT DRAWINGS

The Contractor shall prepare drawings for Government approval. The Government will provide the information drawings listed on index drawings HWP-5.5-6-0/0 and RRP-5.3-0-0/1.

1.8 SUBMITTAL OF CONTRACTOR'S DRAWINGS AND DATA

1.8.1 Within 30 calendar days after date of receipt of signed contract, four copies of shop drawings as stated in paragraph 1.9.3 shall be submitted for approval. These drawings shall be complete and shall contain all required detailed information.

1.8.2 All drawings and data submitted and approved will form a part of the contract. The sequence of submission of drawings shall be such that all information is available for checking each drawing when it is received.

1.8.3 Four copies of each drawing for approval shall be submitted. Each submission of drawings must be accompanied by transmittal Form 4025 containing a list of drawings giving titles and numbers. Transmittals shall be addressed to the offices as listed in SECTION J.

Submittals will be reviewed and processed as follows:

(The following action codes are to further define only the referenced codes on the reverse side of ENG Form 4025.)

a. Action Code A (Approved as Submitted). Drawings which can be approved without correction will be stamped "Approved", two copies of catalog and other printed data, will be returned to the Contractor.

b. Action Code B (Approved, Except as Noted, Resubmission Not Required). Drawings which have only minor discrepancies will be corrected and stamped "Approved as Corrected" or "Except as Noted." Corrections will be identified. Distribution will be same as for "Approved" drawings.

c. Action Code C (Approved, Except as Noted, Resubmission Required). Two prints of drawings which are incomplete or require more than minor corrections will be marked in red to indicate necessary corrections. One marked copy will be returned to the Contractor stamped "Returned for Correction."

d. Action Code E (Disapproved). One print of drawings which are fundamentally in error, cover wrong equipment or construction, or require extensive corrections will be returned to the Contractor stamped "Disapproved." An explanation will be furnished on the print or on ENG Form 4025 indicating reason for disapproval.

e. Resubmittal. Resubmittal will not be required for drawings with Action Code A or B unless subsequent changes are made by the Contractor or by a contract modification. For drawings with Action Code C or E, corrections required shall be made, any changes shall be noted by dating the revisions to correspond with the change request date, and the drawings shall be promptly resubmitted for review. Government costs incurred after the first resubmittal will be charged to the Contractor.

1.8.4 The Government will return one copy of each item submitted within 30 calendar days after receipt and retain the remaining copies. An A, B, or C Action Code will authorize the Contractor to proceed with the fabrication of the equipment covered by such drawings, subject to the corrections, if any, indicated thereon or described in the letter of transmittal. Required revisions shall be resubmitted by the same procedure as previously described. Every revision made during the life of the contract shall be shown by number, date, and subject in a revision block and a notation shall be made in the drawing margin to permit rapid location of the revision. The time consumed by the Contractor in submitting and obtaining approval of assembly and shop drawings shall be included in the time allowed for completion of the contract.

1.8.5 Upon receipt of prints which have Action Codes C, D, or E the Contractor shall within 30 calendar days after receipt, submit corrected (reproducibles and) prints of each drawing to the address in paragraph 1.8.3. If revisions are made after a drawing has been assigned an A or B code, the Contractor shall furnish corrected reproducibles and prints subsequent to each revision.

1.8.6 No manufacturing work shall be performed prior to the approval of drawings. Approval of the drawings shall not be construed as a complete check, but will indicate only that the general method of construction and detailing is satisfactory. Approval of such drawings will not relieve the Contractor of responsibility for any error which may exist, as the Contractor shall be responsible for the dimensions and design of adequate connections, details, and satisfactory construction of all work.

1.8.7 Final drawings shall be submitted in accordance with SECTION 01307.

1.9 OTHER SUBMITTALS

All of the applicable requirements (including transmittals) of paragraph 1.9 with reference to drawing submittals shall apply equally to catalog cuts, illustrations, printed specifications, weld qualifications, mill tests, factory tests, field tests, or other required technical data except that two additional copies shall be submitted in lieu of any

reproducibles. All correspondence, drawings, literature, instruction books, data, and nameplates shall be in the English language, with English units as currently used in the United States.

1.10 OPERATION AND MAINTENANCE DATA

1.10.1 Submittal Requirements

Complete operating and maintenance instructions and parts catalogs shall be furnished for all mechanical, electrical, and/or electronic equipment furnished under this contract. Initial submittal of four (4) complete draft copies shall be made not less than 30 days prior to delivery of the equipment. Submittal shall be made in accordance with all applicable procedures for submittal of drawings, except as provided herein. One (1) draft copy with appropriate approval of, or comment on, the acceptability of the submittal will be returned. The one (1) draft copy with such corrected and/or additional data sheets and drawings as may be directed shall be resubmitted. Three (3) copies of each data sheet and drawing shall be submitted also for the three draft copies retained by the Government. Upon final approval of the draft, six (6) additional copies shall be submitted for a total of ten (10). The copies shall be submitted no later than the date specified for delivery of the equipment.

1.10.2 General

Binders shall be side binding, telescoping post, expandable back, and shall have a supported vinyl cover with a stiff binder board for 8 1/2- by 11-inch sheets. Ring type loose leaf binders will not be acceptable. One 11- by 17-inch copy of each of the drawings shall be furnished and shall be folded and bound for easy unfolding without removal from the binder. Each sheet in the binder shall be numbered and an index provided for ready reference to the data. All standard catalog cuts, manufacturer's printed data or descriptive literature, parts sheets, illustrations, etc., shall be either original manufacturer sheets or reproduced copies of equal clarity and durability. When the as-constructed drawings are submitted, six 11- by 17-inch copies of each shall be furnished. These shall be folded and bound for easy unfolding after being inserted in the manual.

1.10.3 Parts Catalogs

Parts catalogs shall be suitable for ordering replacements and shall include the part identification, nomenclature, part numbers, required number of parts, and actual spare parts supplied. All semi-conductor devices such as transistors, diodes, thyristors, etc. shall be identified with standard JEDEC designations. All data shall match the actual equipment furnished, and standard catalog sheets, cuts, and diagrams shall have all irrelevant parts marked out. Parts shall be so identified that they can be readily ordered from local area industrial supply outlets if not of special manufacture. Assembled material shall include identification of spare parts furnished in compliance with requirements of these specifications. A cross reference between items described in catalogs and instructions and drawings shall be provided to facilitate ease in location of parts described.

1.10.4 Operation Data

The operation data shall include specific operating instructions, functional description of operating parts, and special precautions or procedures to be considered. The Contractor shall be responsible for the necessary coordination between its subcontractors, suppliers, and manufacturers to assure complete submittals on individual interrelated equipment components.

1.10.5 Maintenance Data

The maintenance data shall include lubrication instructions; instructions for dismantling, assembling, repairing, adjusting, and troubleshooting all mechanical and electrical equipment; parts catalogs; elementary and connection diagrams; control and interlock system diagrams; and a list of special tools required. Lubrication instructions shall be for the service intended and shall include charts or tables indicating items to be lubricated, recommended frequencies, and grade and type of lubricant to be used in accordance with AGMA, NLGI, SAE, Federal or Military Specifications as applicable. Instructions for dismantling, assembling, repairing, testing, and adjusting shall include recommended clearances, bolt torques, temperature and pressure settings, voltages, amperages, troubleshooting procedures for printed circuit cards as outlined below, and any other items needed for maintenance of the equipment.

1.11 BILL OF MATERIALS

One reproducible and two prints of a bill of materials listing each item necessary to complete each major equipment assembly shall be furnished at least 30 days prior to the first delivery of the equipment. This is in addition to the materials schedules required and any list of materials shown on the drawings. This bill of materials shall be complete enough to check each item by quantity, size, and other description as required to assure all material required under the contract has been delivered.

1.12 PURCHASE ORDERS

Two copies of all purchase orders for other than stock materials showing the firm(s) name and address and lists of material shall be submitted as soon as issued, and immediate notice shall be given of the receipt of any material for the work together with detailed lists of same. Orders shall be so worded and marked that each item may be identified in the plans for the work.

1.13 SUBMITTAL DESCRIPTIONS

The submittals described below are those required and are further described in the technical sections of the specifications. Submittals required by the CONTRACT CLAUSES and other non-technical parts of the contract are not included.

SD-01 Data

Submittals which provide calculations, descriptions, or documentation regarding the work.

SD-04 Drawings

Submittals which graphically show relationship of various components of the work, schematic diagrams of systems, details of fabrication, layouts of particular elements, connections, and other relational aspects of the work. All drawings shall be submitted in both paper and electronic formats.

SD-06 Instructions

Preprinted material describing installation of a product, system or material, including special notices and material safety data sheets, if any, concerning impedance's, hazards, and safety precautions. Operation and maintenance manuals are considered deliverables under the contract and not submittals; however, when necessary to review information to be included in the final manuals such information to be included in the final manuals should be called for under this submittal description.

SD-07 Schedules

Tabular lists showing location, features, or other pertinent information regarding products, materials, equipment, or components to be used in the work.

SD-08 Statements

A document, required of the Contractor, or through the Contractor, from a supplier, installer, manufacturer, or other lower tier Contractor, the purpose of which is to confirm the quality or orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel, qualifications, or other verifications of quality.

SD-09 Reports

Reports of inspections or tests, including analysis and interpretation of test results. Each report shall be properly identified. Test methods used shall be identified and test results shall be recorded.

SD-13 Certificates

Statement signed by an official authorized to certify on behalf of the manufacturer of a product, system or material, attesting that the product, system or material meets specified requirements. The statement must be dated after the award of this contract, must state the Contractor's name and address, must name the project and location, and must list the specific requirements which are being certified.

SD-14 Samples

Samples, including both fabricated and unfabricated physical examples of materials, products, and units of work as complete units or as portions of units of work.

SD-18 Records

Documentation to record compliance with technical or administrative requirements.

PART 2 PRODUCTS

(NOT USED)

PART 3 EXECITION

(NOT USED)

*****

SECTION 01010

CONTRACTOR'S SITE OPERATIONS

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PART 2 PRODUCTS

(NOT USED)

PART 3 EXECUTION

(NOT USED)

SECTION 01010

CONTRACTOR'S SITE OPERATIONS

PART 1 GENERAL

1.1 GENERAL

This section covers the general requirements applicable to specific Contractor's operations or equipment for work performed on site.

1.2 SUBMITTALS

Submittals required by this section of the Technical Specifications shall be for Government approval (GA) or for information only (FIO), and shall be submitted as stated below in accordance with SECTION C.

Separate submittals shall be provided by the Contractor for each powerhouse as applicable, See Submittal Form 1423 for clarification.

SD-01 Data

Roadway access agreement, a minimum of 30 calendar days prior to use, paragraph 1.3.1; FIO

Content and location of signage, a minimum of 5 calendar days prior to erection, paragraph 1.3.3; GA

Method of identifying Contractor's vehicles, a minimum of 90 calendar days prior to the start of site work, paragraph 1.4.2; GA

Procedure for identification and control of employees entering or leaving site, a minimum of 90 calendar days prior to the start of site work, paragraph 1.5; GA

Contractor’s working hours, shifts, and days of the week to be worked, including an estimate of the number of employees working per shift, 30 calendar days after contract award, paragraph 1.6.2; GA

Location of Contractor’s sanitation facilities, a minimum of 90 calendar days prior to office erection, paragraph 1.8.1; GA

Temporary utility connections, a minimum of 5 calendar days prior to the connection, paragraph 1.9.1; GA

Project report giving project status, activities, and current project schedules within the first week of each month of site work, paragraph 1.13;. FIO

Site work schedule, initial submission a minimum of 90 days prior to commencing site work, paragraph 1.15; GA

Lockout/Tagout (LOTO) program description if the Contractor elects to place his own lockout tag over the Governments’ tag, submission a minimum of 90 days prior to commencing site work, paragraph 1.16; GA

Crane operator(s) qualifications and current medical exam, a minimum of 5 calendar days, excluding weekends, prior to performance of work, paragraph. 1.18.3;. GA

Crane rigger's qualifications, a minimum of 5 calendar days, excluding weekends, prior to performance of work, paragraph 1.18.4; GA

List of all equipment, a minimum of 30 calendar days prior to the start of site work, paragraph 1.19; FIO

An up-to-date list of all plant and equipment, with the end-of-month request for payment throughout the life of the contract, paragraph 1.19; FIO

A plan and method of transportation and operation of cranes and heavy equipment, a minimum of 90 calendar days prior to their transportation and site operation, paragraph 1.20.1;. GA

List of equipment and materials proposed for temporary storage within Government allocated staging areas, a minimum of 20 calendar days prior to their storage, paragraph 1.21; GA

Method and plan of protection for materials and equipment, a minimum of 90 calendar days prior to the start of site work or in areas to be protected, paragraph. 1.24; GA

Location of Contractor’s miscellaneous buildings, a minimum of 30 calendar days prior to their erection, paragraph 1.25; GA

Any scaffolding, ladder, stairway, or other access schemes proposed, a minimum of 90 calendar days prior to their installation and use, paragraph. 1.28; GA

Location of disposal area and plan for disposal, a minimum of 90 calendar days prior to the disposal, paragraph 1.29; GA

Dust and fume control program, a minimum of 90 calendar days prior to the start of site work, paragraph 1.30.2; GA

Qualifications and identification of Contractor's agent(s), a minimum of 90 calendar days prior to the start of site work, paragraph 1.37.1; GA

Organization chart, a minimum of 10 calendar days prior to the start of site work, and updated weekly thereafter to reflect the current organization, paragraph. 1.37.2.1; FIO

List of personnel working on the site, a minimum of 10 calendar days prior to the start of site work and updated weekly thereafter to reflect a current listing, paragraph. 1.37.2.2; FIO

SD-08 Statements

Blockage of roadway lane(s), with description of traffic control measures, a minimum of 24 hours, excluding weekends, prior to the blockage, paragraph 1.3.1; GA

Request to change schedule of regular work hours, etc., 48 hours in advance of change in schedule, paragraph 1.6.2; GA

Request for copies of the Hartwell and the Richard B. Russell Powerplant Safe Clearance Procedure program, paragraph 1.16; FIO

Request for use of powerhouse gantry crane, a minimum of 5 calendar days prior to first use, paragraph 1.18.1; GA

Notice of finding damaged equipment or other abnormal conditions of equipment or parts, immediately after discovery, paragraph 1.23; GA

Request for copies of data and drawings, at Contractor's discretion, paragraph 1.36; FIO

1.3 WORK AREAS AND ACCESS

1.3.1 Access Roads, General

No new access roads are required. Any Contractor caused damage to existing roadways that are used for access purposes shall be repaired and the surface shall be restored to its pre-damaged condition, less normal wear. Special requirements of the property owner or State and County authorities with which the Contractor is expected to comply for use of existing roadways, such as traffic regulations, load limits, maintenance and dust control during construction, restorations, or improvements after completion of the work, will be agreed to in writing by the Contractor and the party or parties concerned. A copy of the agreement shall be furnished to the Contracting Officer before use of roadways begin. Both lanes of roads shall not be blocked by the Contractor. If one lane is blocked, the Contractor shall provide the necessary flaggers, based on the visibility, to control traffic. The Government shall be notified in advance of any blockage. The Government will make the final determination on whether adequate traffic control measures have been taken.

1.3.2 Access By Government Personnel

Clear access shall be maintained for Government personnel and equipment through all work areas.

1.3.3 Contractor's Office Area and Employee Access

The Contractor’s job-site office location will be determined after award, prior to mobilization. The project areas off-limits to Contractor personnel will be as designated by the Contracting Officer. Salespersons or personnel seeking employment will not be permitted inside the powerhouse. Signs may be erected outside the powerhouse containing instructions for personnel seeking the Contractor. The content and location of the signs shall be submitted for approval.

1.3.4 Government Roadways

Access to the work areas on the El. 512.0 at Hartwell and El. 350.0 at Russell service deck by heavy construction vehicles or truck cranes, shall be limited. These areas are load limited to HS-20-44 AASHTO (American Association of State Highway Transportation Officials) load. For any vehicles in excess of this capacity, a loading diagram shall be submitted for review and approval showing the wheel loads and wheel spacing. If it becomes necessary to cross the gate slots at any unit by heavy construction vehicles, a one-inch thick steel plate that spans the slots shall be laid down over the area to be crossed. Prior approval for such crossings shall be obtained. Vehicles in excess of the AASHTO load shall not cross the gate slots.

1.4 VEHICLES

1.4.1 Use of Private Vehicles

Parking of private vehicles of the Contractor and Contractor’s employees shall be restricted to the areas designated by the Government. Parking spaces for approximately 10-12 privately owned vehicles will be available within 150 yards of the Hartwell and Russell plants. Additional parking will be designated upon request, but may be located up to ½ mile from the powerhouse. Contractor and Contractor’s employees will not be allowed to park in Government-employee designated spaces.

1.4.2 Identification of Vehicles

All contractor's vehicles shall display approved permanent identification of such size and color to allow Government personnel to identify the vehicle.

1.5 PROJECT SECURITY

The powerplant is accessed through a key actuated motorized security gate at all hours. A procedure shall be submitted for approval for identification and control of employees entering or leaving the project. The security of the Contractor's property and items furnished under this contract, until accepted, are its responsibility whether stored inside or outside the powerhouse. During periods of heightened security, restricted access to the powerplant area is imposed. Only Government employees and approved Contractor's employees performing work at the powerplant are permitted beyond the concrete barriers on the entrance road to the powerplant. Positive identification is required for all personnel seeking entrance into the powerplant. Contractor deliveries must be coordinated with the Government representative overseeing the powerplant area. Concrete barricades blocking the entrance road will have to be moved to allow the delivery trucks to enter the facility. Deliveries or attempted deliveries, without prior coordination and Government approval, will be denied entry. There will be NO EXCEPTIONS!

NOTE: In view of recent events regarding Project Security the Contractor will be given an updated briefing at the pre-construction meeting as to the status of security access and alert at each project. The Contractor will be informed anytime there is a change in the project security access or alert effecting the Contractors work.

1.6 SITE WORKING HOURS

1.6.1 Government Project Personnel Working Hours

The normal working hours of the Hartwell powerplant maintenance staff are Mondays through Fridays from 7:00 a.m. until 4:30 p.m. with every other Friday as a non-work day.

The normal working hours of the Russell powerplant project staff are Mondays through Fridays from 6:30 a.m. until 4:00 p.m.

1.6.2 Contractor's Working Hours

The Contractor will not be restricted as to the working hours. A proposed schedule of work hours, shifts, and days of the week shall be submitted within 30 calendar days after contract award. Notification of any proposed changes of the schedule of regular work hours, overtime work hours, and shifts of work crews and personnel at the site shall be submitted (at least 48 hours in advance of change in work schedule).

1.7 WORK BY THE GOVERNMENT CONCURRENT WITH CONTRACTOR WORK

The Government will limit interference with the Contractor's work to a minimum duration possible.

1.8 EXISTING FACILITIES

1.8.1 Sanitation Facilities

Existing restroom facilities will not be made available for use by Contractor personnel. The Contractor shall provide his own sanitation facilities furnished in accordance with EM 385-1-1. The Contractor's sanitation facilities shall be located outside the powerhouse at approved locations. The Contractor shall provide freeze protection during the months October through March to prevent any spillage.

1.8.2 Personnel Elevator (Hartwell only)

The personnel elevator, located in the entrance corridor of the powerhouse control structure, may be used by the Contractor's employees. This elevator will service elevations 527.58, 512.58, 498.5, 474.5, and 466.5. The elevator shall not be used to move equipment and material that interfere with normal personnel use.

1.9 UTILITIES

1.9.1 General

All utilities provided by the Government shall be at no cost. Care shall be exercised in conserving all Government-furnished utilities. Extension cords shall be Contractor-furnished. All temporary utility connections shall be subject to approval. The location of all power lines and all temporary connections for electricity shall be subject to approval. Power cords on the El. 512.0 at Hartwell and El. 350.0 at Russell service deck shall not block gantry crane travel. All temporary circuits and devices shall be Contractor provided, connected, and maintained and removed prior to final acceptance. All electrical hardware furnished and used by the Contractor and connected to Government equipment shall fully interface with existing equipment. Ground fault protection for all circuits used shall be Contractor-furnished. All utilities that are required for use in performance of the work under this contract shall be Contractor-furnished except as noted below:

a. Water. All reasonable amounts of non potable water will be made available from existing outlets. The Contractor shall freeze proof all water systems being used in his operations during the winter months October through March.

b. Electricity. Electric power in the area for each unit may be obtained from the following existing sources at each unit.

(1) Two - 120-volt, 1 phase receptacles

(2) One - 480-volt, 3-phase 30-ampere (maximum) circuit

c. Compressed Air. Up to 200 scfm (total) of compressed air (nominal pressure of 100 psig) will be provided from existing 3/4-inch outlets at Hartwell. The Contractor shall be responsible for providing compressed air at Russell; however, the Contractor may use Government-furnished electricity to operate small portable compressors.

1.9.2 Telephone

The Contractor shall be responsible for having the telephone company furnish all telephone service needed on the job site. The project telephone system will not be available to the Contractor. Cellular phones may be used.

1.10 BARRICADES AND DANGER, DETOUR AND WARNING SIGNS

1.10.1 Barricades, and Danger and Detour signs

The Contractor shall provide, erect, and maintain all necessary barricades, suitable and sufficient red lights, danger signals, and detour and other signs; provide a sufficient number of watchmen; and take all necessary precautions for the protection of the work and the safety of the public. Roads or access ways closed to traffic shall be protected by effective barricades, and the obstruction shall be continuously illuminated day and night. Suitable warning signs shall be illuminated by lanterns or flares day and night.

1.10.2 Warning Signs

Warning signs shall be erected 500 feet in advance of any place on the project where operations interfere with the use of a road by traffic. Warning signs shall conform to the standards established in Part IV of the "Manual on Uniform Traffic Control Devices for Streets and Highways," published by the U.S. Dept. of Transportation.

1.11 PROJECT REPORTING

Monthly reports shall be prepared giving the project status and activities information. An updated CPM should be included in this report. This report shall include a written summary, accompanied with detailed information relating to current status of procurement, construction, and delivery activities, and an updated site work schedule.

1.12 WEEKLY MEETINGS

Once each week a general meeting will be held between the Contractor and the Government. This meeting will be used to discuss progress in the last week and work planned in the up coming week. A meeting time and place shall be mutually agreed upon.

1.13 SITE WORK SCHEDULE

A site work schedule shall be prepared. The schedule shall include a detailed critical path diagram (CPM), featuring major and minor work elements and stages of the work. This schedule shall be updated and submitted with the monthly progress report to reflect the actual work elements and progress, and that anticipated in the future.

1.14 SAFE CLEARANCE PROCEDURES

A Safe Clearance System, as stated in EM-385-1-1, Safety and Occupational Health ER 385-1-31, and District Pamphlet DP 1130-2-23 is used by project personnel to insure continuity of service and safety to personnel and equipment. Any work performed which requires taking project operating equipment out of service will be done only after a formal clearance is obtained by the Government with a 24-hour minimum notice. After the Government clearance tag has been placed on the equipment, the Contractor shall place his own clearance tag on the equipment. Safe Clearance procedures shall not be violated by Contractor personnel, and any violations will be grounds for requesting the removal of the offender(s). Up to 2 copies of the Hartwell and Russell Powerplants Safe Clearance Procedure program will be supplied to the Contractor upon request.

1.15 GENERATING UNIT AVAILABILITY

The Government will arrange for the unit outages. All work shall be coordinated to limit the length of the unit outage. All work performed on units taken out of service shall not impair the capability of the Government to operate equipment not taken out of service. All outages required shall be obtained through the Government seven calendar days in advance. An attempt will be made to make units available on the dates the Contractor desires, and in accordance with the approved site schedule; however, power demands and emergency maintenance requirements may limit unit availability. Should this occur, the Contractor will be notified. The first day of availability shall not be a weekend day. The length of the outage for each unit shall not exceed thirty (30) days.

1.16 USE OF POWERHOUSE CRANE

1.16.1 General Information

Hartwell has a 300-ton gantry crane with two trolleys. Each trolley has a 150-ton main hoist and a 20-ton auxiliary hoist. The gantry crane will be made available, upon request, to the Contractor for non-exclusive use for the duration of the contract.

Russell has two bridge cranes. There is a 300-ton unit with two trolleys, each of which has a 150-ton main hoist and a 25-ton auxiliary hoist. There is a second crane rated at 10 tons. The bridge cranes will be made available, upon request, to the Contractor for use.

The Contractor shall provide crane operator(s) and rigger(s) to operate the crane through the duration of the on-site work. Crane usage scheduling shall be discussed at the weekly Contractor/Government site meeting. Upon completion of the use of the crane and Government furnished lifting devices, and prior to final acceptance of the work, cranes and lifting devices used by the Contractor shall be restored to previous condition less fair wear and tear, as directed. The Contractor will be held liable for all damages incurred as the result of the negligent operation or use of the crane. The Contractor shall report all problems encountered with the crane immediately to the Government. The Government has the right to board the crane at any time for inspection and observation of crane operation.

1.16.2 Emergency Crane Usage and Scheduled Maintenance

The Contractor shall cooperate with the Government in the use of the crane for scheduled and emergency project maintenance. The Government will perform all regular scheduled maintenance and lubrication. The Government will have priority use of the crane in emergency conditions, e.g., for needed use that could not be foreseen or scheduled. Government maintenance and repair of cranes will not be a basis for Contractor claim for delay. As a guide, the following information on crane usage for existing project maintenance is furnished. The information is general and subject to changes in operating procedures and by emergency situations. The Government will furnish its own operators and riggers in these situations.

a. Biannual inspection of generating units.

b. Non-scheduled maintenance of generating units.

c. Miscellaneous occasional usage of the crane amounts to 4 to 8 days per month.

1.16.3 Contractor’s Crane Operator

Qualified Contractor gantry crane operators shall be furnished for the operations. Each crane operator, in addition to meeting the requirements of EM 385-1-1, shall have had at least one year's experience on a counterpart crane of equivalent capacity and characteristics. Qualifications for each operator in the form of an affidavit signed by the operator and the Contractor shall be submitted. The affidavit shall include a complete record of all related work with particular emphasis on experience directly related to operation of a counterpart crane handling comparable loads. Before any operator is approved, they shall spend at least one hour being checked out on the crane under the direct surveillance of the Government. The operator may be re-tested at any time. The crane operators shall have current (within the previous 12 months) physical or medical examinations with emphasis on hearing, eyesight, and cardiovascular conditions. Dates of the physical exams shall be submitted with the affidavit.

1.16.4 Contractor’s Riggers

Qualified riggers shall be furnished for lifting and in attaching such loads to the crane. An affidavit stating the riggers qualifications shall be submitted. The affidavit shall include a complete record of all related experience and be signed by the rigger and the Contractor. Riggers shall be checked for knowledge of hand signals by the Government.

1.16.5 Lifting Devices

Any special lifting devices required for the work shall be provided by the Contractor and shall be turned over to the Government upon completion of the contract. All slings used shall be provided new. Slings shall be used for direct in line pulls or loading, and not used for wrapping around a load and lifting that load.

1.17 PLANT AND EQUIPMENT LIST

A complete list of all plant and equipment, exclusive of shop equipment, to be used on the project shall be furnished. An up-to-date plant and equipment list shall be submitted with the end-of-the-month request for payment, throughout the life of the contract. The lists shall include rented equipment as well as lease-purchase or sale-leaseback equipment. The initial list and the revised monthly lists shall indicate dates equipment is assigned to, or removed from, the project, dates deadlined for repairs and returned for use, and adequate identification or description of each item of equipment including manufacturer's name (abbreviated), model number, manufacturer's serial number, year of manufacture, and Contractor's assigned serial or record number.

1.18 CONTRACTOR'S EQUIPMENT AND MATERIAL

1.18.1 General

The planned method of transportation and operation of cranes and other heavy equipment to be used in the performance of this contract shall be submitted. This shall include the type, size, and loadings of equipment and the proposed transportation routes and work areas to be used on the project. Operation of heavy equipment adjacent to existing structures shall be avoided when possible. The Contractor shall be responsible for receiving, unloading, moving, and loading all equipment and material necessary for the completion of this work.

1.18.2 Movement of Equipment and Materials by the Contractor

The Contractor shall provide all cranes, rigging, lifts, operators, and other necessary means to move equipment or material, whether owned by the Government or by the Contractor, as required to pursue and complete the work unless otherwise specifically mentioned. This includes but is not limited to the unloading and loading of equipment and material.

1.19 STORAGE OF EQUIPMENT AND MATERIALS

Indoor and outdoor storage of equipment and materials will be permitted only in designated staging areas noted on the contract drawings and as set forth in these specifications, unless otherwise approved. All equipment and materials proposed for temporary storage within the Government allocated staging areas shall be approved prior to transporting to the staging area. A minimum access space of three feet shall be maintained between the Contractor's stored items and the existing powerhouse equipment.

1.20 TOOLS AND MISCELLANEOUS EQUIPMENT

Government tools and equipment in the powerhouse machine shop, i.e., lathes, drill presses, etc., are not available for use.

1.21 DAMAGED EQUIPMENT OR ABNORMAL CONDITIONS

The Government shall be informed immediately upon finding any damaged equipment or other abnormal conditions involving additional work in which the Contractor believes it has no responsibility. The failure or abnormality shall not be disturbed until witnessed. Any damage or abnormal conditions not reported as specified above but discovered at a later date shall also be corrected.

1.22 PROTECTION OF MATERIAL AND WORK

All materials, supplies, tools, equipment, and Government property (including all tools, equipment, and special devices supplied by the Contractor and to be turned over to the Government at the end of the Contract) shall at all times be protected and preserved in an approved manner, and in accordance with manufactures recommendations.

If material, equipment, supplies, and work performed are not adequately protected, such property may be protected by the Government and the cost thereof will be charged to the Contractor or deducted from any payment due. Protection of the powerhouse floors and walls shall be provided and maintained by the Contractor. The Contractor shall be responsible for the satisfactory removal of all stains and residues, and the satisfactory repair of damage to structures and equipment. Operating components of existing powerhouse equipment shall be protected by suitable methods as approved.

1.23 CONTRACTOR'S MISCELLANEOUS BUILDINGS

The building of structures, or the erection of tents or other forms of protection, will be permitted only at such places as approved, and the sanitary conditions of the grounds in or about such structures shall at all times be maintained in a satisfactory manner. The Contractor shall be responsible for providing all utilities to these facilities. Temporary facilities provided during Construction shall be removed as a minimum upon satisfactory completion of the last unit's operational tests. The area shall be left looking “broom clean”.

1.24 TEMPORARY FACILITIES

Temporary facilities provided during Construction shall be removed prior to final payment.

1.25 PROTECTION AND RESTORATION OF EXISTING FACILITIES

The Contractor shall provide all necessary enclosures and equipment to protect the existing equipment from any adverse environmental conditions (such as dust, dirt, and ambient conditions which may cause condensation on the unit components). The Contractor shall submit the method of protection for approval prior to installation of any enclosures or equipment. All existing facilities shall be protected whether or not shown on the drawings. Upon completion of the work, all the existing facilities, not included as a portion of the work, shall be left in a condition equal to the original condition prior to the contract. Costs for repair and restoration of any facilities shall be considered to be incidental to and included in the contract price.

1.26 SCAFFOLDING

Any scaffolding, ladder, stairway, or other access schemes proposed to be used shall be submitted for approval, including type, layout, and connections. Approved anti-slip surface material shall be installed on scaffolding platforms. Scaffolding shall comply in every respect with EM 385-1-1.

1.27 DAILY CLEANUP AND DISPOSAL

In conjunction with SECTIONS 01355, and 02081, work areas shall be kept reasonably neat on a daily basis. All debris resulting from the work, such as waste metalwork, packing cases, scrap lumber, oil and grease spills, and other debris shall be collected, removed, and disposed of off-site at least once per week. The location of the Contractor's off-site disposal area and a plan for safe disposal of material shall be submitted for approval. The Government's trash cans, dump-boxes, and other containers shall not be used. Liquid waste shall not be disposed of in powerhouse drains. All costs of removing debris shall be incidental to the work, and no separate payment will be made therefore.

1.28 DUST CONTROL IN THE POWERHOUSE

1.28.1 General

Depending upon the Contractor's plant and equipment and methods of operation, additional provisions for satisfactory dust control will be required and shall be included in the proposed dust control program. Decisions of the Government as to the adequacy and extent of the dust control program and prosecution of the work shall be

final. The dust control in the powerhouse shall be considered as incidental to the work and no separate payment will be made therefore.

1.28.2 Dust Control Program

All necessary measures shall be taken to effect maximum control of all dust and welding fumes created by operations under this contract. To the maximum extent possible, all dust and dirt shall be removed by vacuum cleaning, unless otherwise approved. Prior to commencement of such operations, the proposed dust control program shall be submitted. Part of the required dust control program shall include the following:

a. Provision of exhaust ducts which shall discharge outside the powerhouse structure where mechanical ventilation is used.

b. Controlled operation of power-driven tools.

c. Furnishing and removing of oiled sawdust or other approved dust preventatives in areas which cannot be properly rendered free from excessive dusting by vacuum cleaning or other methods.

d. Vacuum cleaning (or other acceptable method) of spaces within the powerhouse where dust accumulates.

e. Gasoline or diesel-engine equipment may not be used inside the powerhouse. Air, electrical, propane, or battery-driven equipment may be used inside the powerhouse.

f. The powerhouse is pressurized to prevent dust infiltration from the outside. All doors will be kept closed when not being used.

1.29 CARE OF DRAINS

Existing powerhouse drains shall not be used for disposal of any solid material (such as blast material) or any liquids other than clear water. Drains obstructed by the Contractor shall be cleaned by the Contractor. All costs incurred in the cleaning and clearing of plugged drains, shall be borne by the Contractor.

1.30 DISPOSAL OF MATERIALS

Title to all materials and equipment to be disposed of will be vested in the Contractor when beginning disassembly work on that unit, or such materials and equipment that are designated scrap. The Government will not be responsible for the condition, loss, or damage to such property after title transfer. The Contractor may retain these items in usable form and take possession of them providing that there is no subsequent cost or inconvenience to the Government. The Government does not guarantee that these items are complete or in working order, and the Contractor shall assume responsibility for any damages caused by their use immediately upon taking possession of them. Scrap materials shall be removed from the Government's property, within 90 days of removal from each generating unit. Scrap shall not be sold on the site. Disposal of hazardous wastes shall be in accordance with SECTION 02081.

1.31 NOISE CONTROL

Noise control and noise levels shall conform to requirements set forth in the appropriate regulations, including OSHA.

1.32 FIRE CONTROL

All fire fighting equipment, supplies, and personnel shall be supplied in accordance with EM-385-1-1. Delays due to fire will not be acceptable as the basis of a claim for additional compensation.

1.33 PARTS CONTROL

A complete written record shall be maintained of the location and estimated date of return of all parts shipped from the project for repair. This record shall be available for review at all times.

1.34 DRAWINGS AND MANUALS

Existing drawings and manuals required for the work will be available for viewing upon request during normal project day shift working hours. Drawings and manuals shall not be removed from the office; however two copies of available technical data and drawings not included in the reference drawings will be made at no cost to the Contractor within five calendar days, excluding weekends, after the request for such copies has been made.

1.35 CONTRACTOR'S AGENT, WORK SUPERVISOR, AND PERSONNEL

1.35.1 Contractor's Agent(s)

The Contractor shall give personal attention to the faithful execution and completion of this work and shall be present either in person or by duly authorized representative(s) on the site of the work continually during its progress. The agent shall be fluent in the spoken and written English language. The agent's qualifications and identification shall be provided. The agent shall be fully authorized to act for the Contractor and to receive such orders as may be given for the proper continuance of the work. Written notice to do any work, to alter any work, or to cease work which the Contractor is obligated to do, or concerning any imperfections in work or any material furnished, when given to the agent shall be considered as notice to the Contractor. A daily log shall be made of the accomplished work, and shall be submitted at the completion of the contract. The agent shall have been engaged in similar work at a minimum of two different powerhouses. A verifying contact, with name and phone number, shall be provided for at least two such facilities.

1.35.2 Contractor's General Personnel

1.35.2.1 General

The Contractor shall prepare and keep updated, as a minimum weekly, a project organization chart reflecting at least those positions described herein and defining their work relationships, etc. All personnel employed by the Contractor shall be fully qualified in their respective fields to render the services necessary.

1.35.2.2 Identification of Contractor's Employees

The Contractor shall be responsible for furnishing to each employee at the powerhouse and for requiring each employee at the powerhouse to display such identification as approved and specified below. All Contractor personnel, prior to engaging in work on project premises, shall either be issued an identification card by the Contractors or agree to provide their driver's license as identification upon request. If the Contractor so decides to furnish identification cards to all employees, the card must include the following information:

Name of Contractor
Name of Employee
Birth date
Weight
Hair color

Eye color
Recent photo

All prescribed identifications shall be returned immediately to the Contractor upon release of any employee. The Contractor shall supply a complete listing of all personnel and their titles who will be working on the project. This listing shall be revised at a minimum of once weekly and revisions provided. When required, the Contractor shall obtain and submit fingerprints of all persons employed by it or to be employed at the powerhouse.

PART 2 PRODUCTS

(NOT USED)

PART 3 EXECUTION

(NOT USED)

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SECTION 01101

SAFETY AND HEALTH PROVISIONS

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(NOT USED)

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(NOT USED)

SECTION 01101

SAFETY AND HEALTH PROVISIONS

PART 1 GENERAL

1.1 GENERAL INFORMATION

The safety and health provisions contained herein shall be complied with in addition to those provisions contained in the clause entitled "Accident Prevention" including ALT 1, FAR 52.236-13, referenced EM385-1-1 and SECTION 01010. These additional provisions are intended to amplify those contained in the aforementioned clause. In any conflict between the "Accident Prevention" clause and this section, the provisions of this section shall govern. All required safety and health plans and procedures shall be developed consistent with current Federal regulations as described in 29 CFR 1910, Occupational Safety and Health Standards; 29 CFR 1926, Safety and Health Regulations for Construction; EM 385-1-, US Army Corps of Engineers Safety and Health Requirements Manual; the permissible exposure limits (PELs) contained in the latest edition of the American Conference of Governmental Industrial Hygienist's (ACGIH) booklet entitled, "Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment and Biological Indices with Intended Changes"; and the provisions of these specifications. The more stringent PELs contained in either 29 CFR Part 1910 or the ACGIH booklet shall be complied with. In order to comply with these specifications, specific safety and occupational health submittal items identified in paragraph 1.3 shall be prepared and submitted for review and approval.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS (ACGIH)

ACGIH-02	(1991 R1992) Threshold Limits Values for Chemical Substances and Physical Agents in the Work Environment and Biological Indices with Intended Changes
ACGIH-03	(1986) Guidelines to the Selection of Chemical Protective Clothing

AMERICAN NATIONAL STANDARDS INSTITUTE, INC, (ANSI)

ANSI Z87.1	(1998) Practice for Occupational and Educational Eye and Face Protection
ANSI Z358.1	(1998) Emergency Eyewash and Shower Equipment

CODE OF FEDERAL REGULATIONS (CFR)

CFR 29 Part 1910	General Industry Standards
CFR 29 Part 1926	Construction Industry Standards
CFR 29 Part 1926.62	Lead-Based Paint Removal Medical Requirements
CFR 40 Part 117	Determination of Reportable Quantities for Hazardous Substances

CFR 40 Part 302	Designation, Reportable Quantities and Notification
CFR 40 Part 355	Emergency Planning and Notification

FEDERAL ACQUISITION REGULATIONS (FAR)

FAR 52.236.13	Accident Prevention

FEDERAL STANDARDS (FED-STD)

FED-STD 313	(Rev C) Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH 84-100	(1984; Supple 1985, 1987, 1988 & 1994) Manual of Analytical Methods
NIOSH 87-108	(1987) Respirator Decision Logic

STEEL STRUCTURES PAINTING COUNCIL SPECIFICATIONS (SSPC)

SSPC Guide 6I (CON)	(1994) Containing Debris Generated During Paint Removal Operations

U.S. ARMY CORPS OF ENGINEERS PUBLICATIONS (USCE)

USCE EM 385-1-1	(1996) Safety and Health Requirements Manual

1.3 SUBMITTALS

1.3.1 General

The following is a listing of Safety and Health submittal items required by this contract. The submittals shall be provided 60 days prior to the start of the site work as required in paragraph 1.3.2.

a. Qualifications and Experience Statement

b. Safety and Health Provisions

c. Safety and Health Program and Accident Prevention Plan

(1) Administrative Requirements

(2) Safety Indoctrination Plan

(3) Activity Hazard Analysis Procedures

(4) Confined Space Procedures

(5) Respiratory Protection Program

(6) Material Safety Data Sheet

(7) Airborne Sampling Plan

(8) Ventilation Assessment

(9) Worker Hazard Communication Program

(10) Medical Surveillance

(11) Lead Protection Program

1.3.2 Safety and Health Submittal Requirements

1.3.2.1 Qualifications and Experience; GA

The Contractor shall submit for review and acceptance, a written Qualification and Experience statement signed and dated by the Contractor and the "Qualified and Competent Persons", defined in EM 385-1-1, that the Contractor has selected to develop the required safety and health submittal items and who will act as the Contractor's onsite safety and health representative during the contract period. The Qualified and Competent person who is responsible for development and implementation of health related submittal items (i.e., air sampling, confined space program, medical surveillance, hazard communication, ventilation system, etc.) shall be a current practicing qualified Industrial Hygienist with a minimum of 3 years of demonstrated experience in similar related work. Acceptance of this submission must be obtained prior to the submission of other required safety and health submittal items.

1.3.2.2 Safety and Health Provisions

1.3.2.2.1 General

This section supplements the requirements of Contract Clause "ACCIDENT PREVENTION". The latest issue of U.S. Army Corps of Engineers, EM 385-1-1, "SAFETY AND HEALTH REQUIREMENTS MANUAL", referenced in Contract Clause "ACCIDENT PREVENTION", is dated September 1996. The Contractor shall comply with the safety and health provisions contained herein in addition to those provisions contained in Contract Clause "ACCIDENT PREVENTION". These additional provisions are intended to amplify those contained in the aforementioned clause. In any conflict between the "ACCIDENT PREVENTION" clause and this section, the provisions of this section shall govern. The Contractor shall develop all required safety and health plans and procedures consistent with CFR 29 Part 1910, CFR 29 Part 1926, and EM 385-1-1, the Permissible Exposure Limits (PEL's) contained in CFR 29 Part 1910, ACGIH-02, and the provisions of these specifications. The Contractor shall comply with the more stringent requirements contained in either CFR 29 Part 1910, CFR 29 Part 1926, ACGIH-02, EM 385-1-1, or these specifications.

1.3.2.3 Safety and Health Program and Accident Prevention Plan; GA

1.3.2.3.1 General

The criteria included in EM 385-1-1, Section 1, "PROGRAM MANAGEMENT", shall be followed by the Contractor when preparing his Accident Prevention Plan. The plan, as a minimum, shall include each of the topic areas listed but may include other safety and health criteria as deemed necessary. Each topic shall be developed in a concise manner to include management and operational aspects.

1.3.2.3.2 Administrative Requirements

a. Administrative responsibilities for effecting the Accident Prevention Plan (i.e., identification and accountability of Contractor personnel responsible for accident prevention).

b. Local requirement, if any, which must be complied with (i.e., noise control, traffic problems, parking and other similar items).

c. Methods proposed to control and coordinate the work of Subcontractors, including list of Subcontractors.

d. Plans for layout and use of temporary construction buildings, facilities and equipment including how the Contractor plans to control those of Subcontractors.

e. Plans for initial indoctrination, continued safety education, and training for the Contractor's and Subcontractor's employees.

1.3.2.3.3 Safety Indoctrination Plan

The safety indoctrination plan shall include, but may not be limited to, the following:

a. General policy and pertinent provisions of EM 385-1-1, the Contractor's Accident Prevention Plan, and Activity Hazard Analyses.

b. General safety and occupational health rules.

c. Responsibilities and authorities of employees during the contract including accident reporting, protection of property and safety of others.

d. Procedure for reporting and correcting unsafe conditions or practices.

e. Identification of specific hazards of the tasks (assignments) employees are to perform and the administrative (standard operating procedures), engineering, and personal protective controls to mitigate those hazards.

f. Procedures and schedules of safety meetings for indoctrination and training of supervisor and employees. Requirements for employee indoctrination and continued training by project safety officer shall include the following:

(1) Training of Contractor's employees for compliance to the Contractor Activity Hazard Analyses of the Accident Prevention Plan

(2) Material handling.

(3) Heavy equipment.

(4) Electrical (including temporary electrical).

(5) Safe clearance procedures.

(6) Fire and explosion protection and prevention.

(7) Confined space standard operating procedures.

(8) Respiratory protection equipment (selection, fit, use, inspection, maintenance, storage, training, and other criteria in accordance with EM 385-1-1).

(9) Hazard communication for employees to include identification of potential hazards, effects of exposure and control measures to be used for chemical products and physical agents that may be encountered during the performance of work on this contract, and other criteria in accordance with CFR 29 Part 1910, Section 120 and CFR 29 Part 1926, Section 59.

(10) Training in the use and understanding of material safety data sheets and chemical product hazard warning labels.

(11) Selection, use, inspection, maintenance, and storage of personal protective clothing and equipment.

(12) Communication methods and systems to be used (i.e., voice hand signals, radios, or other means).

(13) Safe work procedures on or around water areas (water safety).

(14) Personal hygiene (washing and cleaning facilities, sanitation, eating, smoking, and drinking requirements.

(15) Training in types, use of, and safety features of portable and fixed mechanical supply and exhaust ventilation systems.

(16) Hearing protection.
(17) Training in Contractor substance abuse control.

(18) Medical surveillance.

(19) Emergency Medical and first aid requirements.

(20) Fire fighting and other emergency plans and procedures.

(21) Emergency equipment and supplies (i.e., emergency eyewash/shower and absorbent media for cleaning up spills and other equipment and supplies).

g. Procedures for continuous housekeeping (cleanup) and safe access and egress at the job site.

h. Plans for emergency procedures (i.e., ambulance service, fire protection, water-related accidents, and other site-specific emergencies that could occur).

i. Procedures for job site safety inspection, industrial hygiene, and worker and environmental monitoring of hazardous chemical and physical agents.

j. Record keeping procedures. Detailed description of methods and procedures proposed for collecting and maintaining required records.

k. Procedures for accident investigations and reporting (See EM 385-1-1).

l. Description and sketch of temporary power distribution system.

m. Procedures and details of fall protection systems.

n. Description of safe clearance procedures.

1.3.2.3.4 Activity Hazard Analysis Procedures

The Contractor shall develop Activities Hazard Analysis Procedures as part of the Accident Prevention Plan. The procedures shall define how the Contractor will implement the Activity Hazard Analysis in accordance with the criteria in EM 385-1-1 as further described:

a. In accordance with the requirements of EM 385-1-1, the Contractor shall, prior to the beginning of each major phase of work, prepare an Activity Hazard Analysis for that work phase. This analysis shall address the hazards for each activity to be performed in that work phase and shall detail procedures and safeguards necessary to eliminate the hazards or reduce the risks to an acceptable level.

b. The Contractor shall develop this analysis to identify the sequence of work, the specific safety and health hazards anticipated, and the control measures to be implemented to minimize or eliminate each hazard. The Activity Hazard Analysis shall be job specific and shall address the following major points:

(1) Activity being performed (i.e., identify major phase).

(2) Sequence of work.

(3) Hazards to be controlled.

(4) Control measure(s) to mitigate the hazards.

c. A work phase in the analysis is defined as a major operation involving a type of work that presents hazards that must be abated or controlled and that have not been experienced in previous operations, or when a new subcontractor or work crew is to perform work.

d. The analysis for each major work phase will be discussed by the Contractor and Construction Officer's representative. Work shall not proceed on that phase until the Contractor's Activity Hazards Analysis Procedures have been accepted by the Contracting Officer's Representative.

1.3.2.3.5 Confined Space Procedures

Confined space procedures are specified in EM 385-1-1, and CFR 29 Part 1910. The Contractor shall develop detailed written standard operating procedures for confined space monitoring, training, entry, work, and emergency actions in accordance with CFR 29 Part 1910.146, EM 385-1-1, and as further described in this paragraph. The procedures shall include the items listed as minimum and may consider additional factors as identified by the Contractor.

a. Equipment and procedures to be used for testing the air in confined spaces prior to entry and during work, to determine oxygen content, and to detect combustible and toxic atmospheres. Equipment approvals for use in Immediately Dangerous to Life or Health (IDLH) Environments (e.g., Factory Mutual, Underwriters Laboratory), certificates of calibration, which include type of equipment, model number, date of calibration, firm conducting calibration, and signature of individual certifying calibration.

b. Detailed emergency procedures for each type of confined work space including appropriate methods of communication (i.e., visual, voice, hand signal, radio, or other method) and escape or rescue methods. Communication procedures must be established or personnel working in high-noise environments or toxic atmospheres to ensure that such workers do not void the effectiveness of personal protective equipment to communicate with others.

c. A decision-tree diagram identifying the individuals by name, their qualifications, and detailing their responsibilities for administering the Contractor's Confined Space Program to include issuance of confined space permits, confined space monitoring, communication, and standby responsibilities.

d. A detailed discussion of the confined space permit system to be used. Specifically, a copy of the permit which will be used with instructions for completion and issuance should be provided.

e. Details of the procedures to be used for conducting simulated drills prior to initiating work in confined spaces to ensure that the emergency procedures developed are feasible. For example, entrance and exit openings to the confined space must be large enough for a rescue worker wearing a Self-Contained Breathing Apparatus (SCBA) to get himself and the victim out.

f. Safe entry procedures under emergency conditions.

g. Full description of how standby personnel will be trained and used for all confined space operations.

h. Methods of Inspection of personal protective equipment prior to use in confined space.

i. Work practices and other engineering controls designed to reduce airborne hazardous chemical exposures to a minimum.

j. Specification of the design and installation of ventilation systems for confined work spaces to ensure adequate oxygen content and provide for the dilution of paint solvent vapor and lead and other toxic particulates within the confined space. Describe how the Contractor plans to use ventilation smoke tube kits (Mine Safety Appliance (MSA), Pittsburgh, PA, Part No. 458481, with controlled smoke generation for determining flow and velocity of slow moving air, or equal) to evaluate the adequacy of air flow patterns in all parts of the confined space.

k. Full description of how all affected workers will be trained in confined space emergency procedures including space entry (i.e., oxygen deficiency and enrichment, and combustible and toxic gases and vapors); methods of evaluation confined space environment (i.e., use of oxygen meters, combustible gas meters, detector tubes, and any other chemical or physical agent sampling detecting devices to be used); entry procedures; isolation and lockout; air monitoring; work in confined space; standby personnel; respiratory protection procedures; communication procedures; safety equipment; smoking policy; use of entry permits; and appropriate escape of rescue procedures.

1.3.2.3.6 Respiratory Protection Program

As part of the Accident Prevention Plan, the Contractor shall develop a comprehensive written respiratory protection program in accordance with CFR 29 Part 1910, Section 134, EM 385-1-1, and consistent with the guidance contained in the NIOSH Pub No. 87-108. The program shall define policies and procedures for the selection, fit-testing, use, training, maintenance, cleaning, storage, record keeping, and medical requirements for users. The program shall include a listing of the type of respirators to be worn and their National Institute for Occupational Safety and Health and/or Mine Safety and Health Administration (NIOSH/MSHA) approval statements and numbers. The Contractor shall state how employees will be informed that facial hair cannot interfere with the sealing surface or valve function or respirators required to be worn.

1.3.2.3.7 Material Safety Data Sheets

The Contractor shall fully detail procedures or shall provide Material Safety Data sheets (MSDS'S) for hazardous materials that will be brought onto, used, and consumed at the jobsite. For the purpose of the Contract, hazardous materials are those described by FED-STD 313 and CFR 29 Part 1910, Section 1200 and CFR 29 Part 1926, Section 59. MSDS's for hazardous materials furnished by the Government are appended to this Contract document. MSDS's for Contractor furnished hazardous materials must be obtained from the product manufacturer, importer, distributor, or supplier and a copy shall be provided to the government's on-site representative prior to use.

1.3.2.3.8 Airborne Sampling Plan

The Contractor shall develop and submit an air sampling plan as part of the Accident Prevention Plan detailing the NIOSH, Factory Mutual, or Underwriters Laboratories approved equipment, equipment calibration procedures,

sampling methods, and analytical procedures to be used based on the type of work to be performed, confined space air monitoring procedures required in accordance with paragraph "CONFINED SPACE PROCEDURES", and anticipated toxic contaminants to be generated. The Contractor shall review the constituents of the paint systems to be applied and/or removed, thinners, cleaners, and abrasive media as well as confined spaces to be entered to determine the scope of the sampling and analysis using the NIOSH Manual of Analytical Methods. The Contractor shall submit the name of the laboratory to be used to conduct the analysis of any collected air samples. The laboratory shall be accredited by American Industrial Hygiene Association (AIHA) as described in paragraph "ATMOSPHERIC TESTING". The plan shall note procedures to provide details of how the Contractor will provide to the Contracting Officer's Representative the laboratory-conducted analysis of air sampling within 5 working days of the sample date and the results from direct-reading instrumentation on the same day the samples were collected.

1.3.2.3.9 Ventilation Assessment

The Contractor shall submit for acceptance the method to be used to provide ventilation assessment required by paragraph "VENTILATION".

1.3.2.3.10 Worker Hazard Communication Program

The Contractor shall submit a worker hazard communication program for his employees consistent with CFR 29 Part 1910, Section 1200 and CFR 29 Part 1926, Section 59, and state and local worker "right-to-know" rules and regulations. The program shall detail how the Contractor's employees will be informed of the constituents of the paint systems, thinners, solvent cleaners, abrasive blasting media, and other materials used, as well as their potential hazards and toxic effects; how they will be informed of control measures that may be taken to prevent or minimize exposure; how they will also be informed of any exposure hazards associated with removal of surface coatings materials. This submittal shall show how the hazardous materials to be used or generated during work operations are to be identified and how employees will be informed of the hazards prior to beginning the work task. In addition, the program shall detail how the Contractor will ensure, prior to usage, that all Government- and Contractor-furnished containers of paints, thinners, or other hazardous materials are labeled in accordance with the requirements of CFR 29 Part 1910, Section 1200 and CFR 29 Part 1926, Section 59. The program shall describe procedures to ensure that workers will not open chemical product containers which are improperly labeled and how the Government's onsite representative will be informed of any chemical product containers furnished by the Government that are improperly labeled. The program shall also detail the requirements for labeling a product after it has been transferred from a labeled shipping container to a secondary container to ensure that information required by the OSHA Hazard Communication standard is placed on the secondary container.

1.3.2.3.11 Medical Surveillance

The Contractor shall describe how to provide medical surveillance to the work force as required in paragraph "MEDICAL STATUS" and provide a statement from the examining physician indicating the name of each employee who has been medically evaluated as described in paragraph "MEDICAL STATUS" and cleared to perform the work required by the Contractor. The statement shall detail any physical limitations, the employee's physical and psychological capability to wear respiratory protective and other person protective equipment and perform job related tasks, and bear the date of the medical evaluation, the physicians name, signature and telephone number.

1.3.2.3.12 Lead Protection Program

For all job sites where lead is present, the Contractor shall develop a comprehensive lead protection program in accordance with 29 CFR 1926.62. The program shall include, but is not limited to the following:

(1) Containment Plan
(2) Visible Emissions Monitoring Plan
(3) Ambient Air Monitoring Plan

(4) Water Quality Plan
(5) Soil Quality Plan

(1) Containment Plan

For all job sites where lead is present, the Contractor shall develop a plan for containing all lead contaminated waste. The containment shall comply with the requirements of SSPC Guide 6I (CON), Class 3. The plan shall include drawings, load-bearing capacity calculations, and wind load calculations. When the design is such that the spent abrasive is allowed to accumulate in quantities greater than 1,000 pounds, and/or impart a significant wind load on the structure, the contractor shall have the drawings approved by a registered structural engineer. The drawings and calculations shall be stamped with the engineer's seal. The contractor shall also identify the type and placement of water booms, methods for anchoring the booms, and the procedures for removing debris.

(2) Visible Emissions Monitoring Plan

For all job sites where lead is present, a Visible Emissions Monitoring Plan is required for jobsites requiring moderate control on emissions. The Contractor shall develop a plan for monitoring the visible emissions from the project. The time of emissions shall be measured in accordance with 40 CFR 60, Appendix A, Mtd 22. The plan shall also include the provisions for halting work and correcting the containment in the event unacceptable emissions are observed. General statements shall not be used; specific methods, procedures, and details are required. Random emissions from the containment shall not exceed 1 percent of the work day. The Contractor shall document each time that the work is halted due to a violation of the visible emissions criteria. Documentation shall include the cause for shutdown and the corrective action taken to resolve the problem.

(3) Ambient Air Monitoring Plan

a. PM-10 Monitoring Plan

For all job sites where lead is present, the Contractor shall develop a plan for monitoring emissions of particulate matter 10 microns or less in size (PM-10). The plan shall comply with the requirements of EPA regulation 40 CFR 50.6 and shall include provisions for halting work and correcting the containment in the event unacceptable emissions occur. The positioning of air monitoring equipment shall be in accordance with 40 CFR 58, Appendix E, subpart (8). In addition, a minimum of two PM-10 monitors shall be used at the project site, one down wind from the project and one in the area of greatest public access (e.g., playground, school yard, or homeowner's yard). When the project is in an area where there are critical receptors nearby, monitoring shall be conducted throughout the entire period that abrasive blasting and cleanup operations are performed. Otherwise, monitoring shall be performed 4 of the first 8 days and on a regular basis thereafter for a sum total of 25 percent of the time surface preparation and debris cleanup are performed. Failure to meet air quality regulatory limits shall require air monitoring to be repeated immediately after corrective actions have been taken. The Contractor shall also conduct pre-project PM-10 monitoring. The pre-project PM-10 monitoring shall be conducted a minimum of 2 weeks prior to the beginning of the project. The monitoring shall continue for a minimum of 3 days to establish background levels. A report of the results shall be submitted to the Contracting Officer within 48 hours and shall include:

(1) Name and location of jobsite.

(2) Date of monitoring.

(3) Time of monitoring (i.e., time monitoring begins and ends each day)

(4) Identification and serial number of monitoring units.

(5) Drawing showing specific location of monitoring units.

(6) Drawing showing specific location of paint removal operation and the method of removal or work activity being performed.

(7) wind direction and velocity.

(8) Airflow chart verifying the rate of air flow across the filter throughout the sampling period.

(9) Name and address of laboratory.

(10) Laboratory test procedure.

(11) Laboratory test results.

(12) Signatures of field and laboratory technicians conducting the work.

b. TSP Monitoring Plan

For all job sites where lead is present, the Contractor shall develop a plan for monitoring emissions of Total Suspended Particulates (TSP). The plan shall comply with the requirements of EPA regulation 40 CFR 50.12 and shall include provisions for halting work and correcting the containment in the event unacceptable emissions occur. The positioning of air monitoring equipment shall be in accordance with 40 CFR 58, Appendix E, subpart (8). In addition, a minimum of two TSP monitors shall be used at the project site, one down wind from the project and one in the area of greatest public access (e.g. playground, school yard, or homeowner's yard). TSP-lead monitoring shall be conducted in accordance with 40 CFR 50, Appendix B. When the project is in an area where there are critical receptors nearby, monitoring shall be conducted throughout the entire period that abrasive blasting and cleanup operations are performed. Otherwise, monitoring shall be performed 4 of the first 8 days and on a regular basis thereafter for a sum total of 25 percent of the time surface preparation and debris cleanup are performed. Failure to meet air quality regulatory limits shall require air monitoring to be repeated immediately after corrective actions have been taken. The Contractor shall also conduct pre-project TSP monitoring. The pre-project TSP monitoring shall be conducted a minimum of 2 weeks prior to the beginning of the project. The monitoring shall continue for a minimum of 3 days to establish background levels. A report of the results shall be submitted to the Contracting Officer within 48 hours and shall include:

(1) Name and location of jobsite.

(2) Date of monitoring.

(3) Time of monitoring (i.e., time monitoring begins and ends each day)

(4) Identification and serial number of monitoring units.

(5) Drawing showing specific location of monitoring units.

(6) Drawing showing specific location of paint removal operation and the method of removal or work activity being performed.

(7) wind direction and velocity.

(8) Airflow chart verifying the rate of air flow across the filter throughout the sampling period.

(9) Name and address of laboratory.

(10) Laboratory test procedure.

(11) Laboratory test results.

(12) Signatures of field and laboratory technicians conducting the work.

(4) Water Quality Plan

For all job sites where lead is present, the Contractor shall develop a plan to ensure that no lead is released into bodies of water or storm sewers. Therefore, NPDES permits per EPA regulation 40 CFR 122 are not required for the project. The plan shall include provisions for halting work if spills or emissions are observed entering into bodies of water or found in areas where storm water runoff could carry the debris into bodies of water or storm sewers. The plan shall also address cleanup and reporting procedures. In the event that there are any releases of lead paint debris into the waterways, with reportable quantities of hazardous substances designated pursuant to Section 311 of the Clean Water Act, they shall be reported to the EPA in accordance with 40 CFR 117 and 40 CFR 355. Releases or spills that carry into waterways or storm sewers shall be thoroughly documented. The documentation shall include the time and location of the release, amount of material released, actions taken to clean up the debris, amount of debris recovered, and corrective action taken to avoid a reoccurrence. Releases shall also be reported to the Coast Guard and other state and local authorities as appropriate. If the release is equivalent to 10 pounds or more of lead-containing material in a 24-hour period, it is considered to be a reportable quantity under CERCLA. The Contractor shall comply with 40 CFR 302.

(5) Soil Quality Plan

For all job sites where lead is present, the Contractor shall develop a plan to establish and implement practices and procedures for preventing contamination of the soil from the lead removal operation. The plan shall include provisions for halting the work should soil contamination occur, correcting the deficiencies responsible for the contamination, and provide procedures for removing and replacing contaminated soil. Unless otherwise directed by the Contracting Officer, soil shall be considered to have been contaminated by the Contractor's operation if an increase in the total lead content of 100 ppm or greater over background levels occurs. Soil sampling and lead testing shall be conducted prior to the beginning of the project and after the project is completed. Interim testing may also be performed in the event the Contractor or Contracting Officer wants to confirm that the containment system and work practices continue to provide satisfactory protection of the soil. Unless otherwise directed by the Contracting Officer, the following minimum test locations shall be selected for soil analysis. Two locations shall be selected beneath or immediately adjacent to the structure being prepared, and additional samples shall be taken within 100 feet in each direction of the project (i.e., N, S, E, W) in which soil is present. The number of soil sample locations shall be sufficient to adequately characterize the soil lead levels within and around the project area. Three composite samples shall be collected at each location. Each of the three samples shall be comprised of five individual plugs of soil combined in a single bag. The composite samples at each location shall be collected using the following procedure:

a. Place a 1-square-foot template at each location.

b. Remove a sample of soil 3/4 inch in diameter and 1/2 inch in depth at the center of the template and at each of the four corners. Place the five soil plugs into a single bag. This represents one of the three samples to be removed at a given location.

c. Move the template 1 inch in any direction and repeat the process to collect the second sample. Place all plugs in a separate bag. Move the template 1 inch farther to collect the third sample.

d. Identify each sample bag with the date, specific location of the sample, name and signature of the sampling technician, and complete chain of custody records.

e. It is critical that the specific location of each sample be thoroughly measured and documented as the final project testing (and any interim testing) must be sampled in the precise locations.

One of the three samples collected at each location shall be analyzed for lead content. One of the remaining two samples shall be maintained by the Contractor for the duration of the project and the other by the Contracting Officer in the event a reanalysis is required. The samples shall be analyzed in accordance with EPA 3050 or an EPA approved equivalent method by a laboratory listed by the American Industrial Hygiene Association (AIHA) as being proficient in conducting the test. The Contractor shall note that if it is determined that contamination of the soil has occurred as a result of the paint removal operations, TCLP testing will be employed to determine if the soil must be handled and disposed of as a hazardous waste. The initial sampling of the soil for total lead content does not establish whether the soil would be considered hazardous by TCLP testing. As a result, at the Contractor's option, additional prejob soil samples may be removed (minimum of 100 grams is required for a single test at each site) to conduct TCLP testing to establish whether the soil would be classified as hazardous prior to project startup. In the event that there is a release of lead paint debris onto the soil and if the release is 10 pounds or more of lead-containing material in a 24-hour period, it is considered to be a reportable quantity under CERCLA. The Contractor shall comply with 40 CFR 302. The Contractor shall thoroughly document the occurrence of any spills of lead debris into the soil. The documentation shall include the time and location of the release, amount of material released, actions taken to clean up the debris, amount of debris reclaimed, and corrective action taken to avoid a reoccurrence. The documentation shall be provided to the Contracting Officer and shall also include the results of laboratory testing.

1.4 OTHER SAFETY AND HEALTH REQUIREMENTS

1.4.1 Abrasive Blasting

1.4.1.1 Hoses And Nozzles

Hoses and hose connection of a type to prevent shock from static electricity shall be used. Hose lengths shall be joined together by approved couplings of a material and type designed to prevent erosion and weakening of the couplings. The couplings and nozzle attachment shall fit on the outside of the hose and shall be designed to prevent accidental disengagement. A dead man-type control device shall be provided at the nozzle end of the blasting hose to cut off the flow in the event the blaster loses control of the hose.

1.4.1.2 Blasting Helmets

Blasting operators shall be protected by MSHA/NIOSH-approved air line fed abrasive blasting helmets of a continuous flow, positive-pressure type. Breathing air, source of supply, and other respirator criteria shall conform to the requirements of CFR 29 Part 1910, CFR 29 Part 1926 and EM 385-1-1.

1.4.1.3 Protective Clothing

Blasting operators shall be protected against injury from impact of blast abrasive by wearing appropriate protective equipment, including heavy canvas or leather gloves and aprons, or equivalent protection. Safety shoes or boots shall be worn. Hearing protectors shall be worn during all blasting operations.

1.4.1.4 Workers Other Than Blasters

Workers other than blasting operators working in close proximity to abrasive blasting operations shall be protected by utilizing MSHA/NIOSH-approved half-face or full-face air purifying respirators equipped with high-efficiency particulate air (HEPA) filters, eye protection meeting or exceeding ANSI Z87.1 and hearing protectors (ear plugs and/or ear muffs). Representative air sampling, in the breathing zone of the worker, shall be obtained prior to permanent issuance of any respiratory protection to assure that the protection factor of the respirator is not exceeded. The frequency of air sampling may be reduced if nonsilica-containing abrasive blasting material (1 percent free silica content or less) is used and when it has been determined by bulk sampling and chemical analysis that the surface coating to be removed will not generate toxic airborne particulates (e.g., lead, cadmium or chromates). Information regarding chemical composition of primers and surface coatings to be removed and abrasive blasting media shall be fully considered when developing criteria required in paragraph "AIRBORNE SAMPLING PLAN".

1.4.2 Cleaning With Compressed Air

As required in EM 385-1-1, cleaning with compressed air is prohibited, except where the pressure has been reduced to less than 30 pounds per square inch (psi) or when the air hose is equipped with a pressure-reducing valve. Persons using high-pressure compressed air for blowdown after abrasive blasting operations shall be protected by the same equipment required for abrasive blasters in paragraphs "BLASTING HELMETS" and "PROTECTIVE CLOTHING".

1.4.3 Cleaning With Solvents

1.4.3.1 Ventilation and Respiratory Protection

Ventilation shall be provided in confined or enclosed spaces where solvents are used for cleaning to remove solvent vapors at the source and to dilute their concentration to no greater than 10 percent of the Lower Explosive Limit (LEL). Exhaust ducts shall discharge clear of the working areas and possible sources of ignition. Persons conducting solvent cleaning in confined or enclosed spaces shall wear MSHA/NIOSH-approved SCBA with a full face piece operated in a pressure demand or other positive-pressure mode or Supplied Air Respirators (SAR) (air line type) with full facepiece operated in pressure demand or other positive-pressure mode in combination with an auxiliary SCBA (emergency escape bottle) operated in pressure demand or other positive-pressure mode. Auxiliary SCBA must be of sufficient duration to permit escape to safety if the air supply is interrupted. Representative air monitoring in accordance with the Contractor's air-monitoring plan shall be conducted to determine hazardous atmospheres. Contractor confined-space procedures shall be implemented prior to confined or enclosed-space solvent cleaning operations. Where cleaning activities using solvents are being carried out in areas that the Contractor's on-site safety and health representative has determined are not confined or enclosed spaces, persons conducting such cleaning shall wear, as a minimum, MSHA/NIOSH-approved chemical cartridge/canister half- or full-facepiece air-purifying/respirators that have sorbent suitable for the chemical properties of the anticipated gas/vapor contaminant and for the anticipated exposure levels. Whenever high airborne concentration of particulates are anticipated or encountered during cleaning with solvents, approved air-purifying chemical cartridge/canister respirators that have a particulate prefilter suitable for the specific type(s) of gas/vapor and particulate contaminant(s) and for the exposure concentration shall be worn. Air monitoring shall be conducted in the breathing zone of the worker to determine specific solvent vapor concentrations prior to the permanent issuance of respiratory equipment to assure that the Assigned Protection Factor (APF) of the respirator is not exceeded. APF is defined as the anticipated workplace level of respiratory protection provided by a properly functioning respirator or class of respirators to a percentage of properly fitted and trained users. The maximum specified use concentration for a respirator shall be determined by multiplying the permissible exposure limit for the contaminant by the protection factor assigned to a class of respirators. Refer to NIOSH-Pub No. 87-108, Respirator Decision Logic, for guidance.

1.4.3.2 Protective Clothing

Exposure of skin and eyes to solvents shall be avoided by utilization of appropriate chemical resistant gloves, apron clothing (if applicable), safety goggles, and face shield. Guidance regarding selection of appropriate clothing may be obtained by consulting the ACGIH-03.

1.4.4 Pretreatment of Metals and Concrete With Acids

1.4.4.1 Personal Protective Equipment

Exposure of skin and eyes to acids shall be avoided by wearing appropriate acid-resistant gloves, apron, clothing (if applicable), approved safety goggles, and face shields.

1.4.4.2 Emergency Equipment

The following requirement for the acid pretreatment operation is in addition to that required by EM 385-1-1. In accordance with ANSI Z358.1, an emergency eyewash that provides at least 15 minutes of continuous clean waterflow and a deluge shower shall be provided for the acid pretreatment operation.

1.4.5 Paint Application

1.4.5.1 Ventilation

A ventilation assessment shall be conducted for enclosed and confined spaces prior to initiating activities to ensure that an adequate amount of makeup air will be provided. All areas of these spaces shall be swept by moving air. The effectiveness of the ventilation shall be checked by using ventilation smoke tubes and making frequent oxygen and combustible gas readings during painting operations. When using solvent based paints in enclosed and confined spaces, ventilation shall be provided to exchange air in the space at a minimum rate of 5,000 cubic feet per minute per spray gun in operation. Except for a zone within 5 feet in any direction from an operating spray nozzle, the concentration of volatile material at any location in the confined or enclosed space shall not exceed 10 percent of the LEL. This may be accomplished by increasing the volume of air exhausted and by carefully selecting the exhaust and supply fan locations. Requirements for electrical equipment are found in paragraph "EXPLOSION PROOF EQUIPMENT". It may be necessary to install both a mechanical supply and exhaust ventilation system to effect adequate air changes within the confined space. All air-moving devices shall be located and affixed to an opening of the confined space in a manner that assures that the airflow is not restricted or short circuited and is supplied in the proper direction. Means of egress shall not be blocked. Ventilation shall be continued after completion of painting and through the drying phase of the operation. If the ventilation system fails or the concentration of volatiles exceeds 10 percent of the LEL (except in the zone immediately adjacent to the spray nozzle), painting shall be stopped and spaces evacuated until such time
that adequate ventilation is provided. An audible alarm that signals system failure shall be an integral part of the ventilation system. Exhaust ducts shall discharge clear of the working areas and away from possible sources of ignition.

1.4.5.2 Atmospheric Testing

The Contractor shall implement the Airborne Sampling Plan required by paragraph "AIRBORNE SAMPLING PLAN". Representative air samples shall be collected to determine if toxic contaminants are being generated in concentrations that may be harmful to workers. The Contractor shall utilize NIOSH-approved sampling and analytical methods as described in the NIOSH-Pub No. 84-100. Laboratories utilized to analyze samples shall be AIHA-accredited and shall have demonstrated proficiency in the analysis to be performed as evidenced by successful passing participation in the joint NIOSH/AIHA Analytical Testing Proficiency Program (PAT). A listing of AIHA-approved laboratories and PAT participants may be obtained by calling AIHA in Fairfax, Virginia at (703) 849-8888. Confined spaces shall be tested prior to and continuously during painting operations to determine the effectiveness of the ventilation system. Intrinsically safe oxygen, combustible gas, and other monitoring instruments to be used in confined spaces, certified by FM and/or Underwriters Laboratories for use in Class 1, Division 1, Group A, B, C and D hazardous areas, shall be used to determine if adequate levels of oxygen and safe concentrations of combustibles or toxic contaminants exist. A minimum level of 19.5 percent oxygen and a maximum concentration of 10 percent of the LEL for combustible materials are mandatory requirements for safe work in these spaces, except for the zone within 5 feet in any direction from an operating spray nozzle. Periodic testing shall also be conducted in confined space areas adjacent to the area where spray painting is occurring and in area where the air is being exhausted from the confined space to ensure safe concentrations of oxygen, combustibles, and toxic contaminants are maintained. All air monitoring equipment shall be calibrated prior to each use and rechecked after each use. The oxygen and combustible gas meters shall be equipped with an audible alarm which signals unsafe levels of oxygen and/or combustibles gases.

1.4.5.3 Explosion Proof Equipment

Electrical wiring, lights, and other equipment located in the paint spraying area shall be of the explosion proof type designed for operation in Class I, Division 1, Group D, hazardous locations as required by the National Electrical

Code. Electrical wiring, motors, and other equipment, outside of but within 20 feet of any spraying area, shall not spark and shall conform to the provisions for Class I, Division 2, Group D, hazardous locations. Electric motors used to drive exhaust fans shall not be placed inside spraying areas or ducts. Fan blades and portable air ducts shall be constructed of nonferrous
materials. Motors and associated control equipment shall be properly maintained and grounded. The metallic parts of air-moving devices, spray guns, connecting tubing, and duct work shall be electrically bonded and the bonded assembly shall be grounded.

1.4.5.4 Further Precautions

Workers shall wear nonsparking safety shoes. Solvent drums taken into the spraying area shall be place on nonferrous surfaces and shall be grounded. Metallic bonding shall be maintained between containers and drums when materials are being transferred. Insulation on all power and lighting cables shall be inspected to ensure that the insulation is in excellent working condition and is free of all cracks and worn spots. Cables should be further inspected to ensure that no connections are within 50 feet of the operation, that lines are not overloaded, and that they are suspended with sufficient slack to prevent undue stress or chafing.

1.4.5.5 Ignition Sources

Ignition sources, to include lighted cigarettes, cigars, pipes, matches, or cigarette lighters shall be prohibited in area of solvent cleaning, paint storage, or paint mixing of paint application.

1.5 HEALTH PROTECTION

1.5.1 Respirators

Contractor shall implement the Respirator Protection Program developed in paragraph "RESPIRATORY PROTECTION PROGRAM". During all spray-painting operations, spray painters shall use approved SCBA or SAR (air line) respirators, unless valid air sampling has demonstrated contaminant levels to be consistently within concentrations that are compatible with air purifying respirator protection factors. All respirator equipment shall be selected and used in accordance with EM 385-1-1, CFR 29 Part 1910, Section 134, and consistent with the guidance contained in NIOSH-Pub No. 87-108. During all confined space spray-painting operations, only MSHA/NIOSH-approved SCBA with half or full facepiece operated in pressure demand or other positive-pressure mode or an SAR (air line) with a half or full facepiece or painter's helmet, hood, or suit operated in pressure demand or other positive-pressure mode in combination with an auxiliary SCBA A(emergency escape bottle) operated in pressure demand, or other positive-pressure mode shall be used. Auxiliary SCBA must be of such duration to permit escape to safety if air supply is interrupted. All employees who wear air-purifying type respirators shall be quantitatively or qualitatively fit-tested, using NIOSH-approved procedures, for the specific type air-purifying respirators they will wear. Persons with facial hair that interferes with the sealing surface of the facepiece to faceseal or interferes with respirator valve function shall not be allowed to perform work requiring respirator protection. Air-purifying chemical cartridge/canister half- or full-facepiece respirators that have a particulate prefilter and are suitable for the specific type(s) of gas/vapor and particulate contaminant(s) may be used for nonconfined space painting, mixing, and cleaning (using solvents) provided the measured or anticipated concentration of the contaminant(s) in the breathing zone of the exposed worker does not exceed the APF for the respirator and the gas/vapor has good warning properties or the respirator assembly is equipped with a NIOSH-approved end of service life indicator for the gas(es)/vapor anticipated or encountered. Where paint contains toxic elements such as lead, cadmium, chromium, or other toxic particulates that may that may become airborne during painting in nonconfined spaces, air-purifying half-and full-facepiece respirators or powered air-purifying respirators equipped with appropriate gas vapor cartridges, in combination with a high-efficiency filter or an appropriate canister incorporating a high-efficiency filter shall be used. Standby personnel used for all confined-space operations shall be equipped with SCBA with a minimum breathing air supply of 30 minutes. Individuals selected to act as standby personnel shall be medically evaluated to ensure that they are physically and psychologically able to perform rescue duties while wearing a SCBA. In addition, they shall be thoroughly trained in confined-space monitoring techniques, communications to be used, and emergency rescue techniques. Communications (i.e., visual, voice, signal line,

radio, or other means) shall be maintained between workers inside confined space and outside standby personnel at all times.

1.5.2 Protective Clothing and Equipment

All workers shall wear safety shoes or boots, appropriate gloves to protect against the chemical to be encountered, and breathable protective full-body covering during spray-painting applications. Where necessary for emergencies, protective equipment such as life lines, body harnesses, or other means of personnel removal shall be utilized during confined-space work.

1.6 MEDICAL STATUS

Prior to the start of work and annually thereafter, all Contractor employees working with or around paint systems, thinners, blast media, those required to wear respiratory protective equipment, and those who will be exposed to high noise levels shall be medically evaluated for the particular type of exposure they may encounter. The evaluation shall include:

a. Audiometric testing and evaluation of employees who will work in the noise environments.

b. Vision screening (employees who use full-facepiece respirators shall not wear contact lenses).

c. Medical evaluation shall include but shall not be limited to the following:

(1) Medical history, including but not limited to alcohol use, with emphasis on liver, kidney, and pulmonary systems, and sensitivity to chemicals to be used on the job.

(2) General physical examination with emphasis on liver, kidney, and pulmonary system.

(3) Determination of the employee's physical and psychological ability to wear respiratory protective equipment and to perform job-related tasks.

(4) Determination of baseline values of biological indices for later comparison to changes associated with exposure to paint systems and thinners of blast media, which include: Liver function tests to include SGOT, SGPT, GGPT, alkaline phosphates, bilirubin; Complete urinalysis; EKG (employees over age 40); Blood urea nitrogen (bun); Serum creatinine; Pulmonary function test, FVC, and FEV; Chest x-ray (if medically indicated); Blood lead (for individuals where it is known there will be an exposure to materials containing lead); Other criteria that may be deemed necessary by the Contractor's physician; and Physician's statements for individual employees that medical status would permit specific task performance.

(5) For lead-based paint removal, the medical requirements of 29 CFR 1926.62 shall also be included.

1.7 CHANGE IN MEDICAL STATUS

Any employee whose medical status has changed negatively due to work related chemical and/or physical agent exposure while working with or around paint systems and thinners, blast media, or other chemicals shall be evaluated by a physician, and the Contractor shall obtain a physicians statement as described in paragraph "MEDICAL STATUS" prior to allowing the employee to return to those work tasks. The Contractor shall notify the Contracting Officer in writing of any negative changes in employee medical status and the results of the physicians reevaluation statement.

1.8 SPECIAL REQUIREMENTS (1988 HQUSACE AND NPDR)

1.8.1 General

In addition to SECTION I, Contract Clause, ACCIDENT PREVENTION, including ALT. 1, and the referenced Safety and Health Requirements Manual, EM 385-1-1, the requirement(s) listed below shall be complied with. Paragraph number(s) refer(s) to EM 385-1-1 or added thereto.

1.8.2 (Paragraphs 01.A.07 and 01.A.09)

Special attention is called to the requirements of these two referenced paragraphs.

1.8.3 (New paragraph 01.A.12)

Safety Engineer:

a. The Contractor shall employ at the project site to cover all hours of work at least one Safety and Occupational Health person to manager the Contractor's accident program. Duties which are not germane to the safety program shall not be assigned to the Safety and Health person(s). The principal safety person shall report to and work directly for the Contractor's on-site top manager, higher level official, or corporate safety office. The Safety and Health person(s) shall have the authority to take immediate steps to correct unsafe or unhealthful conditions. The presence of a Safety and Health person will not abrogate safety responsibilities of other personnel.

b. Qualifications for Safety and Health person(s)

(1) Shall have a degree in engineering safety in at least a 4-year program from an accredited school; or

(2) Shall have legal registration as a Professional Engineer or a Certified Safety Professional and, in addition, shall have been engaged in safety and occupational health for at least one (1) year of experience, no time being credited to this one (1) year unless at least fifty (50) percent of the time was devoted to safety and occupational health; or

(3) Shall have a degree other than that specified in (a) above and, in addition, shall have been engaged in safety and occupational health for a least three (3) years, no time being credited to these three (3) years unless at fifty (50) percent of the time each year was devoted to safety and occupational health; or

(4) In lieu of a degree shall have been engaged in safety and occupational health for at least five (5) years, no time being credited to these five (5) years unless at least fifty (50) percent of the time each year was devoted to safety and occupational health.

(5) First aid work is not a creditable experience.

c. The name and qualifications of the nominated safety person(s) shall be furnished to the Contracting Officer for acceptability and a functional description of duties shall be provided prior to the prework conference.

1.9 PAYMENT

Separate or direct payment will not be made for compliance with this section. All costs thereof are incidental to and included in the contract prices and payment for the various items listed in the bid schedule.

PART 2 PRODUCTS

(NOT USED)

PART 3 EXECUTION

(NOT USED)

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SECTION 01270

MEASUREMENT AND PAYMENT

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(NOT USED)

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(NOT USED)

SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 GENERAL INFORMATION

1.1.1 Payments to the Contractor will be made monthly or at such other times as may be mutually agreed to on estimates of work performed under this contract and not included in any prior estimate. In preparing estimates the machinery, material, and articles which have been purchased, paid for, and received by the Contractor and which are to be incorporated into the completed equipment will be taken into consideration. Estimates of work will be by items as numbered and described in THE SCHEDULE, Section B - Standard Form 33 of the contract.

1.1.2 In each instance, the contract price for an item will constitute full compensation as herein specified, as shown, or as otherwise approved. The contract price and payment will also constitute full compensation for all work incidental to completion of the item, unless such work is otherwise specifically mentioned for separate payment under another bid item. In the event any work is required by the specification sections or by the drawings and not specifically mentioned in the measurement and payment paragraphs, separate or direct payment will not be made, and all costs thereof are incidental to, and included in, the contract prices and payment for all items listed in the bid schedule.

1.2 MEASUREMENT

Items measured as a job will be measured for payment as a complete job in the locations indicated. This measurement includes all incidental work and materials such as fittings, fasteners, electrical materials, and O&M manuals that are necessary to make a complete job. Unless the payment item paragraph makes a specific exception of any item, incidental items will not be measured under any other item even though there is another listing for the work or material.

1.2.1 Hour

The measurement of time will be by units of hours, with an hour defined as one person working as directed for a period of 60 minutes. Time will be computed by rounding off to the next higher one-half (1/2) hour. To qualify as services of miscellaneous hire, the directed work will be additional to that necessary to comply with specifications requirements. No separate measurement for supervision, helper labor, or overhead will be made for these items, as they are incidental to the service being provided.

1.3 PAYMENT

1.3.1 General

This is a Firm Fixed Price Contract. Partial payments may be made upon satisfactory completion or partial completion of the below listed milestones:

RICHARD B. RUSSELL GOVERNORS UNITS 1-8

Bid Item 0001 Mobilization

Payment for site mobilization to perform the site work specified herein will be paid for under Bid Item 0001, "Site Mobilization." Mobilization will be considered complete when the first unit is unwatered for the replacement of the governor.

Bid Item 0002 Demobilization

Demobilization will be paid for under Bid Item 0002, "Site Demobilization." Demobilization will be considered complete when the Contractor has removed all construction equipment, cleaned the area and restored the work area to "as found" pre-contract conditions, unless otherwise approved.

Bid Item 0003 Design of Retrofit for Analog Electric Governor

Payment for the design of the replacement governor will be made as a lump sum under Bid Item 0003, “Design Retrofit for Analog Electric Governor”. The design of the retrofit of the governor includes providing all calculations, catalog data and drawings required to demonstrate that the governor that is being furnished satisfies all contract requirements. (SECTION 16253)

Bid Item 0004 Provide Retrofit for Analog Electric Governors

Payment for furnishing the necessary components and retrofitting eight (8) Analog Electric governors will be made on a per unit basis under Bid Item 0004, “Provide Retrofit for Analog Electric Governors”. Payment will include fabrication of the governor retrofit components, shop testing (if necessary), packaging and shipping the governor retrofit components to the site, retrofitting, painting, and field testing the governor, providing documentation and manuals as required and providing tools and accessories. (SECTION 16253)

Bid Item 0005 Governor Spare Parts

Payment for providing spare parts will be made on a lump sum basis under Bid Item 0005, “Governor Spare Parts”. (SECTION 16253)

Bid Item 0006 Training of Government Personnel

Payment for training Government personnel will be made on a lump sum basis under Bid Item 0006, “Training of Government Personnel”. Payment will be for providing training as prescribed and will include the cost of instruction materials, transportation, and all expenses incidental to providing the training. (SECTION 16253)

Bid Item 0007 Electrician Hire

Payment for electrician hire will be made on a per-hour basis under Bid Item 0007, “Electrician Hire”. (SECTION 15995)

Bid Item 0008 Other Skilled Craftsman Hire

Payment for other skilled craftsman hire will be made on a per-hour basis under Bid Item 0008, “Other Skilled Craftsman Hire”. (SECTION 15995)

Bid Item 0009 Contract Data (See DD Form 1423 Exhibit B)

Exhibit B provides for the contract data furnished in accordance with the submittal process. No separate payment will be done for submittals.

HARTWELL GOVERNORS UNITS 1-5

Bid Item 0010 Mobilization (OPTIONAL)

Payment for site mobilization to perform the site work specified herein will be paid for under Bid Item 0010, "Site Mobilization." Mobilization will be considered complete when the first unit is unwatered for the replacement of the governor.

Bid Item 0011 Demobilization (OPTIONAL)

Demobilization will be paid for under Bid Item 0011, "Site Demobilization." Demobilization will be considered complete when the Contractor has removed all construction equipment, cleaned the area and restored the work area to "as found" pre-contract conditions, unless otherwise approved.

Bid Item 0012 Design of Retrofit for Mechanical Governors (OPTIONAL)

Payment for the design of the replacement governors will be made as a lump sum under Bid Item 0012, “Design Retrofit for Mechanical Governors”. The design of the retrofit for the governors includes providing all calculations, catalog data and drawings required to demonstrate that the governor that is being furnished satisfies all contract requirements. (SECTION 16252)

Bid Item 0013 Provide Retrofit for Mechanical Governors (OPTIONAL)

Payment for furnishing the necessary components and retrofitting four (4) Mechanical governors will be made on a per unit basis under Bid Item 0013, “Provide Retrofit for Mechanical Governors”. Payment will include fabrication of the governor retrofit components, shop testing, packaging and shipping the governor retrofit components to the site, retrofitting, painting, and field testing the governors, and providing documentation and manuals as required. (SECTION 16252)

Bid Item 0014 Provide Retrofit for Analog Electric Governors (OPTIONAL)

Payment for furnishing the necessary components and retrofitting one (1) Analog Electric governor will be made on a per unit basis under Bid Item 0106, “Provide Retrofit for Analog Electric Governor”. Payment will include fabrication of the governor retrofit components, shop testing (if necessary), packaging and shipping the governor retrofit components to the site, retrofitting, painting, and field testing the governor, providing documentation and manuals as required and providing tools and accessories. (SECTION 16252)

Bid Item 0015 Governor Spare Parts (OPTIONAL)

Payment for providing spare parts will be made on a lump sum basis under Bid Item 0015, “Governor Spare Parts”. (SECTION 16252)

Bid Item 0016 Training of Government Personnel (OPTIONAL)

Payment for training Government personnel will be made on a lump sum basis under Bid Item 0016, “Training of Government Personnel”. Payment will be for providing training as prescribed and will include the cost of instruction materials, transportation, and all expenses incidental to providing the training. (SECTION 16252)

Bid Item 0017 Asbestos Abatement Work (OPTIONAL)

Reference SECTION 02080. Asbestos abatement work will be paid for as follows:

a. Asbestos bulk sampling will be paid for on a per-sample basis under Bid Item 0017AA, “Asbestos Bulk Sampling of Materials.”

b. Preparation of submittals, including attendance at the pre-abatement work meeting, will be paid for as a lump-sum job under Bid Item 0017AB, “Submittal Preparation for Asbestos Abatement Work, Including Attending Pre-Work Meeting.”

c. Mobilization and demobilization required for asbestos abatement work will be paid for under Bid Item 0017AC, “Mobilization and Demobilization for Abatement Work.” This bid item includes all costs incurred prior to arriving onsite (mobilization) or immediately after departing the work site (demobilization). These costs include,

but are not limited to, all preparatory work at the Contractor's shop/office, labor costs associated with travel to and from the work site, and vehicle/transportation costs.

d. Disposal of non-friable asbestos-containing materials will be paid for on a per-pound basis under Bid Item 0017AD, "Disposal of Non-Friable Asbestos-Containing Materials as Construction Debris." Unless otherwise directed, the truck shall be weighed at the disposal site before and after disposal of the material and submission of the weigh slip for payment. Payment under this item is confined to activities once the ACM leaves the powerhouse.

e. Disposal of friable asbestos-containing materials will be paid for on a per-pound basis under Bid Item 0017AE, "Disposal of Friable Asbestos-Containing Materials as Construction Debris." Unless otherwise directed, the truck shall be weighed at the disposal site before and after disposal of the material and submission of the weigh slip for payment. Payment under this item is confined to activities once the ACM leaves the powerhouse.

f. Services of a certified asbestos abatement worker will be paid for on a per-hour basis under Bid Item 0017AF, "Services of a Certified Asbestos Abatement Worker." This bid item also includes in the per-hourly rate the full compensation cost for expendable supplies/materials incidental to the completion of the abatement activities, which are performed by the certified asbestos abatement worker.

g. Services of a certified asbestos abatement supervisor will be paid for on a per-hour basis under Bid Item 0017AG, "Services of a Certified Asbestos Abatement Supervisor." This bid item also includes in the per-hourly rate the full compensation cost for expendable supplies/materials incidental to the completion of the abatement activities, which are performed by the certified asbestos abatement supervisor.

h. Services of certified air monitoring personnel will be paid for on a per-hour basis under Bid Item 0017AH, "Services of Certified Air Monitoring Personnel." This bid item also includes in the per-hourly rate the full compensation cost for expendable supplies/materials incidental to the completion of the abatement activities, which are performed by the certified air monitoring personnel.

Bid Item 0018 Contract Data (See DD Form 1423 Exhibit B) (OPTIONAL)

Exhibit B provides for the contract data furnished in accordance with the submittal process. No separate payment will be done for submittals.

1.3.2 All payments will be based on percentage of completion of the work as reflected in progress reports and confirmed by project monitoring by the Government. Payments may be made upon submission of proper invoices supported by evidence of percentage of work accomplished.

PART 2 PRODUCTS

(NOT USED)

PART 3 EXECUTION

(NOT USED)

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SECTION 01307

AS-BUILT RECORDS AND DRAWINGS

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SECTION 01307

AS-BUILT RECORDS AND DRAWINGS

PART 1 GENERAL

1.1 GENERAL INFORMATION

The as-built drawings shall be a Contractor-prepared record of the contract work as installed and completed. They shall include all the information shown on the contract set of drawings and a record of all deviations, modifications, or changes from those drawings, however minor, which were incorporated in the final work. They shall be used by the Contractor to revise the original contract drawings.

1.2 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted as stated below.

SD-01 Data

As-Built Field Data; GA

The as-built field data shall be submitted to the Contracting Officer for review and approval a minimum of 20 calendar days prior to the date of final inspection. If review of the preliminary as-built drawings reveals errors and/or omissions, the drawings will be returned to the Contractor for corrections. The Contractor shall make all corrections and return the drawings to the Contracting Officer within 10 calendar days of receipt.

SD-04 Drawings

Final As-Built Drawings; GA

The final as-built record drawings, including contractor generated shop drawings and wiring/connection diagrams, shall be completed and returned together with the approved preliminary as-built drawings to the Government within 30 calendar days of the final inspection. The Government will review all final as-built record drawings for accuracy and conformance to the drafting standards. The drawings shall be returned to the Contractor if corrections are necessary. The Contractor shall make all corrections and shall return the drawings to the Government within 7 calendar days of receipt.

PART 2 PRODUCTS

(NOT USED)

PART 3 EXECUTION

3.1 AS-BUILT FIELD DATA

One complete set of full size prints of the contract drawings shall be kept at the work site. During the contract, these prints shall be marked to show all deviations in actual work from the contract drawings. The color red shall be used to indicate all additions and green to indicate all deletions. The drawings shall show the following information but not be limited thereto:

a. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor including, but not limited to, fabrication erection, installation, and placing details, etc.

b. All changes or modifications from the original design and from the final inspection.

c. Where contract drawings or specifications allow options, only the option actually used in the work shall be shown on the as-built drawings. The option not used shall be deleted.

These deviations shall be shown in the same general detail utilized in the contract drawings. Marking of the prints shall be pursued continuously during contract work to keep them up to date. In addition, the Contractor shall maintain full size marked-up drawings, survey notes, sketches, nameplate data, pricing information, description, and serial numbers of all installed equipment. This information shall be maintained in a current condition at all times until the completion of the work. The resulting field-marked prints and data shall be referred to and marked as "As-Built Field Data", and shall be used for no other purpose. They shall be made available for inspection by the Government whenever requested during the contract and shall be jointly inspected for accuracy and completeness by the GQAR and a responsible representative of the Contractor prior to submission of each monthly pay estimate. Failure to keep the As-Built Field Data (including Equipment-in-Place lists) current shall be sufficient justification to withhold a retained percentage from the monthly pay estimate.

3.2 FINAL AS-BUILT DRAWINGS

3.2.1 Permanent Tracings and Final Copies

Upon completion of work under this contract, one complete set of permanent tracings and two complete sets of prints shall be submitted of all shop drawings as finally approved. The tracings shall be full size reproducibles of such quality and clarity so as to permit sharp and thoroughly legible copying. They shall be plotted on permanent translucent, matte surface on both sides, polyester base film at least 0.004 inch thick. Tracings shall be right-reading positive. The two sets of prints shall be half-size black and white prints or bluelines.

3.2.2 CADD Files

In addition to the reproducible drawings required above, two complete sets of final drawings shall be submitted in Intergraph IGDS Vector format suitable for use on MicroStation SE or Microstation J Computer Aided Design Software, *.DGN format. The data structure for level assignment and symbology of the drawing files shall follow the Portland District Guide Standard or as directed. The Government shall furnish, upon request, a floppy disk containing the cell and font libraries and the standard border. The electronic drawing files shall be submitted on Compact Disc. Drawings translated from other CADD formats to Intergraph will include level assignments and must be checked by the Contractor for proper translation. Drawings on a single level will not be acceptable. The information contained on the final tracings and CADD files shall be identical, and black in color.

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SECTION 01355

ENVIRONMENTAL PROTECTION

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SECTION 01355

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 GENERAL INFORMATION

This section covers preventing environmental pollution and minimizing environmental degradation during and as a result of operations, required for the installation of governors at the Hartwell Powerhouse in addition to other sections which may contain environmental protection requirements.

1.2 APPLICABLE REGULATIONS

All environmental pollution shall be prevented, abated, and controlled. Environmental degradation arising from construction activities shall be minimized by complying with all applicable Federal, State, and local laws and regulations, as well as specific requirements of this contract. Where conflicting or duplicate regulations apply, the most stringent requirement shall govern. Contractor shall comply with the following list of environmental regulations where applicable. This list is not inclusive of all environmental requirements, but represents the Federal regulations most likely to apply to work under this contract.

a. Clean Air Act - 40 CFR 61: Emission Standards for Hazardous Air Pollutants

b.. Solid Waste Disposal Act - 40 CFR 241: Land Disposal - 40 CFR 245: Resource Recovery

c. Resource Conservation and Recovery Act - 40 CFR 260-272: Hazardous Waste Management

d. Comprehensive Environmental Response , Compensation and Liability Act - 40 CFR 300-302: National Oil and Hazardous Substances Contingency Plan for hazardous substance spills and cleanup

e. Clean Water Act - 40 CFR 110-117 122 : Point source discharges into U.S. waters

f. Executive Order 12856 - Federal Compliance Order with the Emergency Planning and Community Right-to-Know Act and the Pollution Prevention Act

g. 49 CFR 100-177 Hazardous Materials Transportation Regulations

1.3 SUBMITTALS

Submittals required by this section of the Technical Specifications shall be for Government approval (GA) or for information only (FIO), and shall be submitted as stated below in accordance with SECTION H. The time of submittal shall be as indicated below.

SD-01 Data

Environmental Protect Plan; GA

Within 20 calendar days following notice of award. (par. 3.1.1).

1.4 NONCOMPLIANCE

An order stopping all or part of the work may be issued for failure to comply with the provisions of this section until corrective action has been taken. No time lost due to such stop orders or stop orders issued by any appropriate Federal, State or local environmental protection agency shall be the subject of a claim for extension of time or for costs or damages unless it is later determined that the Contractor was in compliance.

1.5 SUBCONTRACTORS

Compliance with this section by subcontractors will be the responsibility of the Contractor.

PART 2 PRODUCTS

(NOT USED)

PART 3 EXECUTION

3.1 IMPLEMENTATION

3.1.1 Planning

The approved Environmental Protection Plan including proposals for implementing this section for environmental protection will be checked for completeness and compliance. If satisfactory it will be approved and one copy will be returned. If unsatisfactory it will be returned for resubmission. No physical work at the site shall be started until this plan has been approved or specific authorization is obtained to start a phase of the work. Preparation and submittal of supplemental plans may be required if additional environmental protection planning is found necessary for later phases of work. As a minimum the plan shall include the sections indicated below:

a. A contamination-prevention section listing all potentially hazardous petroleum products and hazardous and toxic materials used by the Contractor in the performance of his work or in his equipment at the powerhouse and corresponding provisions to be taken to prevent accidental or intentional introduction of such materials into any waterway. This section is to include plans for preventing polluted run-off from plant, equipment parking and maintenance areas from entering local water bodies.

b. A containment and cleanup section including the procedures, instructions, and reports to be used in the event of an unforeseen oil, hazardous material, or chemical spill. This section shall include as a minimum:

(1) The name of the individual who will be responsible for implementing and supervising the containment and cleanup.

(2) Material and equipment for cleanup work shall be tailored to the potential hazards involved.

(3) The names and locations of suppliers of containment materials and names and locations of additional fuel oil recovery, cleanup, restoration, and disposal equipment available in case of an unforeseen spill emergency.

(4) The methods and procedures to be used for expeditious cleanup.

(5) The name of the individual who will report any spills and who will follow up with complete documentation.

3.1.2 Coordination

Prior to the work, a meeting shall be held with the Government to develop mutual understandings relative to the administration of the environmental protection program.

3.1.3 Surveillance

During the work, all activities, including those of subcontractors, shall be supervised to assure compliance with the intent and details of the Plan. Training courses shall be conducted by the Contractor for himself and his subcontractors to assure that all personnel working at the site are familiar with the environmental protection provisions. All equipment and materials for environmental protection shall be inspected periodically to assure that they are in proper order and have not deteriorated.

3.1.4 Completion

Before this contract is completed, all restoration, cleanup and other work required to leave the site in an acceptable condition shall have been completed. Final payment will not be made until the environmental protection requirements have been met.

3.1.5 Protection of Water Resources

No water courses shall be polluted or have existing pollution contributed to with any petroleum products, oils, lubrications, or other toxic materials harmful to life. Chemical emulsifiers, dispersants, coagulants or other cleanup compounds shall not be used without prior written approval. Compliance with State water quality standards and conditions of any permits and clearances obtained for the work is the Contractor's responsibility.

3.2 ENVIRONMENTAL LITIGATION

3.2.1 General

If the performance of all or any part of the work is suspended, delayed, or interrupted due to an order of a court of competent jurisdiction as a result of environmental litigation, as defined below, the Government at the request of the Contractor will determine whether the order is due in any part to the acts or omission of the Contractor or a subcontractor at any tier not required by the terms of this contract. If it is determined that the order is not due in any part to the acts or omissions of the Contractor or a subcontractor at any tier other than as required by the terms of this contract, such suspension, delay, or interruption shall be considered as if ordered by the Government in the administration of this contract in accordance with SECTION I. The period of such suspension, delay, or interruption shall be considered unreasonable, and an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) as provided in that clause, subject to all the provision thereof.

3.2.2 Definition

The term "environmental litigation," as used herein, means a lawsuit alleging that the work will have an adverse effect on the environment or that the Government has not duly considered, either substantively or procedurally, the effect of the work on the environment.

3.3 DISPOSAL OF HAZARDOUS WASTE

The following shall apply to disposal of any hazardous waste:

a. The Contractor, where possible, will use or propose for use materials which may be considered environmentally friendly in that waste from such materials is not regulated as a hazardous waste or is not considered harmful to the environment.

b. Documentation for analysis, sampling, transportation, and disposal of all hazardous waste streams generated during this contract shall be in accordance with 40 CFR parts 260 through 272 and 49 CFR 100-177.

c. A copy of all hazardous waste determinations, sample results, and shipping manifests shall be furnished to the Government Quality Assurance Representative (GQAR) to verify compliance with Federal, State, and local regulations.

d. All hazardous wastes shall be removed from the Project for proper disposal within 90 days of waste generation. All hazardous waste shall be packaged, labeled, and marked in accordance with 40 CFR 172 and 173. All hazardous waste shall be stored in accordance with 40 CFR 264.

e. Certificates of Destruction or Disposal Certificates shall be submitted for all hazardous wastes within 14 days of actual disposal.

f. The Contractor's EPA identification number shall be used to dispose of all hazardous wastes generated by the Contractor and its subcontractors under this contract. This is construed to mean all hazardous wastes the Contractor or subcontractors generate from materials brought on the site for the purpose of performing work under the terms of the contract.

g. The Government's EPA identification number shall be used to dispose of all hazardous waste generated from Government-owned facilities on the project. This is construed to mean hazardous wastes generated from the repair, demolition, or removal of any existing materials and buildings from Government facilities and is not intended to include any wastes generated by the Contractor in the performance of its work.

h. It is the responsibility of the Contractor to prepare all hazardous waste manifests. The Contractor shall prepare manifests for Government signature when the Government's EPA identification number is used. The manifest shall be submitted 48 hours in advance of the waste being removed. The ECC will review and sign the manifest when the transporter arrives.

i. Hazardous or dangerous waste shall be recycled to the maximum extent possible. Placing hazardous or dangerous waste in a permitted hazardous waste landfill shall be the last resort. If such facility is necessary, the Contractor shall dispose of it in compliance with Federal, State and local requirements.

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SECTION 01420

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NOT REQUIRED

SECTION 01420

SOURCE OF REFERENCED PUBLICATIONS

PART 1 GENERAL

1.1 STANDARD SPECIFICATIONS

Standard specifications of the following authorities referenced herein may be obtained from the addresses listed below:

NAME	ABREVIATION
ALUMINUM ASSOCIATION 900 19th street, N,.W. Washington, D.C. Ph: 202-862-5100 Internet: www.aluminum.org	AA
AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS 1330 Kemper Meadow Dr. Suite 600 Cincinnati, OH 45240 Ph: 513-742-2020 Fax: 513-742-3355 Internet: www.acgih.org E-mail: pubs@acgih.org	ACGIH
ASSOCIATION OF EDISON ILLUMINATING COMPANIES 600 No. 18th Street Birmingham, AL 35291 Ph: 205-257-2530 Internet: http://www.aeic.org	AEIC
AMERICAN INSTITURE OF STEEL CONSTRUCTION One East Wacker Dr, Suite 3100 Chicago, IL 60601 Ph: 312-670-2400 Internet: www.aisc.org	AISC
AMERICAN NATIONAL STANDARDS INSTITUTE 11 West 42nd St New York, NY 10036 Ph: 212-642-4900 Fax: 212-398-0023 Internet: www.ansi.org	ANSI

ASME INTERNATIONAL Three Park Ave. New York, NY 10016 Ph: 212-591-7722 Internet: http://www.asme.org	ASME

NAME	ABBEVIATION
AMERICAN SCOIETY FOR TESTIG AND MATERIALS 100 Barr Harbor Drive West Conshohocken, PA 19428 Ph: 610-832-9585 Internet: www.astm.org	ASTM
AMERICAN WELDING SOCIETY 550 N.W. LeJeune Road Miami, FL 33126 Ph: 305-443-9353 or 1-800-443-9353 Internet: http://www.amweld.org	AWS
CODE OF FEDERAL REGULATIONS Order from: Government Printing Office Washington, DC 20402 Ph: 202-512-1800 Fax: 202-275-7703 Internet: http://www.pls.com:8001/his/cfr.html	CFR
FEDERAL ACQUISITION REGULATIONS Order From: Government Printing Office Washington, DC 20402	FAR
INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS 445 Hoes Lane Piscataway, NJ 08855 Ph: 732-981-0060 or 1-800-701-4333 Internet: www.ieee.org	IEEE
NATIONAL ELECTRICAL MANUFACTURERES ASSOCIATION 1300 No. 17th St., Suite 1847 Rosslyn, VA 22209 Ph: 703-841-3200 Internet: http://www.nema.org/	NEMA
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH	NIOSH

Mail Stop C-13
4676 Columbia Parkway
Cincinnati, OH 45226-1998
Ph: 1-800-356-4676
Internet: http://www.cdc.gov/niosh/homepage.html

NOTE: To order pubs for which a fee is charged, order from:
Superintendent of Documents
Government Printing Office
Washington, DC 20402
Ph: 202-512-1800
Fax: 202-512-2250

NAME	ABBEVIATION
THE SOCIETY FOR PROTECTIVE COATINGS 40 24th Street, 6th floor Pittsburgh, PA 15222 Ph: 412-281-2331 Internet: www.sspc.org	SSPC
U.S. ARMY CORPS OF ENGINEERS available from Superintendent of Documents U.S. Government Printing Office Washington, D.C. 20402	USACE

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SECTION 02080

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SECTION 02080

ASBESTOS ABATEMENT WORK

PART 1 GENERAL

1.1 GENERAL INFORMATION

This section covers the removal and disposal of all asbestos-containing materials encountered during the execution of this contract. The powerhouse control panel wiring found in the control room and cable training areas is believed to have asbestos-containing materials (ACM). If additional ACM is discovered during the performance of work under the contract, it shall be immediately brought to the attention of the Contracting Officer. In addition, this section includes the incidental procedures and equipment required to prevent the airborne release of, and protect workers and occupants of the buildings and/or areas from contact with, asbestos fibers. During the performance of the contract, the laws, ordinances, rules, and regulations of Federal, State, Regional, and local authorities shall be complied with regarding the removal, storage, transportation, and disposal of asbestos-containing materials. Where the requirements of these specifications and Federal, State, Regional, or local regulations vary, the most stringent requirements shall be enforced.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

CFR 29 Part 1926	Safety and Health Regulations for Construction
CFR 40 Part 61	National Emissions Standards for Hazardous Air Pollutants
CFR 40 Part 241	Guidelines for the Land Disposal of Solid Waste
CFR 40 Part 257	Criteria for Classification of Solid Waste Disposal Facilities and Practices
CFR 49 Part 171	General Information Regulations, and Definitions (Hazardous Materials)
CFR 49 Part 172	Hazardous Materials Table, Special Provision, Hazardous Materials Communications, Emergency Response Information, and Training Requirements

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA N560/5-85-024	(1985) Guidance for Controlling Asbestos Containing Materials in Buildings
EPA 340/1-90-018	(1990) Asbestos/NESHAP Regulated Asbestos Containing Materials Guidance
EPA 340/1-90-019	(1990) Asbestos/NESHAP Adequately Wet Guidance

NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

NIOSH-01	(1991) Manual of Analytical Methods

1.3 DEFINITIONS

Terms associated with removal and disposal are defined as follows:

a. Abatement. Various processes used to control asbestos containing materials in buildings. There are three alternative methods of abatement: removal, encapsulation, or enclosure of asbestos.

b. Action Level. An 8-hour time weighted average of an airborne concentration of asbestos fibers equal to 0.1 fiber per cubic centimeter of air (0.1 f/cc).

c. Airlock. A system for permitting ingress and egress with minimum air exchange between a contaminated area and an uncontaminated area. The airlock typically consists of two multi-curtained doorways separated by a distance of at least 3 feet. The airlock permits a person to pass through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before the person proceeds through the second doorway, thereby preventing flow-through contamination.

d. Amended Water. Water containing a wetting agent or surfactant.

e. Area Monitoring. Sampling of asbestos fiber concentrations within the asbestos control area and outside the asbestos control area which is representative of the airborne concentrations of asbestos fibers which may reach the breathing zone.

f. Asbestos. A class of magnesium-silicate minerals that occur in fibrous form. Minerals that are included in this group are chrysolite, crocidolite, amosite, anthophylite, tremolite, and actinolite.

g. Asbestos Containing Material (ACM). A friable or non-friable material composed of asbestos of any type and in an amount greater than 1 percent by weight, either alone or mixed with other fibrous or nonfibrous materials.

h. Asbestos Control Area. An area where asbestos abatement work is performed which is isolated by a containment barrier to prevent the spread of asbestos dust, fibers, or debris.

i. Asbestos Fibers. Asbestos having an aspect ratio of at least 3 to 1 and are 5 micrometers or longer in length.

j. Asbestos Permissible Exposure Limit (PEL). An 8-hour time weighted average of an airborne concentration of asbestos fibers equal to 0.2 fiber per cubic centimeter of air (0.2 f/cc).

k. Authorized Person. A person authorized to be present in the regulated areas by either the Contractor, industrial hygienist, or the Contracting Officer.

l. Clean Room. An uncontaminated outer chamber of the decontamination room having facilities for storage of employee's street clothing and uncontaminated materials and equipment.

m. Containment Barrier. A near airtight barrier, usually constructed with polyethylene sheets and duct tape, surrounding and sealing the outer perimeter of the asbestos control and decontamination areas.

n. Decontamination Area. An enclosed area connected to the asbestos control area that consists of an equipment room, a shower area, and a clean room. This series of connected rooms are separated from the asbestos control area and from each other by air locks for the decontamination of the workers and equipment.

o. Employee Exposure. The exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

p. Encapsulate. The process whereby an encapsulant is applied to asbestos-containing materials (ACM) to control the release of asbestos fibers into the air.

q. Encapsulant. A liquid material which can be applied to ACM which controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).

r. Equipment Room. A room located within the decontamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.

s. Excursion Limit. A 30 minute average of an airborne concentration of asbestos fibers equal to 1.0 fiber per cubic centimeter of air (1.0 f/cc).

t. Fiber Count. The average number of asbestos fibers in a cubic centimeter (F/CC) of air.

u. Friable Asbestos Material. Material that contains more than 1 percent asbestos by weight which when dry can be crumbled, pulverized, or reduced to powder by hand pressure.

v. Glovebag Technique. A method for removing asbestos containing material from HVAC ducts, piping, valves, joints, elbows, and other nonplanar surfaces within a clear plastic containment bag. The glovebag is a premanufactured or custom fabricated bag, typically constructed of 6 mil transparent polyethylene material, that has at least two inward projecting long sleeves and gloves. The glovebag is constructed and installed in such a manner that it surrounds the object or material to be removed and contains all asbestos fibers released during the process. A portable exhaust system equipped with HEPA type filtration is used to maintain negative pressure within the glovebag enclosure relative to the pressure outside of it.

w. High-Efficiency Particulate Air (HEPA) Filter. A filter capable of trapping and retaining at least 99.97 percent of all monodispersed particles of 0.3 microns in diameter or larger.

x. Negative Pressure System. A system that has been designed to maintain a minimum pressure differential of at least minus 0.02 inches of water column in the asbestos control area relative to adjacent, unsealed areas outside of the asbestos control area.

y. Non-friable Asbestos Material. Material that contains more than 1 percent asbestos by weight in which the fibers have been locked in by a bonding agent, coating, binder, or other material so that the asbestos is bound and normally does not release fibers during any routine appropriate end-use, handling, storage, transportation, or processing. Non-friable asbestos containing material may release excessive asbestos fiber concentrations during controlled handling, abrading, sanding, drilling, cutting, machining, removal or demolition operations. Non-friable asbestos containing material is considered hazardous during abatement and disposal procedures that destroy the material's integrity.

z. Occupied Area. Any area adjacent to the asbestos work area which is occupied by unprotected employees during any time abatement activities are performed.

aa. Personal Monitoring. Sampling of asbestos fiber concentrations within the breathing zone of an employee.

bb. Phase Contrast Illumination Microscopy (PCM). An analytical method for counting fibers using the sampling and analytical method specified in NIOSH method 7400, latest revision.

cc. Prior Experience. Experience required of the Contractor and Industrial Hygienist on asbestos projects of similar nature and scope to insure their capability of performing the asbestos removal in a satisfactory manner. Similarities shall be in areas related to material composition, project size, number of employees, and the engineering work practice and personal protection control required. A minimum of 2 years of such experience shall be mandatory for both the Contractor and the industrial hygienist.

dd. Qualitative Fit Tests and checks. A group of tests that can be easily performed to test the fit of a respirator face-piece to the wearer's face. Examples are the negative and positive pressure checks, the irritant smoke test, and the isoamyl acetate (banana oil) test.

ee. Quantitative Fit Tests. A group of tests that can be performed to quantitatively test the fit of a respirator face-piece to the wearer's face.

ff. Regulated Area. An area established to demarcate areas where the possibility of airborne concentrations of asbestos exceed or can reasonably be expected to exceed the permissible exposure limit.

gg. Supervisory Personnel. A person who supervises activities in the regulated area. The supervisory person is capable of identifying existing asbestos hazards in the work place and has the authority to take prompt corrective measures to eliminate them. The duties of the competent person includes as a minimum the following: establishing the negative-pressure enclosure, ensuring its integrity, and controlling entry to and exit from the enclosure; supervising all employee exposure monitoring as required; ensuring that all employees working within such enclosure wear the appropriate personal protective equipment, are trained in the use of appropriate methods of exposure control, and use the hygiene facilities and decontamination procedures specified; and ensuring that engineering controls in use are in proper operating condition and are functioning. The supervisory person must have attended an EPA approved comprehensive course on asbestos hazards and its proper methods of abatement.

hh. Surfactant. A wetting agent that reduces the surface tension of water. The three types are cationic, anionic, and non-ionic.

ii. Time Weighted Average (TWA). The TWA is an 8-hour time weighted average of airborne concentrations of asbestos fibers that have an aspect ratio of at least 3 to 1 and are 5 micrometers or longer per cubic centimeter of air.

jj. Transmission Electron Microscope Analysis (TEMA). A method for detecting and counting asbestos fibers using NIOSH method 7402. TEM analysis is typically used to confirm asbestos fiber concentrations as counted by Phase Contrast Illumination Microscopy analysis.

kk. Waste Transfer Airlock. A decontamination system utilized for transferring containerized waste from inside to outside of the work area.

1.4 SUBMITTALS

Government approval is required for submittals with a “GA” designation;
submittals having an “FIO” designation are for information only. The following shall be submitted.

INITIAL SUBMITTALS

Prior to the commencement of any work involving asbestos containing materials:

SD 01 Data

Manufacturer's Data; GA

The manufacturer's data, certificates of compliance, and any material safety data sheets (MSDS) for the following items:

a. Surfactants.

b. Encapsulants.

c. Respirators.

d. Vacuum equipment.

e. Local exhaust equipment.

f. Pressure differential equipment.

Sampling Plan; GA

This plan shall include a description of the methods to be used to determine the magnitude and characteristics of asbestos removal work.

Asbestos Plan; GA

A detailed asbestos plan, approved and signed by the certified Industrial Hygienist, of the containment and work procedures to be used in the removal and demolition of asbestos containing materials. The plan shall include a sketch showing the location, size, and details of the asbestos control areas, location, layout, and details of the decontamination areas, and the locations of negative pressure equipment and pressure differential monitoring devices. The plan shall also include interface of trades involved in the construction, sequencing of asbestos-related work, disposal plan, type of wetting agent to be used, air monitoring, respirators, protective equipment, pressure differential monitoring device, and a detailed description of the method to be employed in order to control pollution. Prior to the start of any abatement work, the Contractor and the certified Industrial Hygienist shall meet with the Government to discuss in detail the asbestos plan including work procedures and safety precautions.

SD 08 Statements

Testing Laboratory and Air Monitoring Personnel; GA

The name, address, and telephone number of the testing laboratory selected to perform the monitoring, testing, and reporting of airborne concentrations of asbestos fibers shall be submitted. Certification shall also be submitted to verify that the persons counting the samples have met the requirements as set forth in paragraph 1.14, "AIR MONITORING PERSONNEL".

Industrial Hygienist; GA

The name, address, and telephone number of the industrial hygienist selected to approve the asbestos plan and direct monitoring. In addition, a copy of certification from the American Board of Industrial Hygiene for the Industrial Hygienist shall also be submitted.

Permits and Notification; FIO

A copy of all permits and notifications as required by Federal, State, and local agencies.

Waste Disposal Site (WDS); FIO

Prior to disposal, written evidence stating that the landfill for disposal is approved for asbestos disposal by the State and local regulatory agencies.

Previous Citations; FIO

A list of any citation and their resulting penalties issued by Federal, State, or Local regulatory agencies relating to asbestos abatement activities. This list shall include the name of the project, dates, and resolutions. In addition, a list of any asbestos related contract that has been terminated prior to its completion shall also be submitted. This list shall include the project's name, date, and reasons for termination.

SD 09 Reports

Bulk Sampling Results; FIO

The Contractor shall submit the results of all bulk samples for suspected ACM. Bulk sampling shall conform to the requirement of Paragraph 3.2.

Respirator Fit Test Results; FIO

A record of the most recent respirator fit test for each employee required to wear a respirator during the performance of their work. The respirator fit test results shall include as a minimum the following information:

a. Type of respirator fit test used and agent.

b. Specific make, model, size, and approval number of the respirator tested.

c. Name of the person tested.

d. Name of the test operator.

e. Date of the test.

f. Results of the respirator fit test.

SD 13 Certificates

Training; FIO

Certificates of training verifying that each employee, within the past 2 years, has successfully passed an EPA or State certified asbestos worker course and has a current asbestos worker identification card. Certificates indicating the successful completion of an EPA or State approved "Competent Person" course shall also be submitted for those persons to be designated as the Contractor's supervisor for this abatement project.

Medical Examination; FIO

A certificate of compliance that includes the name, date of the most current medical examination, and the name and signature of the examining physician for all employees who will be exposed to airborne asbestos fibers in performing their assigned work.

Insurance; FIO

A certificate of compliance that includes the insurance company's name, agent, type of coverage, amount of coverage, policy number, and effective dates.

SUBSEQUENT SUBMITTALS

SD 09 Reports

Work Site Entry Logbook; FIO

A copy of the work site entry logbook shall be submitted daily for the previous work day. The entries in the log shall be consistent with the requirements in paragraph 1.7.

Daily Narrative Log; FIO

A copy of the daily narrative log submitted daily for the previous work day. The entries in the log shall be consistent with the requirements in paragraph 1.15.

Pressure Differential Recordings, FIO

Pressure differential recordings of the negative pressure system for each workday shall be reviewed by the industrial hygienist, or his designee, and submitted to the Government on site within 24 hours from the end of each workday.

Air Monitoring Results; FIO

Fiber counting shall be completed and results reviewed by the industrial hygienist, or their designee, within 1 hour of the time the samples were taken. Monitoring results, signed by the testing laboratory employee performing the air monitoring, and the employee that analyzed the sample shall be submitted to the Government on site within 3 working days.

SD 18 Records

Waste Shipment Record (WSR); FIO

A copy of the completed WSR within 10 days after the transport of any asbestos containing materials to a Waste Disposal Site and before the completion date of this contract.

1.5 PROTECTION OF ADJACENT WORK AREAS

All asbestos removal shall be performed without contamination of adjacent work areas. Where such work contaminates adjacent work areas, these areas shall be decontaminated.

1.6 TITLE TO MATERIALS

Asbestos containing materials resulting from the abatement work shall become the property of the Contractor and shall be disposed of as specified herein.

1.7 SITE SECURITY

1.7.1 Authorized Personnel

During abatement work, the regulated area shall be restricted to only authorized, trained, and protected personnel. These personnel may include the Contractor's employees, the Government authorized representatives, State and local inspectors, and any other designated individuals. A list of authorized personnel shall be established prior to the initiation of work and the Contractor shall be responsible for site security during the abatement work.

1.7.2 Work Site Entry Log

A work site entry logbook shall be kept with the list of the names of all workers and visitors including the date and time of entry and departure that enter the asbestos control area.

1.8 TRAINING

1.8.1 Asbestos Abatement Workers

All personnel who are exposed to, or might reasonably be expected to be exposed to, airborne concentrations of asbestos at or above the action level, are required to have successfully completed an Environmental Protection Agency approved or State accredited asbestos abatement workers course. Successful completion of the course shall be prior to the time of initial assignment and a refresher course is required every two years thereafter.

1.8.2 Supervisory Person

Personnel to be designated as "Supervisory Persons" for this abatement project shall have successfully completed an Environmental Protection Agency approved or State accredited Contractor/supervisor 32-hour course. Successful completion of the course shall be prior to the time of initial assignment and an annual refresher course is required thereafter.

1.9 RESPIRATORY PROTECTION

1.9.1 General

As a minimum, half-mask air-purifying respirators equipped with high-efficiency particulate air (HEPA) filters shall be used during all abatement work. Respirators providing greater protection for higher environmental concentrations of asbestos fibers shall be required, if their use is dictated by air sampling results. All respirators shall be jointly approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH). Each asbestos worker shall be provided with a personally issued and individually identified respirator.

1.9.2 Respirator Fit Testing

Each respirator issued to the worker shall be properly fitted. A qualitative respirator fit test shall be used to determine the ability of each worker to obtain a satisfactory fit. A respirator fit test shall be performed for each worker on initial fitting of the respirator and at least every 6 months thereafter. Fit test procedures shall be used as specified in 29 CFR 1926.58, Appendix C, "Qualitative and Quantitative Fit Testing Procedures".

1.9.3 Respirator Fit Checks

The workers shall be required to perform a positive and negative pressure fit check each time a respirator is worn.

1.10 MEDICAL EXAMINATIONS

As a minimum, a medical examination shall be given to each abatement worker on a annual basis. The content of the examination shall be consistent with the requirements set forth in 29 CFR 1926.58 (m)(2)(ii).

1.11 INSURANCE

In conjunction with SECTION I, Contract Clause "REQUIRED INSURANCE FOR WORK AT THE POWERHOUSE", a "per occurrence" insurance policy in the minimum amount of $1,000,000 shall be required to protect against any asbestos related claim that may arise out of or result from the Contractor's activities under this contract.

1.12 PERMITS AND NOTIFICATIONS

All permits relating to the asbestos removal, storage, hauling, and disposition, as required to perform the work described herein shall be the Contractor's responsibility. Timely notification of such actions as may be required by Federal, State, regional, and local agencies is the sole responsibility of the Contractor, including notification of the State's Environmental Protection Agency and the Contracting Officer in writing at least 10 working days prior to the commencement of work in accordance with 40 CFR 61.145 (b) and 40 CFR 2H.

1.13 INDUSTRIAL HYGIENIST

The industrial hygienist shall be certified by the American Board of Industrial Hygiene and have a minimum of 2 years of prior experience working on asbestos related projects. The project's industrial hygienist may also be a professional engineer or certified safety professional with a minimum of 5 years experience in industrial hygiene including 2 years of prior experience working on asbestos related projects. This individual shall not be affiliated in any way other than through this contract with the Contractor performing the abatement work.

1.14 AIR MONITORING PERSONNEL

Personnel performing air monitoring shall have, as a minimum, 1 year experience in the analysis of air samples and shall have successfully completed the NIOSH 582 course. In addition, within the past year the persons counting the samples shall have been judged proficient by their successful participation in the National Institute for Occupational Safety and Health (NIOSH) Proficiency Analytical Testing (PAT) Program. In lieu of this requirement, the individual performing the monitoring, testing and reporting shall participate and be listed on the Asbestos Analysis Registry. Air monitoring personnel shall not be affiliated in any way other than through this contract with the Contractor performing the abatement work.

1.15 PROJECT DOCUMENTATION

Maintain and have available for inspection at the job site, the following:

a. Daily Narrative Log.

A daily narrative log kept by the industrial hygienist or his designee shall be maintained. This log shall document the major events which occur each day. This log shall provide a comprehensive description of conditions in and around the job site. It shall include the names of all persons who visit the job site and all persons who enter the sealed or restricted work areas. It shall contain the details of all accidents, emergencies, breakdowns of equipment, and any material, procedural or safety difficulties including issues and complaints brought to management attention by the Contractor's employees. It shall contain details such as the number of persons on the job, the time they entered the work area and the time they left, and the nature of the work-in-progress. Each day's entries shall be signed and dated by the person who made them.

b. Personnel and Area Air Monitoring Log.

A daily air monitoring log which records all required items outlined in paragraph 3.6, "PERSONNEL AND AREA AIR MONITORING".

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 General

Deliver all the materials in their original packages, containers, or bundles bearing the name of the manufacturer and where applicable, the brand name. Store all materials subject to damage off the ground, away from wet or damp surfaces, and under cover sufficient enough to protect them from damage or contamination. Replacement materials shall be stored outside of the work area until abatement is completed.

2.1.2 Polyethylene Sheeting

Polyethylene sheeting used for walls and floors shall have a minimum thickness of 6-mils. Polyethylene sheeting utilized for worker decontamination enclosures shall be opaque white or black in color. All polyethylene sheeting shall be used in widths selected to minimize the frequency of joints. Methods of attaching polyethylene sheeting to the building or structures in the building shall be submitted for approval. The method submitted shall be selected to minimize damage to equipment and surfaces; any resulting damage shall be the responsibility of the Contractor to repair at no additional cost to the Government.

2.1.3 Asbestos Disposal Bags

Disposal bags shall be of 6 mil polyethylene, pre-printed with labels as required in paragraph 3.3, "WARNING SIGNS AND LABELS".

2.1.4 Disposal Drums

If used, disposal drums shall be metal or fiberboard with locking ring tops and shall be labeled as required in paragraph 3.3, "WARNING SIGNS AND LABELS".

2.1.5 Encapsulant

The encapsulant shall be the bridging or penetrating type, depending on the particular application. The encapsulant shall not be solvent-based, utilize a vehicle consisting of hydrocarbons or be flammable. All encapsulants shall have been EPA approved prior to their application.

PART 3 EXECUTION

3.1 ABATEMENT WORK DESCRIPTION

The work includes the removal and disposal of all asbestos containing materials encountered during the execution of this contract. These materials may be found in, but are not limited to the powerhouse control panel wiring found in the control room and cable training areas.

3.2 BULK SAMPLING FOR ASBESTOS-CONTAINING MATERIALS

Prior to the disturbance of any suspected ACM, the Contractor shall have an approved testing laboratory analyze a sample of the material. Until sample results have been returned and reviewed by the GQAR, the Contractor shall handle all suspected materials as asbestos-containing. Bulk sampling results shall be submitted and include, as a minimum, the type of asbestos-containing material, approximate amount (percentage by weight), condition, and its location in the work area.

3.3 WARNING SIGNS AND LABELS

3.3.1 Warning Signs

Warning signs shall be posted at all approaches to any location where airborne concentrations of asbestos may be expected to exceed ambient background levels. Signs shall be posted at a distance sufficiently far enough away from the work area to permit an employee to read the sign and take the necessary protective measure to avoid exposure. Warning
signs shall be provided that are of sufficient size to be clearly legible, printed on a contrasting background, and display the following legend:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE
CLOTHING ARE REQUIRED
IN THIS AREA

3.3.2 Warning Labels

Warning labels shall be affixed on all containers that store asbestos waste materials. The warning label shall be legible, printed in large bold letters on a contrasting background, and display the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

3.4 WORK PROCEDURES

3.4.1 General

All abatement work shall be performed by certified asbestos abatement workers, under the direct supervision of the approved Contractor's supervisory personnel. Abatement work shall be performed as detailed in the approved asbestos abatement plan, unless alternative procedures have been submitted and approved. No abatement work shall proceed without a GQAR present to witness the work. The Contracting Officer shall be notified in writing at least seven days prior to each individual occurrence of abatement work. All asbestos work shall be performed in accordance with 29 CFR 1926.58, 40 CFR 241, state and local regulations and the requirements specified herein. Eating, smoking, drinking, chewing tobacco, or gum shall not be permitted in the regulated area. Personnel of other trades not engaged in the removal and disposal of asbestos containing materials shall not be in the regulated area.

3.4.2 Air Monitoring

3.4.2.1 Air Monitoring Results Below 0.05f/cc

If air monitoring indicate fiber counts are below 0.05 fibers per cubic centimeters of air, the following removal method may be used.

a. Workers shall be double-suited in disposable coveralls, wearing respirators, and gloves. Upon completion of the abatement work the outer coverall and gloves shall be considered as asbestos contaminated materials and disposed of properly.

3.4.2.2 Air Monitoring Results Above 0.05 f/cc

If air monitoring indicate fiber counts are above 0.05 fibers per cubic centimeters of air, the following removal method may be used.

a. An asbestos control area enclosure shall be installed and a negative pressure system for the area operated continuously, 24 hours a day, until the enclosure is removed. The negative pressure equipment shall be sized so to provide a minimum of 4 air changes per hour in the asbestos control enclosure and to maintain a minimum pressure differential of minus 0.02 inch of water column relative to adjacent unsealed areas. Negative pressure equipment shall exhauste to the outside of the building, unless otherwise approved. Exhausted air shall be filtered to remove all asbestos. Pressure differential readings between the asbestos control enclosure and adjacent unsealed areas shall be taken at the beginning of each workday and every 2 working hours thereafter.

3.4.3 Managing Asbestos Containing Wastes

In order to maintain asbestos concentrations at a minimum, the saturated or encapsulated or otherwise enclosed asbestos containing material must be removed in manageable sections. Asbestos-bearing waste shall not be dropped from a height in excess of 15 feet. Plastic shovels, rubber squeegees, rubber dustpans, HEPA vacuum cleaners and other appropriate tools shall be used to gather gross asbestos waste on floors.

3.4.4 Waste Containers

Asbestos waste shall be placed in approved containers, and caution labels applied on the containers in accordance with 20 CFR 1926.58 (k), (2), if not already preprinted on the containers. External surfaces of the filled containers shall be thoroughly cleaned by wet sponging in the designated areas. The containers shall then be moved to the decontamination unit, thoroughly wet-cleaned, and moved to a holding area pending removal. Bags shall not be overfilled and shall be securely sealed to prevent accidental opening and leakage by twisting and taping the tops of bags in a goose neck fashion. Bags shall not be sealed with wire or cord. Bags shall be placed in drums for staging and transportation to the approved landfill. Bags shall be decontaminated on the exterior surfaces by wet cleaning and HEPA vacuuming. Asbestos containing waste with sharp-edged components, or which may puncture the disposal bags or plastic sheeting, shall be placed into drums and sealed with locking ring tops for disposal.

3.5 COMMENCEMENT OF WORK

Commencement of abatement work shall not occur until:

a. All pre-abatement submittals, notifications, postings, and permits have been provided and approved.

b. All required enclosure systems (if used) have been constructed and tested.

c. Negative pressure systems (if used) are functioning properly.

d. All equipment for abatement, clean-up, and disposal are on-site.

e. The Contractor receives written permission to commence abatement.

3.6 PERSONNEL AND AREA AIR MONITORING

Monitoring of airborne concentrations of asbestos fibers shall be in accordance with 29 CFR 1926.58. All air monitoring shall be performed by the Industrial Hygienist, or their approved designee and shall include as a minimum, pre-abatement, personal, area, and post-abatement air samples as required by Federal, State, and local regulations. Analysis of the air samples shall be performed at the work site, unless otherwise approved. The Industrial Hygienist, or their designee, shall notify the Contractor, and the Government on site immediately of the results of any air sample that indicates airborne fiber concentrations in excess of the acceptable limits.

3.6.1 Pre-Abatement Air Sampling

Area air samples shall be taken for each asbestos removal site and the reference TWA established prior to the start of any abatement work. The number of general air samples required to be taken to establish the reference TWA for each abatement site shall be determined by the Industrial Hygienist and submitted for approval in the abatement plan.

3.6.2 Air Monitoring During Abatement Work

Personal and area air monitoring shall be provided and the TWA and excursion exposure levels shall be established during the first exposure to airborne concentrations of asbestos. Thereafter, provided the same type of work is performed, air monitoring shall be provided at a frequency as designated by the Industrial Hygienist. If monitoring outside the asbestos control area shows airborne concentrations have reached the action level, work shall be stopped and the Government personnel on site notified immediately. The condition(s) causing this increase shall be corrected prior to the continuance of any abatement work.

3.6.3 Post-Abatement Air Sampling

Area air samples shall be taken, under aggressive conditions, to establish the clearance TWA in the asbestos control area. A maximum TWA of less than 0.01 fibers/cc shall be established after final cleanup and before removal of the containment barrier. The fiber counts from these samples shall be less than 0.01 fibers/cc or less than or equal to the reference TWA whichever is less. Should any of the final samplings indicate a higher value, appropriate actions shall be taken by the Contractor to re-clean the area and the area air sampling repeated.

3.7 SITE INSPECTION

While performing asbestos removal work, the Contractor shall be subject to on-site observation. If the work is in violation of specification requirements or any Federal, State, or local regulations, a stop work order will be issued to be in effect immediately and until the violation is resolved. Standby time and expenses required to resolve the violation shall be at the Contractor's expense.

3.8 DISPOSAL OF ASBESTOS CONTAINING MATERIALS

Asbestos containing materials shall be disposed of by burial at a State-permitted sanitary landfill. The asbestos containing materials shall be hauled to the landfill in a closed container and all procedures for hauling and disposal shall comply with 40 CFR 61 Subpart M, 40 CFR 241 and 257, 49 CFR 171 and 172, and State, and local standards. ACM shall not be allowed to accumulate on site for more than 90 days.

3.9 WASTE SHIPMENT RECORD (WSR)

A WSR shall be completed and submitted for this contract as specified in CFR 40 Part 61, subpart M and other state waste manifest shipment records within 10 days of delivery to the landfill.*****

SECTION 02081

HAZARDOUS MATERIALS

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SECTION 02081

HAZARDOUS MATERIALS

PART 1 GENERAL

1.1 GENERAL INFORMATION

This Section covers general requirements and regulations for hazardous materials relating to site operations under this contract. The specific requirements of SECTIONS 01101, and 01355 shall be in conjunction with this section in addition to other sections, which may contain hazardous material requirements.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

40 CFR 261	Identification and Listing of Hazardous waste
40 CFR 262	Generators of Hazardous waste
40 CFR 263	Transporters of Hazardous Waste
40 CFR 264	Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
49 CFR 178	Shipping Container Specification

U.S. ARMY CORPS OF ENGINEERS PUBLICATIONS (USACE)

USACE EM 385-1-1	(1996) Safety and Health Requirements Manual

1.3 SUBMITTALS

Submittals required by this section of the Technical Specifications shall be submitted for Government Approval (GA) or for information only (FIO). Submit as stated below.

SD-01 Data

Hazardous Communication Program; GA

Prior to bringing any hazardous material or material that will generate hazardous material onto the project, para. 3.3.

Hazardous Waste Determinations and Disposal Plans; GA

Prior to shipment of any hazardous water off project site, para. 3.1.

1.4 DEFINITIONS

1.4.1 Hazardous Materials

For the purpose of this contract a material will be considered hazardous if that material has any of the following characteristics: ignitability, corrosivity, reactivity, or toxicity in accordance with 40 CFR part 261, subpart C, "Characteristics of Hazardous Wastes".

PART 2 PRODUCTS

(NOT USED)

PART 3 EXECUTION

3.1 HAZARDOUS WASTE GENERATED BY THE CONTRACTOR

All hazardous waste generated by the Contractor shall become the property and responsibility of the Contractor. All hazardous waste disposals shall be in accordance with applicable Federal, State and Local regulations. Provide all labor, equipment, materials and documentation for analysis, sampling, transportation and disposal of all hazardous waste streams, in accordance with 40 CFR part 260 through 272, generated during this contract. Hazardous waste shall not be allowed to accumulate on site for more than 90 days. Provide hazardous waste determinations, sample plans, sample results, disposal plans, disposal restrictions and shipping manifests, to the GQAR prior to shipment of any hazardous waste off site. An authorized representative of the disposal facility, showing that the hazardous waste was accepted at the disposal facility shall sign shipping manifests.

3.2 OTHER HAZARDOUS MATERIALS

If the Contractor discovers, or comes into contact with hazardous materials other than those identified in these specifications, the Contractor shall immediately notify the Government, and the Government will make a determination as to the course of action.

3.3 HAZARDOUS COMMUNICATION PROGRAM

Implement a Hazardous Communication Program in accordance with EM 385-1-1 para. 01.B.04. Provide a written plan for safe storage, labeling, emergency procedures, and disposal prior to bringing any hazardous material or material that will generate a hazardous waste in excess of the Reportable Quantity onto the Project.

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SECTION 05501

METALWORK FABRICATION, MACHINE WORK,
AND MISCELLANEOUS PROVISIONS

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SECTION 05501

METALWORK FABRICATION, MACHINE WORK, AND MISCELLANEOUS PROVISIONS

PART 1 GENERAL

1.1 GENERAL INFORMATION

This section covers fabrication and inspection of items of metalwork and machine work, and items made from Contractor's contract and reference drawings. These requirements are in addition to other specification sections covering the specific items of work or indicated on the drawings.

1.2 REFERENCES

The publications listed below form a part of this specifications to the extent referenced. The publications are referred to in the text by basic designation only.

ALUMINUM ASSOCIATION (AA)

AA SAS-30 (1986) Aluminum Structures Construction Manual Series - Section 1 Specifications for Aluminum Structures

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

AISC (1989) Manual of Steel Construction, Allowable Stress Design

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B4.1 (1967; R 1987; Errata) Preferred Limits and Fits for Cylindrical Parts

ASME B46.1 (1985) Surface Texture, Surface Roughness, Waviness and Lay

ASME B18.2.1 (1999) Square and Hex Bolts

ASME B18.2.2 (1999) Square and Hex Nuts (Inch Series)

ASME B18.22.1 (1998) Plain Washers

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 36 (1991) Structural Steel

ASTM A 123A (2001) Zinc (Hot-Dip Galvanized) Coating on Iron and Steel Products

ASTM A 307 (2000) Carbon Steel, Bolts and Studs, 60,000 PSI Tensile Strength

ASTM A 380	(2000) Standard Practice for Cleaning and Descaling Stainless Steel Parts, Equipment and Systems the Contact Method
ASTM A 500	(2001) Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1	(2000) Structural Welding Code, Steel
AWS D1.2	(1997) Structural Welding Code, Aluminum

MILITARY SPECIFICATION (MS)

MS MIL-P-21035B	(1991) Paint, High Zinc Dust Content, Galvanizing Repair

1.3 SUBMITTALS

Submittals required by this section of the Technical Specifications shall be for Government approval (GA) or for information only (FIO), and shall be submitted as stated.

SD-08 Statements

Procedure for Cleaning Corrosion Resisting Steel, 30 calendar days prior to the performance of work, para. 3.4.1; GA

1.4 QUALITY CONTROL

Inspections and tests shall be performed for the metalwork fabrication and machine work in addition to the applicable inspection requirements elsewhere specified. A detailed plan shall be prepared to record all measurements, and other details that indicate the plans and specifications are met. The above shall be incorporated in the quality control plan in SECTION E, "Inspection and Acceptance".

PART 2 PRODUCTS

2.1 MISCELLANEOUS METALS AND STANDARD METAL ARTICLES

Miscellaneous metal materials and standard metal articles shall conform to the respective specifications and other designated requirements. Sizes shall be as specified or shown on drawings. Where material requirements are not specified, materials furnished shall be suitable for the intended use and shall be submitted for Government approval.

2.1.1 Structural Carbon Steel

All carbon steel, unless otherwise specified or indicated on the drawings, shall conform to ASTM A 36.

2.1.2 Steel Tubing

ASTM A 500, Grade B, outside dimensions and nominal wall thickness as shown on the drawings.

2.1.3 Bolts, Nuts, and Washers (Other Than High-Strength)

Bolts, nuts, and washers shall be of the material, grade, type, class, style and finish indicated or best suited for intended use.

a. Bolts and Nuts. ASTM A 307, Grade A.

b. Bolts. ASME B18.2.1.

c. Nuts. ASME B18.2.2.

d. Plain Washers. ASME B18.22.1, Type B.

2.2 FABRICATED METAL ITEMS

Metals, equipment and miscellaneous material shall conform to the requirements referred to in these specifications and when not specifically covered, metals and materials of standard quality shall be furnished. Materials shall be of the classification and grades approved by the Contracting Officer. Products other than those specified here in may be accepted when it is proved to the satisfaction of the Contracting Officer that they are equal in strength, durability, usefulness, and convenience for the purpose intended. In case the Contractor desires to use stock material not manufactured specifically for the work covered by these specifications, he shall submit evidence satisfactory to the Contracting Officer that such material conforms to the requirements of the specifications. Metals shall be free from scale, corrosion, and/or objectionable defects.

PART 3 EXECUTION

3.1 METALWORK FABRICATION.

3.1.1 General

Material shall be straight before being laid off or worked. If straightening is necessary, it shall be done by methods that will not impair the metal. Sharp kinks or bends shall be cause for rejection of the material. Material with welds will not be accepted, except where welding is definitely specified or indicated on the drawings. Bends, except for minor details, shall be made by dies, press brakes, or bending rolls. Where heating is required, precautions shall be taken to avoid overheating the metal and it shall be allowed to cool in such a manner as not to destroy the original properties of the metal. Shearing shall be accurately done and all portions of the work shall be neatly finished. Corners shall be square and true, unless otherwise indicated on the drawings. Re-entrant cuts shall be filleted to a minimum radius of 3/4 inch. Finished members shall be free from twists, bends and open joints. All bolts, nuts and screws shall be tight.

3.1.2 Dimensional Tolerances for Structural Work

Dimensions shall be measured by a calibrated steel tape or calibrated micrometers of approximately the same temperature as the material at the time of measurement. The overall dimensions of an assembled structural unit shall be within the tolerances indicated on the drawings or as specified in the section pertaining to the specific item of work. For contract and reference drawings only, individual measurements shall not deviate from the dimensions shown on the drawings by more than 1/16 inch, unless otherwise specified.

3.1.3 Structural-Steel Fabrication

Structural steel may be cut by mechanically-guided torches provided an accurate profile with a smooth surface free from cracks and notches is secured. Flame cutting, shearing, and edge preparation shall be in accordance with

Article 3.2 and Article 9.22 of AWS D1.1 for welded construction and to the appropriate provisions of AISC Manual of Steel Construction. Cut surfaces shall be chipped, ground, or machined to sound metal.

3.2 MACHINE WORK.

3.2.1 General (For items made from contract and reference drawings.)

Tolerances, allowances and gauges for metal fits between plain, non-threaded, cylindrical parts shall conform to ASME B4.1 for the class of fit shown or to the dimensions shown on the contract drawings. Where fits are not shown they shall be in accordance with good industrial practice for the intended application. Tolerances for machine-finished surfaces designated by non-decimal dimensions shall be within 1/64-inch unless otherwise specified. Tolerances for machine-finished surfaces designated by decimal dimensions shall be as follows, unless otherwise specified:

1 or 2 places ... 0.030
3 places 0.010

Sufficient excess material stock shall be allowed on surfaces requiring machining to ensure true surfaces of solid material while maintaining the specified minimum or finished plate thickness. Finished contact or bearing surfaces shall be true and exact to secure full contact. All surfaces shall be finished in accordance with the contract drawings to ensure proper operation when assembled. Parts shall be accurately machined and all like parts shall be interchangeable. All drilled bolt holes shall be accurately located to ensure interchangeability.

3.2.2 Finished Surfaces (For items made from contract and reference drawings.)

a. Where surface finishes are indicated on the drawings or specified herein the symbols used or finishes specified shall be in accordance with ASME B46.1. Values of roughness height specified are arithmetical average deviations expressed in micro inches. Roughness specified is the maximum value and any lesser degrees will be satisfactory unless otherwise called for on the drawing or in these specifications. Compliance with specified surface shall be determined by a electronic profilometer and by visual inspection of the work compared to Roughness Comparison Specimens, in accordance with the provisions of ASME B46.1. Values of roughness width and waviness height are not specified, but shall be consistent with the general type of finish specified by roughness height. Flaws such as scratches, ridges, holes, peaks, cracks or checks which will make the part unsuitable for the intended use will be cause for rejection.

b. Where the finish is not indicated or specified it shall be the most suitable for the particular surface, provide the class of fit required and shall be indicated on the shop drawings by a symbol which conforms to ASME B46.1.

3.2.3 Unfinished Surfaces

All work shall be laid out to secure proper matching of adjoining unfinished surfaces unless otherwise directed. Where there is a discrepancy between adjoining unfinished surfaces they shall be chipped and ground smooth or machined to secure proper alignment. Unfinished surfaces shall be true to the lines and dimensions shown on the drawings and shall be chipped or ground free of all projections and rough spots.

3.2.4 Shafting

Fillets shall be provided where changes in section occur. Cold-finished shafting may be used where key seating is the only machine work required.

3.2.5 Bolt Holes

Bolt holes shall be accurately located, smooth, cylindrical, and perpendicular to the member. The work shall be done to ensure the interchangeability of parts. Holes for bolts shall have diameters of not more than 1/16-inch larger than bolt diameters, unless required by Contractor's design or contract or reference drawings. If the thickness of the material is not greater than the diameter of the bolts the holes may be punched. If the thickness of the material is greater than the diameter of the bolts the holes may be drilled full size or subpunched or subdrilled at least 1/8-inch smaller than the diameter of the bolts and then reamed to full size. Poor matching of holes will be cause for rejection. Drifting occurring during assembly shall not distort the metal or enlarge the holes.

3.3 INSPECTION

Each unit shall be inspected prior to assembly to determine the correctness of the fabrication and machining of the component parts. Tolerances shall not exceed those shown on the drawings. Each unit inspected shall be closely checked to ensure that dimensions and tolerances are met. An inspection record shall be kept for review by the Government for each item inspected.

3.4 MISCELLANEOUS PROVISIONS

3.4.1 Cleaning of Corrosion-Resisting Steel

Corrosion-resisting surfaces shall be visually inspected for evidence of paint, oil, grease, welding slag, heat treatment scale, iron rust or other forms of contamination. If evidence of foreign substance exist the surface shall be cleaned in accordance with the applicable provisions of ASTM A 380. Cleaning shall be done by vapor degreasing or by the use of cleaners of the alkaline, emulsion or solvent type. The proposed method of treatment shall be furnished for approval. After
treatment the surfaces shall be visually re-inspected. Brushes used to remove foreign substances shall have only stainless steel or nonmetallic bristles. Any contamination occurring subsequent to the initial cleaning shall be removed by one or more of the methods indicated above. For surfaces that are to be painted see SECTION 09940.

3.4.2 Protection of Machined Surfaces

Machined surfaces shall be thoroughly cleaned of foreign matter and shall be protected by suitable means. Unassembled pins and bolts shall be oiled and wrapped with moisture resistant paper or protected by other approved means.

3.4.3 Zinc Coatings

Zinc coating shall be applied conforming to ASTM 123. In all cases where zinc coating is destroyed by cutting, welding, or other causes, the affected areas shall be re-galvanized by the following method. Coatings 2 ounces or heavier shall be re-galvanized with a suitable low melting zinc base alloy similar to the recommendations of the American Hot-Dip Galvanizers Association to the thickness and quality specified for the original zinc coating. Coating less than 2 ounces shall be re-galvanized by a repair compound conforming to MIL-P-21035B.

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SECTION 05502

WELDING

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SECTION 05502

WELDING

PART 1 - GENERAL

1.1 GENERAL INFORMATION

This section covers welding. Deviations from applicable codes, approved procedures, and approved detail drawings will not be permitted without prior written approval. Materials or components with welds made off the site will not be accepted if the welding does not conform to the requirements of this specification. Procedures shall be developed by the Contractor for welding all metals included in the work. Welding shall not be started until welding procedures, welders, and welding operators have been qualified. References to the Code or, Section II, VIII or Section IX of the Code refer to the ASME Boiler and Pressure Vessel Code. Weldments not governed by the Code shall be governed by appropriate portions of the American Welding Society's publications.

1.2. REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY MECHANICAL ENGINEERS (ASME)

Boiler and Pressure Vessel Code.

Section II	Material Specifications
Section VIII	Rules for Construction of Pressure Vessels
Section IX	(1983) Qualifications Standard for Welding and Brazing Procedures, Welders, Brazers, and Welding and Brazing Operators Addenda: Summer & Winter 1983

AMERICAN WELDING SOCIETY (AWS)

AWS A2.4	(1998) Standard Symbols for Welding, Brazing and Nondestructive Examination
AWS B2.1	(2000) Welding Procedure and Performance Qualifications
AWS D1.1	(2000) Structural Welding Code, Steel
AWS QC1	(1996) AWS Certification of Welding Inspectors

1.3. SUBMITTALS

Submittals requested by this section of the Technical Specifications shall be for Government approval (GA) or for information only (FIO), and shall be submitted as stated below.

SD-01 Data

Deviations from Codes, Procedures, and Drawings; GA

A minimum of 60 calendar days prior to their use, para. 1.1.

Qualification of Welder(s); GA

A minimum of 45 calendar days prior to their performance of work, para. 1.4.; GA

Ventilation System Data; GA

A minimum of 45 calendar days prior to use, para. 1.7.

Welding Procedures; GA

A minimum of 45 calendar days prior to the work, para. 3.1.2.

Prequalified Weld Procedures; GA

A minimum of 30 calendar days prior to the performance of work, para. 3.1.2.

Welding Repair Procedure; GA

A minimum of 45 calendar days prior to the work, para. 3.2.2.6.

Stress-Relief Time-Temperature Charts: GA

A maximum of 5 calendar days after stress relieving parts, para. 3.1.5.(3).

SD-08 Statements

Notification of Operator Qualifications; FIO

Time as specified in SECTION E, E-5, "Inspection." para. 1.4.

SD-09 Reports

Stud material Test Reports; GA

A minimum of 45 calendar days prior to the studs being used, para. 2.2.

SD-13 Certification

Weld Specimens Qualification Test Reports Certification; FIO

A minimum of 45 calendar days prior to the performance of work, para. 1.4.

Welding Inspectors Certification; FIO

a minimum of 45 calendar days prior to their performance of work, para. 3.2.2.

1.4 QUALIFICATION OF WELDERS

Welding operators, welders, and tack welders, shall be qualified and, as necessary, re-qualified for the particular type of work to be done. Qualification shall be in accordance with one of the following codes: (1) Section 5 of AWS D1.1, or (2) Section IX of the Code, or (3) AWS B2.1 (for cladding), whichever is most applicable to the work being performed. The record of qualification shall be approved. The Contractor shall certify by name the welders and welding operators so qualified including the date of qualification code, and the procedures under which qualified. Certification and testing of welders and operators shall be performed by an independent testing company. Prior qualification may be accepted provided the welder has performed satisfactory work within the preceding three months under the code for which qualified, and certification of prior qualification from an independent testing company is furnished. If at any time, the work of any operator appears questionable, such operator will be required to pass additional qualification tests to determine their ability to perform the type of work on which they are engaged. All such additional qualification tests for welding operators and the physical tests of the welded specimens shall be witnessed. All test plates and all welding electrodes shall be submitted as required for making the qualification tests. The test plates shall be of the same material as that to be used in the work. The edges shall be grooved or beveled where required, and the technique of welding shall be the same as to be used in the work. The welding electrodes shall be of the same size, type and brand as those to be used in the work. Three (3) certified copy of reports of the results of physical tests of specimens welded in the qualification tests shall be submitted. All expense in connection with making the qualification or re-qualification tests for welding operators shall be borne by the Contractor.

1.5 DELIVERY, STORAGE, AND HANDLING (For Site Operations)

1.5.1 General

All filler metals, electrodes, fluxes, and other welding materials shall be delivered to the site in manufacturers' original packages and stored in a dry space until used. Packages shall be properly labeled and designed to give maximum protection from moisture and to insure safe handling.

1.5.2. Material Control

Materials shall be stored in a controlled access and clean, dry area that is weather-tight and is maintained at a temperature recommended by the manufacturer. The materials shall not be in contact with the floor and shall be stored on wooden pallets or cribbing. The storage of welding electrodes shall conform to the applicable portions of the Code or AWS D1.1, which ever is the most restrictive.

1.5.2.1 Damaged Containers

Low-hydrogen steel electrodes shall be stored in their sealed shipping container. If the seal is damaged during shipment or storage, and the damage is not immediately detected, the covered electrodes in that container shall be rebaked in accordance with the manufacturer's instructions prior to issuance or shall be discarded. If a container is damaged in storage and the damage is witnessed, the electrodes from that container shall be immediately placed in a storage oven. The storage oven temperature shall be as recommended by the manufacturer or the welding material specification.

1.5.2.2 Partial Issues

When a container of covered electrodes is opened and only a portion of the content is issued, the remaining portion shall, within one-half hour, be placed in a storage oven and dried in accordance with AWS D1.1 Section 4.5.

1.5.3 Damaged Materials

Materials which are damaged shall be discarded. All covered electrodes which are oil or water-soaked, dirty, or on which the flux has separated from the wire shall be discarded.

1.6 SYMBOLS

Symbols shall be in accordance with AWS A2.4.

1.7 VENTILATION (For Site Operations)

A ventilation system shall be used to remove the welding vapors and dust at the source and to dilute the concentration of welding vapors in an enclosed working space to a concentration which is safe for the entire work period. The ventilation system shall be submitted for approval. Ventilation shall meet the requirements of EM 385-1-1, 10.B.03 and 06.G. Gases and debris shall be vented to the exterior of the powerhouse in such a manner as to not create a hazard for project tourists or employees. Welding vapors shall be prevented from entering electrical components in the powerhouse.

PART 2 PRODUCTS

2.1 WELDING MATERIALS

Welding materials shall comply with ASME Section II or the appropriate AWS specification. Welding equipment, electrodes, welding wire, and fluxes shall be capable of producing satisfactory welds when used by a qualified welder or welding operator using qualified welding procedures.

2.2 STUD MATERIALS

Studs shall conform to the requirements of AWS D1.1, Subsections 7.2 and 7.3. The manufacturer's certified test reports and original certification shall be submitted for approval.

PART 3 EXECUTION

3.1 WELDING OPERATIONS

3.1.1 Preparation for Welding

Members to be joined by welding shall be cut accurately to size and, where required, shall be rolled or pressed to the proper curvature. The cut surface shall expose sound metal free from lamination or carburized material, or other injurious defects. The surfaces to be welded, at the time of welding shall be free from rust, oil, grease, dirt, moisture and other foreign matter for a distance of at least two-inches back from each edge of the weld. For site operations: Previously deposited stainless steel shall also be removed for a distance of at least one inch from the edge of the weld groove. To test for the presence of stainless steel and its successful removal, Copper Sulfate shall be applied to the areas in question, prior to preheating. The copper sulfate shall be removed and the area degreased before preheat is applied and start of welding.

3.1.2 Welding Procedure

The Contractor shall submit a complete schedule of welding procedures consisting of detailed procedure specifications for each structure to be welded and tables or diagrams showing the procedure to be used for each required joint. He shall submit the procedures, along with certified copies of reports of test results, when applicable. Welding shall not be performed without an approved procedure. Welded joints under hydrostatic or hydraulic pressure shall meet the requirements stated in Section IX of the Code. For all other weld joints the qualification plates representing those joints shall be tested in accordance with the test requirements as stated in Section IX of the Code or in accordance with Section 5 of AWS D1.1. Applicable pre-qualified weld procedures in the Code or AWS publications may be submitted for approval. For site operations: Surfaces to be welded vary from flat or vertical to overhead.

3.1.3 Preheat and Interpass Temperature

Preheating shall be performed as required by the Code and AWS D1.1, Subsection 4.2 and 4.3 or as otherwise specified except that the temperature of the base metal shall be at least 70 degrees F. The material to be preheated shall be slowly and uniformly heated by approved means to the prescribed temperature, held at that temperature until the welding is completed and then permitted to cool slowly in still air.

3.1.4 Welding

All welding, unless otherwise specified, shall be performed by the electric-arc method, by a process which will exclude the atmosphere from the molten metal. The design and construction of welded joints shall conform to the requirements of Section VIII, "Pressure Vessels, Division 1" and Section IX, "Welding and Brazing Qualifications", of the Code, AWS publications, or as otherwise specified or approved. After being deposited, welds shall be cleaned of slag and shall show uniform sections, smoothness of weld metal, feather-edges without overlap, and freedom from porosity. Visual inspection at the edges and ends of welds shall indicate good fusion with the base metal. All pinholes, cracks, blow holes and other defects shall be repaired by air-arc gouging, chipping or grinding the defects to sound metal and re-welding. All undercutting of the side walls of the welding groove shall be opened up by grinding before the next successive weld bead to allow good fusion at the side wall. The welding rods used for manual welding shall be of the heavily coated type and shall be suitable for the position in which the welding is performed. For site operations: Welding machines and leads shall be grounded at all times in a manner to prevent damage to turbine and generator parts from welding current. In particular, all machines and welding ground leads shall be grounded by means of common ground systems to all the blades and cone, where applicable.

3.1.5 Stress Relieving

Except for minor parts and parts specifically excepted from stress relieving, stress relieving of welded joints shall conform to the applicable requirements of Part UW of Section VIII of the Code and AWS D1.1, except:

a. Localized stress relieving will not be permitted for any initial stress relief, unless otherwise specified herein. Where major repairs after initial stress relief must be made by welding, the repair shall be stress relieved, unless otherwise approved.

b. Parts fabricated by welding which are to receive machining shall be stress relieved at a time prior to final machining.

c. Stress-relief time-temperature charts shall be automatically recorded and a copy of each chart shall be submitted with identification of each part pertaining thereto.

3.1.6 Temporary Welds

Temporary welds shall be made under the controlled conditions prescribed herein for permanent work. All temporary welds shall be made using low-hydrogen welding electrodes by welders qualified for permanent work as specified elsewhere in these specifications. Preheat furnished for temporary welds shall be the same as for

permanent welds, except that the minimum temperatures shall be 120oF in any case. In making temporary welds, arcs shall not be struck in other than weld locations. Each temporary weld shall be removed after serving its purpose, ground flush with adjacent surfaces and the adjacent surfaces restored to their original condition.

3.1.7 Tack Welds

Tack welds that are to be incorporated into the permanent work shall be subject to the same quality requirements as the permanent welds. Preheating shall be performed as specified for temporary welds above. Such tack welds shall be cleaned and fused thoroughly with the permanent welds. Multiple-pass tack welds shall have cascaded ends. Defective tack welds shall be removed before permanent welding.

3.1.8 Stud Welding

The requirements for welding steel studs to steel including mechanical, workmanship, technique, stud application qualification, production quality control and fabrication and verification inspection requirements shall conform to the requirements of AWS D1.1, Section 7, except as otherwise specified.

3.2 INSPECTION

3.2.1 General

All welding shall be inspected to ensure that the welds conform to the requirements of this specification, the appropriate sections of ASME SECTION VIII, IX, or AWS D1.1 and the approved welding procedure. Inspection will be performed in two categories: (1) The CQC Welding Program shall guarantee complete compliance of all welds with the contract requirements, and (2) The Government Quality Assurance Program will be utilized to verify implementation and acceptability of the CQC Welding Program.

3.2.2 Contractor's Quality Control (CQC) Welding Program

3.2.2.1 General

Inspections performed under the CQC Welding Program shall be in accordance with the specifications herein, Section 6 of AWS D1.1, and in conjunction with SECTION E, paragraph E-5. The Contractor's weld inspector shall hold a current certification as a certified welding inspector (CWI) in accordance with AWS QC1 and AWS D1.1, paragraph 6.7 for AWS welds or as otherwise specified. Copies of the weld inspector's certification and qualifications for all assistant inspectors shall be submitted.

3.2.2.2 Inspection

Inspection and tests shall be performed as necessary prior to welding, during welding, and after welding to ensure that materials and workmanship meet the requirements specified. In addition to visual inspection, all welds shall be subject to non-destructive inspection, see SECTION 05503. As a minimum, the following amount of non-destructive inspection shall be performed:

a. Ten percent of the full penetration welds shall be inspected by ultrasonic testing,

b. Ten percent of the fillet welds shall be inspected by magnetic particle testing or liquid penetrant testing.

c. Radiographic inspection shall be performed on welds designated on the drawings.

d. The samples shall be randomly selected and shall be representative of the welds on that weldment.

Any weld that does not meet the acceptance criteria in SECTION 05503 shall not be counted as meeting the above inspection requirements. Rejection of any portion of a weld inspected on less than a 100 percent basis, by a method

other than visual, shall be 100 percent inspected by the method used in finding the defect. This inspection will not count towards meeting the above quality requirements.

3.2.2.3 Inspection Agency

Non-destructive inspection of welds and evaluation of tests or inspections as to the acceptability of the welds shall be performed by an agency adequately equipped and qualified to perform such services; or the Contractor may make its own tests or inspections and evaluations, provided the Contractor has available suitable equipment and qualified personnel. In either case, the Inspection Agency or Contractor's personnel qualifications shall meet the qualifications required in SECTION 05503. The evaluation of the tests or inspections shall be subject to approval and all records shall become the property of the Government. Testing performed as part of the Government Quality Assurance program shall be made in the presence of the Government.

3.2.2.4 Inspection Procedure

The procedure for making, evaluating and reporting the radiographic testing, ultrasonic testing, magnetic particle inspection, and liquid penetrant inspection of the welds shall conform to the applicable requirements of the ASME, AWS D1.1, or SECTION 05503. The ultrasonic equipment shall be capable of making a permanent record of the test indications and a record shall be made of each weld tested.

3.2.2.5 Acceptability of Welds

All welds shall meet the acceptance criteria specified in SECTION 05503, and if not applicable shall meet AWS D1.1, Section 9.25 for visual, radiographic, ultrasonic, magnetic particle, and liquid penetrant as applicable for the procedure specified.

3.2.2.6 Repairs

Defective weld metal shall be removed to sound metal by a method suitable for the materials and conditions. The surfaces shall be thoroughly cleaned before welding. The resulting cavities shall be re-welded in compliance with UW of Section VIII of the Code and Articles 3.7 and 6.6 of AWS D1.1. The preheat used in the initial welding shall be maintained during any weld repair work. A welding repair plan shall be submitted before repairs are made, unless otherwise approved in writing. Welds that have been repaired shall be re-tested by the same methods used in the original inspection. All costs of repairs and re-testing shall be borne by the Contractor, except for repair of members cut to remove test coupons which were found to contain acceptable welds. The repair of acceptable welds shall be performed in accordance with Section 15995 Miscellaneous Hire. When repairing surfaces that form water flow boundaries, such surfaces shall be finished to the Contractor's design or for site operations precisely to the original contour. Any templates needed shall be furnished by the Contractor.

3.2.3 Government Quality Assurance

3.2.3.1 General

All welds shall be subject to inspection by the Government. The Government reserves the right to require the Contractor to conduct non-destructive examination of any weld by any of the methods listed below. The Government may require that coupons be cut from any location in any joint.

3.2.3.2 Non-Destructive Inspection

As directed by the Government non-destructive examination of the designated welds shall be performed by one of the following methods:

a. Dye or Liquid penetrant inspection.

b. Magnetic Particle inspection.

c. Radiographic inspection.

d. Ultrasonic inspection.

These welds shall meet the acceptance standards in SECTION 05503 based upon the respective welds and method of inspection specified in paragraph 3.2.2.2 regardless of the method used by the Government to inspect the weld. Ultrasonic or radiographic inspection may be used to ensure proper visual inspection was performed at all stages of the welding process, according to AWS D1.1 Section 6.6.1. Rejected Welds found by the Government Quality Assurance Program shall be inspected the full length of that weld by the Contractor at its expense using the NDT method which found the first defect in the weld.

3.2.3.3 Test Coupons

The Government reserves the right to require the Contractor to remove coupons from completed work when doubt as to soundness cannot be resolved by non-destructive inspection. Coupons will be subjected to a guided bend test. Should tests of any two coupons cut from the work of any welder show non-conformance with AWS D1.1, it will be considered evidence of negligence or incompetence, and such welder shall be removed from the work. When coupons are removed from any part of a structure, the members cut shall be repaired with joints that conform to ASME SECTION IX or AWS D1.1, with peening as approved or directed to relieve residual stress.

3.3 PROTECTION OF FINISHED WORK

Surfaces shall be cleaned of foreign matter. All finished surfaces shall be protected. Unassembled pins and bolts shall be oiled and wrapped with moisture resistant paper or protected by other approved means. Finished surfaces of ferrous metal to be in bolted contact shall be washed with a rust inhibitor and coated with an approved rust resisting compound for temporary protection during fabrication, shipping, and storage periods. Finished surfaces of metals which will be exposed after installation shall be painted as specified in 09940.

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SECTION 05503

NON-DESTRUCTIVE TESTING

PART 1 GENERAL

1.1 GENERAL INFORMATION
1.2 REFERENCES
1.3 SUBMITTALS

PART 2 PRODUCTS

(NOT USED)

PART 3 EXECUTION

3.1 NONDESTRUCTIVE TESTING

SECTION 05503

NON-DESTRUCTIVE TESTING

PART 1 GENERAL

1.1 GENERAL INFORMATION

This section covers nondestructive testing of materials. The testing set forth and the acceptance criteria shall apply to both weldments and material, as applicable.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

Section VIII	Rules for Construction of Pressure Vessels

1.3 SUBMITTALS

Submittals required by this section of the Technical Specifications shall be for Government approval (GA) or for information only (FIO), and shall be submitted as stated below in accordance with SECTION H. The time of submittal shall be in accordance with SECTION H, unless otherwise indicated below.

SD-08 Statements

Notification of NDT Testing, for Project Site work 24 hours, excluding weekends and for off-Project Site work see time as specified in SECTION E, E-5, "Inspection," para. 3.1.1; FIO

SD-09 Reports

Inspection Reports, within 10 calendar days after the performance of work, para. 3.1.1; GA

SD-13 Certification

Nondestructive Testing Personnel Qualifications, minimum of 45 calendar days prior to their performance of work, para. 3.1.1; FIO

Independent Party's Ultrasonic Inspection Qualifications, minimum of 45 calendar days prior to their performance of work, para. 3.1.5; FIO

Independent Party's Radiograph Inspection Qualifications, a minimum of 45 calendar days prior to their performance of work, para. 3.1.6; FIO

PART 2 PRODUCTS

(NOT USED)

PART 3 EXECUTION

3.1 NONDESTRUCTIVE TESTING (NDT)

3.1.1 General

Weldments and material shall be subject to inspection to determine conformance with the requirements of ASME and AWS Codes, and provisions stated elsewhere in these specifications. An adequate inspection system shall be maintained as part of the Contractor's Quality Control Program. All welds and nondestructive testing shall be inspected by a Contractor's inspector unless otherwise specified. All nondestructive (NDT) performed by the Contractor or the subcontractor shall be witnessed by the Government, unless waived in writing or otherwise specified herein. NDT personnel qualifications shall be submitted. Methods and procedures of inspection, the evaluation of indications/defects and acceptance standards for indications/defects shall conform with applicable requirements of the ASME and AWS Codes. The more restrictive code requirements shall govern. All defects shall be repaired as provided in paragraph 3.2.2.6, SECTION 05502, or other appropriate portion of these specifications. A certified written report shall be submitted for all NDT inspections performed. The inspection reports shall compare the "as found" condition with the applicable standard.

3.1.2 Visual Examination (VT)

Prior to the use of any material, it shall be thoroughly visually examined to determine its suitability for use. Prior to any welding, the preparation of material for welding shall be visually inspected by the Contractor to assure compliance with the ASME Code and AWS publications, and during the welding for cracks and conformance to the qualified welding procedure. All completed welds shall be cleaned and examined carefully for insufficient throat or leg sizes, cracks, undercutting, overlap, excessive convexity or reinforcement, contour and finish, bead reinforcement, and other surface defects to insure compliance with the specification requirements

3.1.3 Dye or Liquid Penetrant Inspection (PT)

The penetrant tests and inspection shall conform to the applicable requirements of Appendix 8 of Section VIII of the ASME Code, except that penetration time is 15 minutes minimum below 50°F. The individual performing the PT tests shall, as a minimum, be NDT: ASNT-TC-1A Level 2 qualified, with a minimum of one (1) year of current experience at this level.

3.1.4 Magnetic Particle Inspection (MT)

The magnetic particle tests and inspection shall conform to the applicable requirements of Appendix 6, Section VIII of the Code. The individual performing the MT tests shall, as a minimum, be NDT: ASNT-TC-1A Level 2 qualified, with a minimum of one (1) year of current experience at this level.

3.1.5 Ultrasonic Inspection (UT)

The services of an independent party, unless otherwise approved, shall be employed to ultrasonically test as specified herein. The individual performing the work shall, as a minimum, be NDT: ASNT-TC-1A Level 3 qualified, or level 2 qualified, with three (3) years of current experience. Appropriate test blocks simulating the material to be tested shall be prepared for equipment calibration. Appropriate test heads shall be prepared and used with the ultrasonic equipment. The ultrasonic testing shall conform to applicable requirements of Appendix 12, Section VIII of the Code. The report shall set forth the UT procedures used, equipment used, a mapping of the areas tested and interpretation of results, specifically addressing lack of bonding or fusion, cracks, voids, and slag, the size and description of surface discontinuities and their accumulated total surface area relative to the inspected surface area, and the size and description of subsurface discontinuities.

3.1.6 Radiographic Examination (RT)

The services of an independent party, unless otherwise approved, shall be employed to radiographically examine as specified herein. The individual performing the work shall, as a minimum, be NDT: ASNT-TC-1A Level 3 qualified, or level 2 qualified, with three (3) years of current experience. The examination and acceptance criteria shall be in accordance with UW-51 of Section VIII of the Code.

3.1.7 Metallic Casting Examination

The examination and acceptance criteria for metallic castings when using MT, PT, RT, or UT shall be in accordance with Appendix 7 of Section VIII of the Code.

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SECTION 09940

PAINTING

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SECTION 09940

PAINTING

PART 1 GENERAL

1.1 GENERAL INFORMATION

The work covered by this section consists of furnishing all plant, labor, equipment, appliances, and materials; and in performing all operations in connection with preparation of surfaces and application of paint and other specified materials. For all jobsites where lead is present the Contractor shall comply with the requirements of SECTION 01101.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).

D 304	(1999) N-Butyl Alcohol (Butanol)
D 561	(1989, R 1996) Carbon Black Pigment for Paint
D 841	(2002) Nitration Grade Toluene
D 1045	(1990, R 2001) Sampling and Testing Plasticizers Used in Plastics
D 1153	(2001) Methyl Isobutyl Ketone
D 1186	(2001) Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Base
D 1200	(1999) Viscosity by Ford Viscosity Cup
D 1210	(1988, R 1996) Fineness of Dispersion of Pigment-Vehicle Systems
D 1400	(2000) Nondestructive Measurement of Dry Film Thickness of Nonconductive Coatings Applied to Nonferrous Metal Base
D 2917	(1998) Methyl Isoamyl Ketone
D 4417	(1999) Field Measurement of Surface Profile of Blast Cleaned Steel
E 1347	(1997) Color and Color-Difference Measurement by Tristimulus (Filter) Colorimetry

FEDERAL SPECIFICATIONS (Fed. Spec.)

TT-E-489	(1999) Enamel, Alkyd, Gloss, Low Voc Content
TT-E-505	(1985) Enamel (Odorless, Alkyd, Interior, High Gloss)
TT-E-506	(1997) Enamel, Alkyd, Gloss, Tints and White (for Interior Use)
TT-E-545	(Rev C) Primer (Enamel-Undercoat, Alkyd, Odorless, Interior, Flat, Tints and White)
TT-P-29	(1997) Paint, Latex

FEDERAL STANDARD (Fed. Std.)

Fed. Std. 595	(Rev B) Color Used in Government Procurement

MILITARY SPECIFICATIONS (Mil. Spec.)

Mil-C-4556	Coating Kit, Epoxy, for Interior of Steel Fuel Tanks
DOD-P-15328	Primer (Wash), Pretreatment (Formula No. 117 for Metals) (Metric)

STEEL STRUCTURES PAINTING COUNCIL (SSPC) SPECIFICATION

SSPC-SP 1	(1982) Solvent Cleaning
SSPC-SP 3	(1989) Power Tool Cleaning
SSPC-SP 5	(1991) White Metal Blast Cleaning
SSPC-SP 7	(1991) Brush-Off Blast Cleaning
SSPC-Paint 25	(1991) Red Iron Oxide, Zinc Oxide, Raw Linseed Oil and Alkyd Primer (without Lead and Chromate Pigment)

1.3 SUBMITTALS

Submittals required by this section of the Technical Specifications shall be for Government approval (GA) or for information only (FIO), and shall be submitted as stated below.

SD-01 Data

Location of Temporary Shelters; GA

90 calendar days prior to erection, para. 1.8.3.

SD-04 Drawings

Paint Shelter(s); GA

90 calendar days prior to erection, para. 1.5.1.

SD-08 Statements

Notification of Paint Batch Sampling; FIO

Off-site sampling will require notice as set forth in SECTION E, E-5, "Inspection". On-site sampling will require 24 hours, excluding weekends, para. 1.5.1.

SD-09 Reports

Certified Test Reports, Paints and Thinners; GA

30 calendar days prior to their use, para. 1.5.3(1).

SD-13 Certificates

Manufacturer's Special Formulation Paints; FIO

30 calendar days prior to their use, para. 1.5.2(2).

Supplier's Statement; FIO

30 calendar days prior to their use, para. 1.5.4.

SD-14 Samples

Special Formulation Paints and Thinners; GA

30 calendar days prior to their use, para. 1.5.2(2).

Federal and Military Specification Paints and Thinners; GA

30 calendar days prior to their use, para. 1.5.3(1).

1.4 DEFINITIONS AND NOMENCLATURE

1.4.1 Paint

The term "paint" as used herein includes emulsions, enamels, paints, stains, varnishes, sealers, and other coatings, organic or inorganic, whether they be used as prime, intermediate, or finish coats. This definition does not include troweled or sprayed-metal coatings.

1.4.2 Shop Painting

The term "shop painting" as referred to herein and/or on the drawings covers surface preparation and painting operations conducted in a shop, mill, or plant, before shipment of paint-receiving items to the project site.

1.4.3 Field Painting

The term "field-painting" as referred to herein and/or on the drawings covers surface preparation and painting operations conducted at the project site.

1.4.4 Touch-up Painting

The term "touch-up painting" refers to the application of paint on small areas of painted surfaces to repair mars, scratches, and other defects where the coating has deteriorated in order to restore the coating to an unbroken condition.

1.4.5 Repainting

The term "repainting" designates the cleaning and recoating with the same or similar materials originally used on extensive areas on which the existing coatings have deteriorated or otherwise have not provided adequate protection.

1.5 SAMPLING AND TESTING

1.5.1 General

Batches of paint that the Contractor proposes to use shall be stored in an approved shelter on the project site or segregated at the source of supply sufficiently in advance of need to allow 30 days for sampling and testing. The Contractor shall notify the Contracting Officer when the paint is available for sampling. Sampling of each batch shall be witnessed by a representative of the Contracting Officer unless otherwise specified or directed. Samples of paint submitted for approval shall be clearly labeled to indicate formula or specification number and nomenclature, batch number, batch quantity, color, date made, and applicable project contract number. Where specifically indicated herein or where indicated in a standards specification for a finished product, separate samples of ingredient materials shall be furnished. The ingredient samples shall be clearly identified by commercial name, trade designation, manufacturer, batch or lot number, and such other data as may be required. Testing of paint for compliance with the specifications will be performed in a Government designated laboratory at no expense to the Contractor except that the cost of testing any samples representing material that replaces previously rejected material will be deducted from payments to the Contractor at the rate of 300 dollars for each replacement sample.

1.5.2 Paint Formulations Not Covered by Standard Specifications

a. Solvents in vinyl and epoxy paints and thinners are subject to analysis by programmed temperature gas chromatographic methods and/or spectrophotometric methods, employing the same techniques which give reproducible results on prepared control samples known to meet the specifications. If the solvent being analyzed is of the type consisting primarily of a single chemical compound (or a mixture of two or more such solvents) interpretation of the test results shall take cognizance of the degree of purity of the individual solvents as commercially produced for the paint industry.

b. Sampling. Two one-quart samples of each batch of special formulation vinyl paint and thinners shall be submitted, see para 2.1.4. Where samples of ingredient materials are required, they shall be of one-half pint in size and shall be labeled with the name of the ingredient manufacturer as well as the trade name or designation of the product. When the required quantity of any paint is 10 gallons or less, samples of the paint and ingredient materials need not be submitted; but instead the Contractor shall prepare a signed certificate from the paint manufacturer showing the percentage of each ingredient used to produce the material and a statement that the material complies with all of the requirements of the formulation. Each ingredient shall be clearly identified as provided for above.

c. Adhesion Test. Vinyl paints shall be subject to the following adhesion test. When V-766e formulations are tested, 5-7 mils (dry) shall be spray applied to mild steel panels. The steel panels shall be essentially free of oil or other contaminants that may interfere with coating adhesion. The test panels shall be dry blast cleaned to a White Metal grade which shall be in compliance with SSPC-SP 5. The surface shall have an angular profile of 2.0-2.5 mils as measured by ASTM D 4417, Method C. After being air dried for 2 hours at room temperature, the panel shall be dried in a vertical position for 16 hours at 120 degree F. After cooling for 1 hour, the panel shall be immersed in tap water at 85-90 degree F for 48-72 hours. Immediately upon removal, the panel shall be dried with soft cloth and examined for adhesion as follows: With a pocket knife or other suitable instrument, two parallel cuts at least 1-inch long shall be made 1/4 to 3/8 inch apart through the paint film to the steel surface. A third cut shall

be made perpendicular to and passing through the end of the first two. With the tip of the knife blade, the film shall be loosened from the panel from the third cut between the parallel cuts for a distance of 1/8 to 1/4 inch. With the panel being held horizontally, the free end of the paint film shall be grasped between the thumb and forefinger and pulled vertically in an attempt to remove the film as a strip from between the first two cuts. The strip of paint film shall be removed at a rate of approximately 1/10 inch per second, and shall be maintained in a vertical position during the process of removal. The adhesion is acceptable if the strip of paint breaks (cannot be removed) when pulled or if the strip elongates a minimum of 10 percent during its removal. Paints not intended to be self-priming shall exhibit no delamination from the primer.

1.5.3 Federal and Military Specification Paints and Thinners

1.5.3.1 Sampling

When the required amount of a material of a particular type or color is more than 50 gallons, the Contractor shall submit a one-quart sample of each batch he proposes to use. When the required quantity of any type is 50 gallons or less, he shall supply either of the following:

a. A certified test report showing the results of required tests made on the material and a statement that it meets all of the specification requirements.

b. A certified test report showing the results of required tests made on a previous batch of paint produced by the same firm using the same ingredients and formulation except for minor differences necessitated by a color change and a statement that the previous batch met all of the specification requirements. A report of tests on the proposed batch showing the following properties applicable to the material specifications shall be submitted: color, gloss, drying time, opacity, viscosity, weight per gallon, and fineness of grind.

1.5.4 Proprietary Brands of Paints

When the required quantity of a particular type or color of a paint covered by a Federal or Military Specification is 10 gallons or less, a proprietary name brand, shelf item paint of the same type and with similar properties to the material specified may be proposed without sampling. To receive consideration, the paint must be in the original container with the manufacturer's label affixed. The Contractor shall furnish a statement from the supplier that the paint is appropriate as to type, color, and gloss and is a premium grade of paint.

1.6 PACKAGING, LABELING, DELIVERY, AND STORAGE OF PAINTS

Paints shall be so processed and packaged as to ensure that within a period of one year from date of manufacture, they will not gel, liver or thicken deleteriously, or form gas in the closed container. Paints, unless otherwise specified or permitted, shall be packaged in standard containers not larger than five gallons in size, with removable friction or lug-type covers. Containers for vinyl-type paints shall be lined with a coating resistant to the solvents in the formulations and capable of effectively isolating the paint from contact with the metal container. Each container of paint or separately packaged component thereof shall be clearly and durably labeled to indicate the purchaser's order number, date of manufacture, manufacturer's batch number, quantity, color, component identification, and the designated name, formula or specification number of the paint together with special labeling instructions, when specified. Paint shall be delivered to the job in unbroken containers. Paints that can be harmed by exposure to cold weather shall be stored in ventilated, heated shelters. All paints shall be stored under cover from the elements and in locations free from sparks and flames.

1.7. SAFETY AND HEALTH PROVISIONS

The Contractor shall comply with the safety and health provisions contained in SECTION 01101.

1.8 TEMPORARY SHELTERS FOR PAINTING OPERATIONS

1.8.1 General

Some of the painting operations will be required to be performed in the powerhouse such as painting actuator cabinet. This shall require construction of temporary shelters to isolate painting operations from the interior environment of the powerhouse. Shelters are required when painting system number 25 that requires abrasive blasting surface preparation. If the Contractor elects to conduct painting operations outside the powerhouse, a shelter will be required to contain blasting media, protect the pavement and other items from damage from painting activities, and to protect the items being painted from adverse atmospheric conditions. Plastic sheeting, if used, shall be reinforced for strength and clear or translucent for passage of light. Shelters shall comply with all safety requirements. Drawings, sketches, computations, catalog data and any other information shall be submitted to fully describe temporary shelter(s), and scroll case cover. Information shall clearly describe and show sizes, dimensions, and types of material for floor protection, wall and roof framing, covering materials including joints for air tightness, doors, ventilation and other safety requirements, heating and cooling (if outside the powerhouse), and any other information that the Contracting Officer might require.

1.8.2 Temporary Shelters

When painting items inside or outside the powerhouse temporary shelters will be required. Shelters shall be Contractor designed and shall meet the requirements above in paragraph, General and the following criteria. Shelters shall be large enough to allow adequate room for items to be painted, scaffolding, lights, blasting, painting, and ventilation equipment. If wall covering is of rigid materials such as plywood, a single wall is sufficient. If wall covering is of flexible materials such as plastic sheeting, double walls are required, i.e. 2 x 4 wood frame with sheets secured to inside and outside frame. Shelters shall be airtight to prevent escape of dust from blasting operations. Floors and pavement shall be protected, see SECTION 01010, {PROTECTION OF MATERIAL AND WORK}. Shelters shall be inspected and repaired daily. Proposed locations of shelters shall be furnished.

PART 2 PRODUCTS

2.1. SPECIAL PAINT FORMULATIONS NOT COVERED BY STANDARD SPECIFICATIONS

2.1.1 Exceptions

The ingredient materials described in this section are applicable only to the special paint formulations specified hereinafter and not to those finished-product coatings governed by Federal or other standard specifications.

2.1.2 General

Special paints shall have the composition as indicated in the formulas listed herein. Where so specified, certain components of a paint formulation shall be packed in separate containers for mixing on the job.

2.1.3 Colors and Tints

Colors shall conform to the listed chip of Fed. Std. 595. If not specified or otherwise prescribed, the color shall be that naturally obtained from the required pigmentation.

2.1.4 Ingredient for Special Paint Formulas

The following ingredient materials apply only to those paints whose formulations are shown above in detail.

a. Pigments and Suspending Agents

(1) Carbon black shall conform to ASTM D 561, Type I or II.

(2) The titanium dioxide in vinyl paint Formula V-766e shall be one of the following: Kronos 2160 or 2101, Kronos, Inc.; Ti-Pure 960, E. I. DuPont DeNemours and Co., Inc.; Unitane OR-650, Kermira Inc.

(3) Suspending Agent E shall be a light cream colored finely divided powder having a specific gravity of 20 to 2.3. It shall be an organic derivative of magnesium aluminum silicate mineral capable of minimizing the tendency of zinc dust to settle hard without increasing the viscosity of the paint appreciably. Bentone 14 produced by Rheox, Inc., has these properties.

(4) Suspending Agent F shall be a light colored finely divided powder having a specific gravity of approximately 1.70. it shall be an organic derivative of a special montmorillonite. Bentone 27, produced by Rheox, Inc., has these properties.

(5) Iron Oxide, (Dry) synthetic (red), shall conform to ASTM D 3721. Additionally, the pigment shall have a maximum oil absorption of 24 and a specific gravity of 4.90 to 5.20 when tested in accordance with ASTM D 281 and ASTM D 153, Method A, respectively. When the pigment is dispersed into specified vinyl paint formulation, the paint shall have colors approximately those produced by pigments R-2199 (light color) and R-6098 (dark color), products of Mineral, Pigments and Metals Div., Chas. Pfizer Co., 235 East 42nd street, New York NY 100017 and shall show no evidence of incompatibility or reaction between

(6) Carbon black shall conform to ASTM D 561, Type I or II.

(7) Zinc dust pigment shall conform to ASTM D 520 Type II.

b. Resins, Plasticizer, and Catalyst

(1) Diisodecyl Phthalate shall have a purity of not less than 99.0 percent, shall contain not more than 0.1 percent water and shall have an acid number (ASTM D 1045) of not more than 0.10.

(2) Vinyl Resin, Type 3 shall be vinyl chloride-acetate copolymer of medium average molecular weight produced by a solution polymerization process and shall contain 85 to 88 percent vinyl chloride and 12 to 15 percent vinyl acetate by weight. The resin shall have film-forming properties and shall, in the specified formulations, produce results equal to "Vinylite" resin VYHH, as manufactured by the Union Carbide Corporation.

(3) Vinyl resin, Type 4, shall be a copolymer of the vinyl chloride-acetate type produced by a solution polymerization process, shall contain (by weight) one percent inter-polymerized dibasic acid, 84 to 87 percent vinyl chloride, and 12 to 15 percent vinyl acetate. The resin shall have film-forming properties and shall, in the specified formulations, produce results equal to "Vinylite" resin VMCH, as manufactured by the Union Carbide Corporation.

(4) Ortho-phosphoric Acid shall be a chemically pure 85 percent grade.

c. Solvents and Thinners

(1) Methyl Isobutyl Ketone (MIBK) shall conform to ASTM D 1153.

(2) Methyl Isoamyl Ketone (MIAK) shall conform to ASTM D 2917.

(3) Toluene shall conform to ASTM D 841.

(4) Methanol (methyl alcohol) shall conform to ASTM D 1152.

PART 3 EXECUTION

3.1 CLEANING AND PREPARATION OF SURFACES TO BE PAINTED

3.1.1 General

Surfaces to be painted shall be clean before applying paint or surface treatments. Deposits of grease or oil shall be removed in accordance with SSPC-SP 1, prior to mechanical cleaning. Solvent cleaning shall be accomplished with mineral spirits or other low-toxicity solvents having a flashpoint above 100°F. Clean cloths and clean fluids shall be used to avoid leaving a thin film of greasy residue on the surfaces being cleaned. Items not to be prepared or coated shall be protected from damage by the surface preparation methods. Machinery shall be protected against entry of blast abrasive and dust into working parts. Cleaning and painting shall be so programmed that dust or other contaminants from the cleaning process do not fall on wet, newly painted surfaces, and surfaces not intended to be painted shall be suitably protected from the effects of cleaning and painting operations. Welding of, or in the vicinity of, previously painted surfaces shall be conducted in a manner to prevent weld spatter from striking the paint and to otherwise reduce coating damage to a minimum; paint damaged by welding operations shall be restored to original condition. Surfaces to be painted that will be inaccessible after construction, erection, or installation operations are completed shall be painted before they become inaccessible.

3.1.2 Ferrous Surfaces

a. Subject to Normal Exposure. Ferrous surfaces that are to be permanently and continuously in exterior or interior atmospheric exposure and other surfaces as directed shall be cleaned by means of power tools or by dry blasting to the brush-off grade. Cleaning and priming shall be done in the shop unless otherwise directed or permitted. Power tool cleaning shall conform to the requirements of SSPC-SP 3. Brush-off blast cleaning shall conform to the requirements of SSPC-SP 7. Irrespective of the overall cleaning method used, welds and adjoining surfaces within a few inches, thereof shall be cleaned of weld flux, spatter, and other harmful deposits by blasting, power impact tools, power wire brush, or such combination of these and other methods as may be necessary for complete removal of each type of deposit. The combination of cleaning methods need not include blasting when preparation of the overall surfaces is carried out by the power tool method, but brush scrubbing and rinsing with clean water, after mechanical cleaning is completed, will be required unless the latter is carried out with thoroughness to remove essentially all soluble alkaline deposits. Wetting of the surfaces during water-washing operations shall be limited to the weld area required to be treated, and such areas shall be dry before painting. Welds and adjacent surfaces cleaned thoroughly by blasting alone will be considered adequately prepared provided that weld spatter not dislodged by the blast stream shall be removed with impact or grinding tools. All surfaces shall be primed as soon as practicable after cleaning but, in any event, prior to contamination or deterioration of the prepared surfaces. To the greatest degree possible, steel surfaces shall be cleaned (and primed) prior to lengthy outdoor storage to minimize breakdown of mill scale and consequent rusting.

b. Subject to Severe Exposure. Ferrous surfaces subject to extended periods of immersion or otherwise as required shall be dry blast-cleaned to SSPC-SP 5. The blast profile unless otherwise specified shall be 1.5 to 2.5 mils as measured by ASTM D 4417, Method C. Appropriate abrasive blast media shall be used to produce the desired surface profile and to give an angular anchor tooth pattern. If recycled blast media is used, an appropriate particle size distribution shall be maintained so that the specified profile is consistently obtained. Steel shot or other abrasives that do not produce an angular profile shall not be used. Weld spatter not dislodged by blasting shall be removed with impact or grinding tools and the areas reblasted prior to painting. Surfaces shall be dry at the time of blasting. Blast cleaning to SSPC-SP 5 shall be done in the field and, unless otherwise specifically authorized, after final erection. Within 8 hours after cleaning, prior to the deposition of any detectable moisture, contaminants, or corrosion, all ferrous surfaces blast cleaned to SSPC-SP 5 shall be cleaned of dust and abrasive particles by brush, vacuum cleaner, and/or blown down with clean, dry, compressed air, and given the first coat of paint. Upon written request by the Contractor, the Contracting Officer may authorize mill or shop cleaning of assembled or partially assembled components specified to receive vinyl-type paint systems. The surfaces, if shop blasted, shall be shop coated with the first and second coats of the specified paint system. The shop coating shall be maintained in good condition by cleaning and touching up of areas damaged during the construction period. Appearance of pinpoint or

general rusting prior to application of field coats will be considered as evidence of poor workmanship, requiring reblasting and repainting at no added cost to the Government. Prior to the field application of subsequent coats, soiled areas of the shop coating shall be thoroughly cleaned and all welds or other unpainted or damaged areas shall be cleaned and coated in a manner to make them equivalent to adjacent, undamaged paint surfaces.

3.1.3 Galvanized, Aluminum, Aluminum Alloy, or Copper Surfaces

Where such surfaces are specified to be painted, they shall be first washed with clean mineral spirits and then pretreated with a primer conforming to Mil. Spec. DOD-P-15328 in accordance with the following instructions. The pretreatment primer shall be mixed by adding one volume of acid component (dilutent) to four volumes of resin component (base solution) slowly and with constant stirring. After mixing, the material shall be used within eight hours. The pretreatment primer shall be spray applied at a coverage rate of 250 to 300 square feet per gallon (of resin component) to give a dry film thickness of 0.3 to 0.5 mil. Small areas may be coated by brush or swab. Care shall be exercised in spray application to avoid the deposition of dry particles on the surface. A wet spray shall be maintained at all times by additional thinning with Normal Butanol (ASTM D 304) where required by prevailing weather conditions. The acid component (diluent), over and above the amount prescribed above, shall not be used for thinning purposes. Surfaces shall receive the first coat of paint after at least one but not more than 24 hours drying of the pretreatment primer film.

3.2 PAINT APPLICATION

3.2.1 General

The finished coating shall be free from holidays, pinholes, bubbles, runs, drops, ridges, waves, laps, excessive or unsightly brush marks, and variations in color, texture, and gloss. Application of initial or subsequent coatings shall not commence until a Government representative has verified that atmospheric conditions and the surfaces to be coated are satisfactory or has waived specific verification. All paint coats shall be applied in such manner as to produce an even, continuous film of uniform thickness. Edges, corners, crevices, seams, joints, welds, rivets, and other surface irregularities shall receive special attention to ensure that they receive an adequate thickness of paint. Spray equipment shall be equipped with traps and separators and where appropriate, mechanical agitators, pressure gauges, pressure regulators, and screens or filters. Air caps, nozzles, and needles shall be as recommended by the spray equipment manufacturer for the material being applied. Airless-type spray equipment shall be used only on broad, flat or otherwise simply configured surfaces, except that it may be employed for general painting if the spray gun is equipped with dual or adjustable tips of proper types and orifice sizes. Airless type equipment shall not be used for the application of vinyl paints.

3.2.2 Mixing and Thinning

Paints shall be thoroughly mixed, strained where necessary, and kept at a uniform composition and consistency during application. Paste or dry powder pigments specified to be added at the time of use shall, with the aid of powered stirrers, be incorporated into the vehicle or base paint in such a manner as to produce a smooth, homogeneous mixture, free of lumps and dry particles. Where necessary, in the opinion of the inspector, to suit conditions of surface, temperature, weather, and method of application, the packaged paint may be thinned immediately prior to use by the addition of not more than one pint per gallon of the proper thinner, provided that this general limitation shall not apply when more specific thinning instructions are provided. Paint that has been stored at low temperature, shall be brought up to at least 70°F before being mixed and thinned, and its temperature in the spray tank or other working container shall not fall below 60°F during the application. Paint that has deteriorated in any manner to such degree that it cannot be restored to essentially its original condition by customary field-mixing methods shall not be used and shall be removed from the project site. Paint and thinner that is more than one year old shall be sampled and submitted for testing to determine its suitability for application.

3.2.3 Atmospheric and Surface Conditions

Paints shall be applied only to surfaces that are above the dew point temperature and that are completely free of moisture as determined by sight and touch. In no case shall any paint be applied to surfaces upon which there is detectable frost or ice. Except as otherwise specified, the temperature of the surfaces to be painted and of air in contact therewith shall be not less than 45°F during paint application nor shall paint be applied if the surfaces can be expected to drop to 32°F or lower before the film has dried to a reasonably firm condition. During periods of inclement weather, painting may be continued by enclosing the surfaces and applying artificial heat, provided the minimum temperatures and surface dryness requirements prescribed above are maintained. Paint shall not be applied to surfaces heated by direct sunlight or other sources to temperatures that will cause detrimental blistering, pinholing, or porosity of the film.

3.2.4 Time Between Surface Preparation and Painting

Surfaces that have been cleaned and/or otherwise prepared for painting shall be primed as soon as practicable after such preparation has been completed, but in any event, prior to any deterioration of the prepared surface.

3.2.5 Method of Paint Application

Unless otherwise specified, paint shall be applied by brush or spray to ferrous and nonferrous metal surfaces. Special attention shall be directed toward ensuring adequate coverage of edges, corners, crevices, pits, rivets, bolts, welds, and similar surface irregularities. Other methods of application to metal surfaces shall be subject to the specific approval of the Contracting Officer. All coats on plaster, concrete, or other nonmetallic surfaces shall be applied by brush, roller, spray, or a combination thereof provided that the latter methods, in the opinion of Contracting Officer, produce films that are suitable in appearance and equivalent in quality to those obtained by brush application. Whenever application of paint by a specific method to a surface is permitted or directed, it is to be understood that all areas inaccessible to that method shall be coated by alternate means.

3.2.6 Coverage and Film Thickness

The actual surface area covered per gallon of paint shall not exceed the spreading rates prescribed for specific paints. Where no spreading rate is specified, the paint shall be applied at a rate normal for the type of material being used. In any event, the combined coats of a specified paint system shall completely hide base surface and the finish coats shall completely hide undercoats of dissimilar color.

3.2.7 Measurements on Ferrous Metal

Where dry film thickness requirements are specified for coatings on ferrous surfaces, measurements shall be made with one of the thickness gauges listed below. They shall be calibrated and used in accordance with ASTM D 1186. They shall be calibrated using plastic shims with metal practically identical in composition and surface preparation to that being coated, and of substantially the same thickness (except that for measurements on metal thicker than 1/4-inch, the instrument may be calibrated on metal with a minimum thickness of 1/4-inch). The instruments shall be calibrated in the thickness range expected to be encountered and the range of accuracy determined. If thickness readings are encountered outside of the calibrated range, the instrument shall be recalibrated and measurements retaken. The instruments shall be calibrated or calibration verified prior to, during and after each use. Authorized thickness gauges:

Mikrotest, Elektro-Physik, Inc.

Inspector Gage, Elcometer Instruments, Ltd.

Positest, Defelsko Corporation

Minitector, Elcometer Instruments, Ltd.

Positector 2000, Defelsko Corporation

3.2.8 Measurements on Non-ferrous Metal

Where dry film thickness requirements are specified for coatings applied to non-ferrous metal surfaces, measurements shall be made with one of the thickness gauges listed below. They shall be calibrated in accordance with ASTM D 1400 on metal identical in composition and surface preparation to that being coated and of substantially the same thickness (except that for measurements on metal thicker than 1/4-inch, the instrument may be calibrated on metal with a minimum thickness of 1/4-inch). The instruments shall be calibrated in the thickness range expected to be encountered and the range of accuracy determined. If thicknesses are encountered outside of the calibrated range for the instrument, the instrument shall be recalibrated and measurements retaken. The instruments shall be calibrated and the calibration shall be verified prior to, during and after each use. Authorized thickness gauges:

Positector 3000 (aluminum and copper only), Defelsko Corporation

Minitector Model 250N, 150N, or 150FN, Elcometer Instruments, Ltd.

3.2.9 Progress of Painting Work

Where field painting on any type of surface has commenced, the complete painting operation, including priming and finishing coats, on that portion of the work, shall be completed as soon as practicable, without prolonged delays. Sufficient time shall elapse between successive coats to permit them to dry properly for recoating, and this period shall be modified as necessary to suit adverse weather conditions. Paint shall be considered dry for recoating when it feels firm, does not deform or feel sticky under moderate pressure of the finger, and the application of another coat of paint does not cause film irregularities such as lifting or loss of adhesion of the undercoat. All coats of all painted surfaces shall be unscarred and completely integral at the time of application of succeeding coats. At the time of application of each successive coat, undercoats shall be cleaned of dust, grease, overspray, or foreign matter by means of airblast, solvent cleaning, or other suitable means. Cement and mortar deposits on painted steel surfaces, not satisfactorily removed by ordinary cleaning methods, shall be brush-off blast cleaned and completely repainted as required. Undercoats of high gloss shall, if necessary for establishment of good adhesion, be scuff sanded, solvent wiped or otherwise treated prior to application of a succeeding coat. Field coats on metal shall be applied after erection except as otherwise specified and except for surfaces to be painted that will become inaccessible after erection.

3.2.10 Contacting Surfaces

When riveted or ordinary bolted contact is to exist between surfaces of ferrous or other metal parts of substantially similar chemical composition, such surfaces will not be required to be painted but any resulting crevices shall subsequently be filled or sealed off with paint. Contacting metal surfaces formed by high-strength bolts in friction-type connections shall not be painted. Where a nonmetal surface is to be in riveted or bolted contact with a metal surface, the contacting surfaces of the metal shall be cleaned and given three coats of the specified primer. Unless otherwise specified, corrosion-resisting metal surfaces, including cladding therewith, shall not be painted.

3.2.11 Protection of Painted Surfaces

Where shelter and/or heat are provided for painted surfaces during inclement weather, such protective measures shall be maintained until the paint film has dried and discontinuance of the measures is authorized. Items that have been painted shall not be handled, worked on, or otherwise disturbed until the paint coat is fully dry and hard. All metalwork coated in the shop or field prior to final erection shall be stored out of contact with the ground in such manner and location as will minimize the formation of water-holding pockets, soiling, contamination, and deterioration of the paint film, and damaged areas of paint on such metalwork shall be cleaned and touched-up without delay. The specified first overall field coat of paint shall be applied within a reasonable period after the shop coat and in any event before weathering of the shop coat becomes extensive.

3.3 PAINT SYSTEMS TO BE APPLIED

3.3.1 General

The required paint systems and the surfaces to which they shall be applied are shown in para. 3.3.5 through 3.3.12 below. Supplementary information follows:

3.3.2 Fabricated and Assembled Items

Items that have been fabricated and/or assembled into essentially their final form and that are customarily cleaned and painted in accordance with the manufacturer's standard practice will be exempted from equivalent surface preparation and painting requirements described herein, provided that:

a. surfaces primed (only) in accordance with such standard practices are compatible with specified field-applied finish coats,

b. surfaces that have been primed and finish painted in accordance with the manufacturer's standard practice are of acceptable color and are capable of being satisfactorily touched up in the field, and

c. items expressly designated herein to be cleaned and painted in a specified manner are not coated in accordance with the manufacturer's standard practice if different from that specified herein.

3.3.3 Colors and Tints

Colors and tints shall match the respective color specimens designated by, or approved by the Government. Where specified or directed, alternate applications of successive undercoats having the same color shall be tinted with small amounts of lampblack approved ingredients, ground in a vehicle compatible with the paint being tinted, to ensure that all surfaces are properly coated with the specified number of paint coats. Tinting of vinyl-type paints shall be done by the manufacturer.

3.3.4 Surface Preparation

The method of surface preparation and pretreatment shown in the tabulation of paint systems is for identification purposes only. Cleaning and pretreatment of surfaces prior to painting shall be in accordance with detailed requirements herein before described.

3.3.5 System No. 25

Items or surfaces to be coated with System No. 25 are interior surfaces of the actuator cabinet and the exterior surfaces of the actuator cabinet, all oil piping, and other surfaces in direct contact with oil or oil vapors.

Surface	Paint Formulas to be Applied	
Preparation	1st Coat	2nd Coat
Approaching white metal blast cleaning	Mil. Spec. C-4556	Mil. Spec. C-4456

3.4 SUPPLEMENTARY APPLICATION INSTRUCTIONS

Surfaces shall be coated with the system indicated in the schedule and/or as noted on the drawings in accordance with the following instructions:

3.4.1 System No. 25

Apply paint in two or more coats to achieve a total dry film thickness or 6-7 mils. Apply paint in accordance with the manufacturer's instructions.

3.5 PROTECTION OF NON-PAINTED ITEMS AND CLEANUP

Walls, equipment, fixtures and all other items in the vicinity of the surfaces being painted shall be maintained free of damage by paint or painting activities. Prompt cleanup of any paint spillage and prompt repair of any painting activity damage shall be required.

3.6 CONTRACTOR QUALITY CONTROL

The Contractor shall establish and maintain quality control in accordance with SECTION E, E-1, "Supply Quality Management, Contractor Quality Control," for painting to assure compliance with contract requirements and to maintain records of his quality control for all operations including but not limited to the following:

a. Containers delivered are marked to completely identify contents as to manufacturer's formula or specification number, batch, and color.

b. Sampling, testing and certification as specified.

c. Only approved materials are applied.

d. Temporary shelters are fabricated and maintained in good condition.

e. Surfaces have been cleaned, prepared and pretreated.

f. Adequate and satisfactory materials and installation are provided to prevent any entry of sandblasting materials into water and to assure complete and thorough collection and removal of such waste sandblasting materials.

g. Application of each type of material is as specified.

h. Materials are stored as specified with flammables separated by 50 feet from combustible construction.

i. Surfaces are receiving number of coats specified.

j. Data shall be recorded for vinyl paint applied as follows:

(1) Date and time - start and finish

(2) Description of item painted

(3) Temperature of item to be painted (degrees F), start and finish

(4) Temperature of air in immediate area (degrees F), start and finish

(5) Average paint thickness

(6) Type and lot number of paint and paint manufacturer

(7) Name of painter and company

(8) Method of application

(9) Comments

(10) Dewpoint temperature, start and finish

(11) Drying time

(12) Type and amount of thinner(s) used

(13) Time between start and finish of surface preparation and start of painting temperature shall be recorded from the noted areas to portray the minimum and maximum range of temperature. The Government shall sign and date the data sheet after inspecting the paint coating and is assured of its adequacy. The dewpoint and ambient temperature shall be taken within 10 feet of the surface to be painted.

A copy of records and tests, as well as the records of corrective action taken, shall be furnished as herein before specified in para. 1.3.

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SECTION 15995

MISCELLANEOUS HIRE

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SECTION 15995

MISCELLANEOUS HIRE

PART 1 GENERAL

1.1 GENERAL INFORMATION

As the condition of certain areas of the plant and other items of equipment cannot be determined until site work and equipment removal begins, it is anticipated that work in addition to that specified in other sections may be required. This additional work will be directed in writing by the Contracting Officer to be accomplished under an item or items in this section. Where work is specified in other sections to be accomplished under these items, no work shall be accomplished until the item is inspected by the Government and specific directions are given in writing. The unit prices to be charged for labor for additional work shall not exceed the unit prices submitted in the Bid Schedule, which shall include supervision, equipment, tools, labor, materials, transportation of items to and from site to work place, overhead, and incidentals required for the work.

PART 2 PRODUCTS

(NOT USED)

PART 3 EXECUTION

3.1 ELECTRICIAN HIRE (OPTIONAL)

Furnish electrician to perform work on installation and repairs of various electrical machinery, equipment, and wiring as directed by the Contracting Officer.

3.2 OTHER SKILLED CRAFTSMAN HIRE (OPTIONAL)

Furnish other skilled craftsman, such as Millwright, Mechanic, to perform work on the various parts and types of equipment.

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SECTION 16050

MISCELLANEOUS ELECTRICAL EQUIPMENT AND WORK

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SECTION 16050

MISCELLANEOUS ELECTRICAL EQUIPMENT AND WORK

PART 1 - GENERAL

1.1 GENERAL INFORMATION

This Section covers electrical work for installation of the refurbished governors.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI/IEEE C2	(1997) National Electrical Safety Code
ANSI C80.1	(1990) Rigid Steel Conduit – Zinc Coated

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 123	(1989a) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 153	(1982; R 1987) Zinc Coating (Hot-Dip) on Iron and Steel Hardware

INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)

IEEE Std 383	(1974; R 1992) Class 1E Electric cables, Field Splices, and Connections for Nuclear Power Generating Stations

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA FB 1	(1993) Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies
NEMA WC 57	(1998) Control Cables
NEMA WC 70	(2001) Nonshielded Power Cables rated 2000 Volts or Less for the Distribution of Electrical Energy
NEMA WC 74	(2000) 5-46 kV Shielded power cable for Use in the Transmission and Distribution of Electric Energy

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(1999) National Electrical Code

UNDERWRITERS LABORATORIES (UL)

UL 360 (1986) Liquid-Tight Flexible Steel Conduit

1.3 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted as stated below.

SD-01 Data

The following data shall be submitted within 60 days after date of award:

a. Conduit system; GA

b. Wire and cable; GA

c. Wire markers; GA

SD-09 Reports

Test Record Form; GA

Prior to testing test record form, para 3.2.6

Test reports or certification; FIO

a. Testing general, para 2.2.10

b. Flame tests, para 2.2.10

c. Megger test within 30 days after test completion, para 3.2.6

d. Continuity test within 30 days after test completion, para 3.2.6

1.4 GENERAL REQUIRMENTS

1.4.1 Materials, Equipment and Installation

New and unused materials and equipment shall be furnished and any defective material or equipment damaged in the course of installation shall be replaced or repaired. The installation shall be in accordance with NFPA 70 and ANSI/IEEE C2, except where otherwise specifically shown or specified, in which case the drawings and specifications shall govern. Omission of details on the drawings or in the specifications shall not be construed as permitting deviations from Code requirements.

1.4.2 Standard Products

Material and equipment shall be the standard products of manufacturers regularly engaged in the manufacture of these products and shall essentially duplicate items that have been in satisfactory use for at least 2 years prior to bid opening.

1.4.3 Corrosion Prevention

All equipment shall be protected to prevent deterioration from corrosion. The general requirements are specified below; however, other corrosion-resisting treatments that are the equivalent of those specified may be used.

1.4.3.1 Fastenings and Fittings

Screws, bolts, nuts, pins, studs, springs, washers and other miscellaneous fastening and fittings shall be of corrosion-resistant material or shall be treated in an approved manner to render them resistant to corrosion.

1.4.3.2 Corrosion-Resisting Materials

Corrosion-resisting steel, copper, brass, bronze, copper-nickel-copper alloys are acceptable corrosion-resisting materials.

1.4.3.3 Corrosion-Resisting Treatments

Treatments shall be in accordance with ASTM A 123 or ASTM A 153.

1.4.3.4 Finish

Final painting may be done in accordance with manufacturer's standard practice.

1.5 STORAGE AND HANDLING

Materials and equipment shall be suitably protected from dampness, dust and physical damage.

1.6 PAINTING EXISTING EQUIPMENT

Any paint damaged during modifications to existing equipment shall be repaired, by degreasing, sanding, feather-edging, priming, and finishing with an approved paint of matching color. Tiny nicks and other similar damage may, if approved, be repaired with matching finish color alone.

PART 2 - PRODUCTS

2.1 CONDUIT SYSTEMS

2.1.1 Conduit

2.1.1.1 Rigid Steel

Rigid steel conduit shall conform to ANSI C80.1 and shall be zinc-coated both inside and outside by hot-dip galvanizing method.

2.1.1.2 Liquid Tight Flexible Steel

Flexible conduit shall conform to UL 360, shall have a hot-dip galvanized steel core, copper ground wire and a waterproof extruded PVC cover.

2.1.1.3 Fittings

Fittings for rigid conduit shall be threaded and conform to NEMA FB-1. Fittings for flexible conduit shall provide positive bonding.

2.2 INSULATED WIRE AND CABLE

2.2.1 General

All wire and cable shall be provided by the Contractor and shall conform to the requirements specified herein.

2.2.2 Governing Standards

Materials, installation and tests, unless otherwise specified, shall conform to the applicable requirements of NEMA WC 70 and NEMA WC 74. The referenced parts only of IEEE Standard 383 form a part of this specification.

2.2.3 Rated Circuit Voltages

Wire and cable for circuits operating at 600 volts and below shall have minimum rated circuit voltages in accordance with Section 3 of NEMA WC 70.

2.2.4 Conductors

2.2.4.1 Material

Conductors shall conform to all the applicable requirements of Section 2 of NEMA WC 70 or Section 2 of NEMA WC 74 as applicable, and shall be annealed copper. Copper conductors may be bare, or tin- or lead-alloy-coated, if required by the type of insulation used.

2.2.4.2 Size

Minimum wire size shall be No. 12 AWG for control circuits and No. 10 AWG for current transformer secondary circuits.

2.2.4.3 Stranding

Conductor stranding classes cited herein shall be as defined in
Appendix G of NEMA WC 70 and Appendix H of NEMA WC 74, as applicable. Lighting conductors No. 10 AWG and smaller shall be solid. Any conductors used between stationary and moving devices, such as hinged doors or panels, shall be Class H or K stranding. All other conductors shall have class B or C stranding.

2.2.5 Insulation

2.2.5.1 Insulation Material

Insulation shall be cross-linked-thermosetting-polyethylene (XLPE) type, or an ethylene-propylene-rubber (EPR) type meeting the requirements of Section 3 of NEMA WC 70, or Section 4 of NEMA WC 74, as applicable. Polyvinyl chloride (PVC) insulation will not be accepted.

2.2.5.2 Insulation Thickness

The insulation thickness for cables and conductors shall be as specified below:

a. The insulation thickness for single-conductor cables and single conductors of multiple-conductor control cables used for control and related purposes rated below 2,000 volts shall be as required by Section 3 of NEMA WC 70.

b. The insulation thickness for single-conductor cables rated above 2,000 volts shall be as required by Section 4 of NEMA WC 74.

2.2.6 Jackets

All cables shall have jackets meeting the requirements of Section 4.1 of NEMA WC 70, or Section 7.1 of NEMA WC 74, as applicable, and as specified herein. Individual conductors of multiple-conductor cables shall be required to have jackets only if they are necessary for the conductor to meet other specifications herein. Jackets of single-conductor cables and of individual conductors of multiple-conductor cables, except for shielded cables, shall be in direct contact and adhere or be vulcanized to the conductor insulation. Multiple-conductor cables and shielded single-conductor cables shall be provided with a common jacket, which shall be tightly and concentrically formed around the core. Repaired jacket defects found and corrected during manufacturing are permitted if the cable, including the jacket, afterward fully meets these specifications and the requirements of the applicable standards.

2.2.6.1 Jacket Material

The jacket shall be one of the materials listed below, in accordance with the applicable paragraphs of NEMA WC 70 and NEMA WC 74. Polyvinyl chloride compounds will not be permitted. Variations from the materials required below will be permitted only if approved for each specific use, upon submittal of sufficient data to prove that they exceed all specified requirements for the particular application:

a. Heavy-duty black neoprene.

b. Heavy-duty chlorosulfonated polyethylene.

c. Heavy-duty cross-linked (thermoset) chlorinated polyethylene.

2.2.6.2 Jacket Thickness

The minimum thickness of the jackets at any point shall be not less than 80 percent of the respective nominal thickness specified below:

a. Multiple-Conductor Cables. Thickness of the jackets of the individual conductors of multiple-conductor cables shall be as required by Section 4.1 of NEMA WC 70, and shall be in addition to the conductor insulation thickness required by Section 3 of NEMA WC 70 for the insulation used. Thickness of the outer jackets or sheaths of the assembled multiple-conductor cables shall be as required by Section 4.1 of NEMA WC 70.

b. Single-Conductor Cables. Single conductor cables, if nonshielded, shall have a jacket thickness as specified in Section 4.1 of NEMA WC 70. If shielded, the jacket thickness shall be in accordance with the requirements of Section 4.1 of NEMA WC 70 or Section 7.1 of NEMA WC 74, as applicable.

2.2.7 Identification

Only one color-code method shall be used for each cable construction type. Colored braids will not be permitted. Control cable color-coding shall be in accordance with Appendix E of NEMA WC 57. Power cable color-coding shall be black for Phase A, red for Phase B, blue for Phase C, white for grounded neutral, and green for an insulated grounding conductor, if included.

2.2.8 Cabling

Individual conductors of multiple-conductor cables shall be assembled with flame and moisture-resistant fillers, binders, and a lay conforming to Part 5 of NEMA WC 57, or Section 5 of NEMA WC 70, as applicable, except that flat twin cables will not be permitted. Fillers shall be used in the interstices of multiple-conductor round cables with a common covering where necessary to give the completed cable a substantially circular cross section. Fillers shall be of a non-hygroscopic material, compatible with the cable insulation, jacket, and other components of the cable. The rubber filled or other approved type of binding tape shall consist of a material that is compatible with the other components of the cable and shall be lapped at least 10 percent of its width.

2.2.9 Dimensional Tolerance

The outside diameters of single-conductor cables and of multiple-conductor cables shall not vary more than 5 percent and 10 percent, respectively, from the manufacturer's published catalog data.

2.2.10 Inspection and Tests

Inspection and tests of wire and cable furnished under these specifications shall be made by and at the plant of the manufacturer, and shall be witnessed by the GQAR, unless waived in writing. The Government may perform further tests before or after installation. Testing in general shall comply with Part 6 of NEMA WC 57, Section 6 of NEMA WC 70, or Section 9 of NEMA WC 74, as applicable. Specific tests required for particular materials, components, and completed cables shall be as specified in the sections of the above standards applicable to those materials, components, and cable types. Tests shall also be performed in accordance with the additional requirements specified below.

2.2.10.1 High-Voltage Test Source

High-voltage tests, for cables to be used exclusively on dc circuits, shall be made with dc test voltages where applicable standards allow a choice. Cables to be used exclusively on ac circuits shall be tested with ac test voltages. If both ac and dc will be present, on either the same or separate conductors of the cable, ac test voltages shall be used.

2.2.10.2 Flame Tests

All multiple-conductor and single-conductor cable assemblies shall pass the IEEE Standard 383 flame tests, paragraph 2.5, using the ribbon gas burner. Single-conductor cables and individual conductors of multiple-conductor cables shall pass the flame tests of Part 3 of NEMA WC 57, Section 6 of NEMA WC 70, or Section 7.1 of NEMA WC 74, as applicable. If such tests, however, have previously been made on identical cables, these tests need not be repeated. Instead, certified reports of the original qualifying tests shall be submitted.

2.2.10.3 Independent Tests

The Government may at any time make visual inspections, continuity or resistance checks, insulation resistance readings, power factor tests, or dc high-potential tests at field test values. A cable's failure to pass these tests and inspections, or failure to produce readings consistent with acceptable values for the application, will be grounds for rejection of the cable.

2.2.11 Packaging and Marking

The cables shall be furnished one length to a reel or coil. Each length, and the outside of each reel or coil, shall be plainly marked or tagged to indicate the cable length, voltage rating, conductor size, and manufacturer's lot number and reel number. Cables for exclusively dc applications shall be identified as such. Reels shall remain the property of the Contractor.

2.3 GROUND CONDUCTORS

The ground conductors shall be bare soft, or medium hard drawn Class A or Class B stranded copper cables. Necessary bolts, compression fittings, washers, and locking devices which are required for attaching the ground strap shall be provided and be of copper alloy.

PART 3 - EXECUTION

3.1 CONDUIT SYSTEMS

3.1.1 Installation

All leads from the remote sensor devices and accessories shall be run in rigid galvanized conduit and connected to terminal blocks in the terminal cabinet. All conduit runs installed shall be terminated at devices or connection boxes and at the terminal cabinet in tapped holes having not less than 3½ pipe threads, or in standard pipe-threaded couplings or nipples integral with or welded to the device or cabinet. Similar pipe-threaded connections shall be provided on the terminal cabinet for attaching incoming conduit. No running threads on conduit will be permitted. Conduit, fittings and accessories shall be installed in accordance with details shown and as specified herein:

a. All conduit bends shall have a radius of not less than ten times the conduit's inside diameter.

b. No threadless fittings or running-thread couplings shall be used on conduit runs.

c. Metal conduits shall be cut only with a tool approved for the purpose. Roller type pipe cutters shall not be used on conduits. All cuts shall be square and the conduit opening shall not be constricted. After cutting and threading, conduit ends shall be reamed to remove rough edges and burrs and the entire conduit shall be thoroughly cleaned to remove all cuttings, dirt and oil from its interior. Threads shall be clean cut. Threaded joints in metal conduit and terminations in cast boxes shall have the threads coated with an approved joint compound, and shall be screwed tight to make the joint watertight and to provide electrical continuity of a given conduit system. Suitable watertight conduit hubs and bushings shall be provided where conduit terminates within a box, terminal cabinet or accessory that has no threaded hub or fitting to receive threaded conduit.

d. The entire metallic conduit system installed by the Contractor shall be electrically continuous and thoroughly grounded. No welding or brazing of the grounding conductor to the conduit will be allowed. All grounding connections to the conduit shall be made by means of grounding bushings or by an approved pressure type connector.

3.2 WIRE AND CABLE

3.2.1 General

For the purposes of this contract, the term "internal wiring" shall be used to designate the governor manufacturers factory installed wiring furnished with the governor, and the term "external wiring" shall be used to designate field installed wiring by the Contractor. The Contractor shall be responsible for determining the actual cable length required to make an installation without splices.

3.2.2 Internal Wiring

All governor internal wiring shall be furnished and installed as indicated in SECTION 16252, paragraph 2.17 and SECTION 16253, paragraph 2.17.

3.2.3 External Wiring

All external wire and cable shall conform to paragraph 2.2 of these specifications. All wire and cable shall be installed in accordance with NFPA 70. All necessary materials, tools and equipment required for proper handling and installation of wire and cable in conduits, cable trays, and elsewhere shall be furnished by the Contractor. Except for spares, each wire and cable shall be connected to the associated equipment at both ends, and shall be continuous and without splices between the equipment termination points. Wire and cable shall be pulled in a manner which will preclude damage to the conductor, insulation or jacket. Any cable damaged during installation shall be removed and replaced. Installation of wire and cable shall include installation of all supporting devices and

all terminations required to complete the circuits as required. Wire and cable shall not be pulled into conduit runs until the conduit has been checked and determined to be clean and dry by pulling a clean, dry, tight-fitting rag through each run. Only approved lubricants may be used to facilitate pulling of conductors.

3.2.4 Terminations

All cable and wire connections shall be made at terminal blocks using ring-tongue connectors. The shield and shield insulating jacket of shielded signal cables and conductors, if applicable, shall be maintained to a point as close to the terminals as possible. The shield insulating jacket shall not be stripped from the shield except where necessary to make the ground connection. All signal cable shields shall be grounded at one end only.

3.2.5 Wire and Cable Markers

All multiple-conductor cables shall be clearly identified with the cable designation by either embossed one-inch diameter brass tags or by embossed aluminum band markers. Tags or band markers shall be securely fastened to the cables at each termination, junction or pull box, where cables enter or leave cable trays, and as required at other points of access. Wires and individual conductors of control and power cables shall be identified with non-metallic tube-type markers at each termination. Tube-type markers shall be suitable for contact with rubber or neoprene or plastic. Tubing shall be sized to fit the wire being marked and shall have black marking on a light colored background. Installed markers shall be uniform in position on the wire and legends shall be visible when wires are terminated on terminal blocks or equipment. A written certificate from an approved independent testing laboratory shall be furnished to indicate that the markers will not stain or discolor after 20 years service when subjected to an accelerated aging test while in contact with wire insulating materials. Identification on tags and markers shall be as shown on the drawings or as directed.

3.2.6 Tests

After installation, but just prior to terminal connection, each conductor shall be tested as follows:

a. A 1000-volt "Megger" test shall be performed with all other conductors in each cable or conduit grounded. The final insulation resistance of each conductor shall not be less than one megohm.

b. A continuity test of each conductor from terminal to terminal shall be performed.

c. Suitable records shall be kept of all tests, indicating the "Megger" readings, high voltage tests, continuity test, and conductor identification markings. A duplicate record of all tests shall be furnished the Contracting Officer. Prior to testing, the test record form shall be submitted for approval in accordance with CQC Plan.

d. Any length of wire or cable failing under the above tests shall be replaced and retested.

e. The Contractor shall furnish all instruments and personnel for these tests.

f. Tests shall be witnessed by the GQAR and the test form shall provide room for the GQAR's signature. Test reports shall be submitted within 30 days after test completion.

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SECTION 16252

HARTWELL GOVERNORS

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1.3 SUBMITTALS
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2.2 SPEED SIGNAL GENERATOR, PILOT CONTROL ASSEMBLY AND CONTROLS
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PART 3 EXECUTION

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3.2 SHOP ASSEMBLY AND TEST
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SECTION 16252

GOVERNORS

PART 1 GENERAL

1.1 GENERAL INFORMATION

The Contractor shall furnish and install all governor equipment and auxiliaries required for the conversion of four (4) mechanical Proportional-Integral(P-I) and one (1) Analog-Electric Proportional-Integral-Derivative (P-I-D) governors to electronic digital P-I-D governors. The five (5) governors to be converted are on main units 1-5 and were manufactured by the Woodward Governor Company. The equipment provided under these specifications shall be a type having an established reputation of five years or more for satisfactory and reliable operations of Francis type turbines. The operation and performance of the equipment furnished shall be guaranteed by the Contractor to meet the requirements of these specifications.

1.1.2 Components to be Retained

The components of the existing governor systems which will be retained and not replaced are the pressure tank, pumping units, sump tank, distributing valve, and actuator cabinet. Existing wiring, control mechanisms, and switches will be replaced. Existing oil piping will be retained and used to the maximum extent possible without degradation of the required performance standards.

1.1.3 Components to be Furnished

The new governor will essentially consist of the programmable logic controller (PLC), speed signal generator (SSG), speed sensor, P-I-D speed governing with adjustable droop, pilot control valve assembly, gate position sensing, and all accessories necessary for a complete governing system. In addition, the Contractor shall provide a laptop computer with all of the necessary diagnostic and programming software installed, to facilitate the requirements of this specification. The diagnostic and programming software shall also be provided on either Manufacturer-labeled 3½" floppy disk or CD, complete with manuals and proper licensing.

1.2 REFERENCES

The publications listed below form a part of this specifications to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 27	(1995) Steel Castings, Carbon, for General Application
ASTM A 36	(2001) Structural Steel
ASTM A 48	(2000) Gray Iron Castings
ASTM A 269	(2001) Seamless and Welded Austenitic Stainless Steel Tubing for General Service
ASTM A 283	(2000) Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A 668	(1996) Steel Forgings, Carbon and Alloy, for General

	Industrial Use
ASTM B 42	(1998) Seamless Copper Pipe, Standard Sizes
ASTM B 43	(1998) Seamless Red Brass Pipe, Standard Sizes
ASTM B 88	(1999) Seamless Copper Water Tube

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME-14	(1998) Boiler and Pressure Vessel Code; Section V, Nondestructive Examination
ASME-16	(1998) Boiler and Pressure Vessel Code; Section VIII, Pressure Vessels Division 1 - Basic Coverage
ASME B16.5	(1996) Pipe Flanges and Flanged Fittings
ASME-17	(1998) Boiler and Pressure Vessel Code; Section IX, Welding and Brazing Qualifications
ASME B31.1	(1998) Power Piping
ASME B40.100	(1998) Gauges - Pressure Gauges and Gauge Attachments
ASME PTC 29	(1998) Speed-Governing Systems for Hydraulic Turbine-Generator Units

ELECTRONICS INDUSTRIES ASSOCIATION

RS-485	(1983)Electrical Characteristics of Generators and Receivers for use in Balanced Digital Multi-point Systems

FEDERAL STANDARDS (FED-STD)

FED-STD 595	(Rev B) Color Used in Government Procurement

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE Std 125	(1996) Preparation of Equipment Specifications for Speed-Governing of Hydraulic Turbines Intended to Drive Electric Generators

MANUFACTURERS STANDARDIZATION SOCIETY OF THE VALVE AND FITTINGS INDUSTRY (MSS)

MSS SP-58	(1993) Pipe Hangers and Supports - Materials, Design and Manufacture

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA ICS 1	(2000) Industrial Control and Systems General Requirements

NEMA ICS 2 (2000) Standards for Industrial Control Devices, Controllers and Assemblies

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

SAE ARP 598B (1986; R 1991) The Determination of Particulate Contamination in Liquids by the Particle Count Method

SAE J514 (2001) Hydraulic Tube Fittings, Standard

STEEL STRUCTURES PAINTING COUNCIL (SSPC)

SSPC Paint 25 (2001) Zinc Oxide, Linseed Oil Primer For Use Over Hand Cleaned Steel

1.3 SUBMITTALS

Submittals required by this section of the Technical Specifications shall be for Government approval (GA) or for information only (FIO) and shall be submitted as stated below.

SD-01 Data

Manufacturers Information; GA

The names of the manufacturers of all machinery and electronic equipment intended for incorporation into the work, together with performance capacities and other relevant information pertaining to the equipment, 60 days after award of contract, para. 2.1.

Catalog Data; GA

Specific catalog data for equipment, components, or materials intended for use in the manufacture of the governors 60 days prior to the purchase of these components, para. 2.1.

Replacement Sub-components; GA

Recommendations for replacement of existing governor sub-components, not more than ten calendar days after disassembly, para. 3.1.

Operation and Maintenance Manuals; GA

Draft copies of proposed Operation and Maintenance manuals for review and comment not less than 30 days prior to delivery of the equipment, para. 3.4 and SECTION C, para. 1.11.

Contractor-Furnished Training; GA

A course outline and subject matter for the theory, operation, and maintenance of the governor shall be submitted not later than 45 days prior to the starting date of the training, para. 3.5.

SD-04 Drawings

Governor Drawings; GA

Drawings showing the proposed arrangement of the governor, existing equipment modifications and piping modifications shall be submitted for approval, not more than 120 calendar days after award, para. 1.4.4.

Governor Wiring Diagrams; GA

Six copies of electrical drawings for the governor design. Drawings shall include a connection diagram with wire designations and schematic diagrams, not more than 120 calendar days after award, para. 1.4.4.

HMI Screen Layout; GA

Drawings showing proposed screen layout for all menus and functional screens, not more than 120 calendar days after award, para. 2.15.1.

SD-06 Instructions

SCADA Interface Document; GA

The Contractor shall provide a SCADA Interface Document which fully describes how the communications protocol software provided for a SCADA interface is used by the governor equipment. This document may be provided to a SCADA contractor, and it shall contain sufficient information for the SCADA contractor to be able to interface with the governor. The document shall list and describe all the specific commands that the governor will accept, the specific responses to each command (including error responses), and any sequences required to use the commands. The document shall also list all input and output points available and how to access them.

SD-07 Schedules

Factory and Field Tests; GA

The following shall be submitted:

a. Method and Procedures - Not later than 60 days prior to the start of factory tests, the Governor Contractor shall submit for approval a complete outline of the proposed method and procedure for all factory tests. This shall include a list of instruments and equipment to be used and a sample of the data sheets for recording the test data. The Governor Contractor shall also submit the same information for the field tests, not later than 60 days prior to the commencement of field testing, para. 3.2 and 3.3.

b. Test Reports - Copies of test reports shall be furnished not later than 30 days after completion of tests, para. 3.2 and 3.3.

c. Notification of Factory Acceptance Testing shall be provided not less than 60 days prior to the conduct of the testing, para. 3.2.

1.4 EXISTING CONDITIONS

1.4.1 Governors

The four (4) existing mechanical governor systems are all cabinet actuator-type hydraulic units with proportional-integral (P-I) control action. The governor for Unit 5 is an analog electric cabinet actuator type hydraulic unit with proportional-integral-derivative (P-I-D) control action. Each governor is complete with actuator, restoring mechanism, two motor-driven pumping units, pressure tank, sump tank, oil piping, independent ac generator (PMG) for supplying power for the motor driving the speed-responsive element (Units 1-4) or 12 volt DC powered SSG with ZVPU (Unit 5), mechanical gate position switches, and all parts and accessories for a complete operational unit. Each governor oil-pressure system, for Units 1-4, is designed for an operating pressure of 300 psig. The capacity of the gate servomotors, for Units 1-4, at 250 psig is 334,000 foot-pounds. The Unit 5 governor oil pressure system is designed for 550 psig. The capacity of the Unit 5 gate servomotors at 360 psig is 358,000 foot-pounds. The governors are capable of independently and continuously adjusting both the opening and closing rate

of movement of the turbine gates to any rate between five (5) seconds and ten (10) seconds for a full gate-opening or a full gate-closing stroke.

1.4.2 Turbines

1.4.2.1 The turbines for generating Units 1-4 are of the vertical-shaft, single-runner, Francis type, rated as follows:

a. Rated output, horsepower	91,500
b. Rated head, feet	170
c. Maximum head, feet	187
d. Minimum head, feet	144
e. Water starting time (T_W), seconds	1.2
f. Mechanical starting time (T_M), seconds	6.5
g. Combined WK^2 (turbine & generator) $LB\text{-}FT^2$	96,000,000
h. Speed, rpm	100
i. Maximum runaway speed at rated head, rpm	178

1.4.2.2 The turbine for generating Unit 5 is of the vertical-shaft, single-runner, Francis type, rated as follows:

a. Rated output, horsepower	109,500
b. Rated head, feet	170
c. Maximum head, feet	187
d. Minimum head, feet	144
e. Water starting time (T_W), seconds	1.2
f. Mechanical starting time (T_M), seconds	5.2
g. Combined WK^2 (turbine & generator) $LB\text{-}FT^2$	82,614,000
h. Speed, rpm	112.5
i. Maximum runaway speed at rated head, rpm	178

1.4.3 Drawings and Data Furnished by the Government

The drawings included with these specifications are for reference only, and are intended to show the existing controls. The Government will furnish additional drawings and as built wiring diagrams to the Contractor upon request.

1.4.4 Drawings and Data Furnished by the Contractor

The Contractor shall furnish a complete set of drawings of the actuator cabinet arrangement showing any modifications to existing equipment and piping, electrical connections and controls, and nameplate schedules. The drawings shall include plan views, elevational views, and sections as required to completely show the equipment as provided and as modified. The drawings shall also include a connection diagram with wire designations and schematic diagrams to illustrate operation of the governor and interface with the existing system of control and annunciation. Wiring diagrams shall be in a form showing physical arrangement of the governor with interconnecting wiring shown by lines or by terminal designations. Approval drawings and diagrams, showing modifications to existing electrical installations, shall be submitted in color; with green for deletions and red for additions. Final drawings and diagrams shall be black on white and shall not show deletions. If the drawings and data furnished are insufficient to satisfy the requirements of the Contracting Officer, the Contractor shall furnish additional drawings and data as specifically requested in writing.

PART 2 PRODUCTS

2.1 GOVERNOR PERFORMANCE REQUIREMENTS

The governors being retrofit under these specifications are of the oil-pressure, pilot-operated distributor valve, cabinet actuator type and shall be equipped with electrically driven or electrically controlled speed-responsive elements. The governor retrofit shall be designed for regulating the speed and controlling the wicket gates of the turbine, using a microprocessor-based digital control system, as described under these specifications. The Governor Contractor shall furnish design calculations, catalog data, capacities, and manufacturers name for specific machinery and components intended for use in the manufacture of the retrofit components. The governor shall meet the following performance requirements as demonstrated by the shop and field tests specified in 3.2 and 3.3.

2.1.1 Stability (See paragraph 4.4 of ASME PTC 29)

The governor system shall be capable of controlling with stability the speed of the turbine when operated at rated speed and no load, or when operated at rated speed with isolated load at all power outputs inclusive of maximum output. The governor system shall also be capable of controlling with stability the power output of the turbine at all power outputs, inclusive of maximum output when the unit is operating in parallel with other units in the plant or in a transmission system. If the hydraulic system of the turbine and associated water passages is inherently stable, the governor system shall be deemed stable when:

a. Speed-Stability Index (See paragraph 4.4.2 of ASME PTC 29). The magnitude of the sustained speed oscillation caused by the governor does not exceed 0.02 percent of rated speed with the unit operating at rated speed and no load, or operating at rated speed and isolated sustained load and with the governor speed droop set at five percent. The magnitude of speed oscillations is defined as the sum of the amplitude of such oscillations above and below the average speed.

b. Power-Stability Index (See paragraph 4.4.3 of ASME PTC 29). The magnitude of the sustained power output oscillation caused by the governor does not exceed 0.1 percent of the rated capacity of the turbine with the unit operating under sustained load demand in parallel with other units which are themselves capable of operating in parallel with other units and with the governor speed droop set at five percent. The magnitude of power oscillations is defined as the sum of the amplitudes of such oscillations above and below the average speed.

2.1.2 Speed Signal

The speed signal to the speed responsive elements shall vary directly with the speed of the main shaft of the unit for all rates of acceleration and deceleration up to 15 percent of rated speed per second (15 rpm/sec). The signal shall not be affected by nominal variations in the voltage or current of the main generator or main generator excitation system or of the power system to which the unit is connected. Vibration or normal lateral movement of the main shaft shall not affect the fidelity of the speed signal.

2.1.3 Dead Time (See paragraph 4.3 of ASME PTC 29)

The elapsed time from the initial speed change of the unit to the first corrective movement of the gate servomotors shall be not more than 0.2 seconds as demonstrated during the load dump field test. For the shop test the dead time shall not exceed 0.2 seconds for a speed change of 0.02 percent or more of rated speed.

2.1.4 Gate-Control Dead Band (See paragraph 4.2 of ASME PTC 29)

The total magnitude of the change in steady-state speed within which there is no resulting change in the position of the gate servomotors at rated speed of the unit shall not exceed 0.02 percent of the rated speed of the unit at any gate opening as demonstrated by shop tests.

2.2 SPEED SIGNAL GENERATOR, PILOT CONTROL ASSEMBLY AND CONTROLS

2.2.1 Speed signal generator

The pilot control assembly specified in 2.2.4 below shall be controlled by the speed signal generator which produces a signal proportional to the speed of the unit. The existing permanent magnet generator (PMG) shall be modified by the Contractor, or a new speed signal generator shall be furnished by the Contractor, as part of the governor equipment and shall be suitable for use on the new governor as an independent speed signal generator herein referred to as an SSG. The SSG shall be direct connected to the generator by a dry-type coupling or other approved means furnished by the Contractor. Provisions shall be made in the design of the SSG and its no-backlash coupling to the generator to allow for axial movement of the main shaft of an amount required for adjusting and dismantling the thrust bearing without disturbing the coupling or disassembly of any part of the SSG. The SSG shall be provided with insulation arranged to break the possible path of stray generator currents in not less than two places in series so that positive tests of insulation can be made. The SSG and speed switches shall be designed to withstand the turbine maximum runaway speed of 186 r/min. The speed signal to the speed responsive elements shall vary directly with the speed of the main shaft of the unit for all rates of acceleration and deceleration up to 15 percent of rated speed per second (15 rpm/sec). Unless the PMG is reused, the SSG shall be provided with a wiring compartment furnished with conduit entrance holes and terminal block points suitable for all external circuits. The conduit entrance section of the compartment shall be removable as a unit and so constructed as to allow easy pulling of external circuits. Wiring and terminal blocks shall conform to paragraph 2.17.

2.2.2 Speed Switches

Adjustable speed switches shall be provided which operate at the speeds indicated below:

UNIT SPEED PERCENT	ACTION	
	START-UP	SHUT-DOWN
0		Energize 14X
35	De-energize 14X to stop high lift pump	Trips automatic air brake valve Re-energize 14X to start high lift pump
95	Energize excitation	
105		Reset 65SNL, and overspeed switch
125	Operates annunciation. Energize	

UNIT SPEED PERCENT	ACTION	
	START-UP	SHUT-DOWN
	65SNL	

The main overspeed switch, Device No. 12G, shall be of the mechanical type and shall be direct-connected to the rotating elements of the SSG. All other speed switches shall be of the electronic type. All speed switches shall have separate, ungrounded auxiliary contacts suitable for interrupting a minimum of 1.5 amperes at 125 volt direct current, and all contacts shall be readily changeable from circuit opening to circuit closing as desired.

2.2.3 Creep Indication

Creep detection shall be accomplished by two proximity probes mounted near the toothed disc of the SSG. A creep detecting function shall be provided which will sense creeping rotation of the unit within 3 degrees. Upon detection of unit creep, the digital controller shall issue a creep alarm at the governor cabinet and in the control room. The controller shall also energize the high lift pump. Equipment shall be designed so that the creep signal will turn off once start up of the unit is initiated. The creep detection system shall not indicate creep for rotation of 1 degree or less. The creep detection system shall be designed such that the position in which the unit stops cannot result in false operation of the alarm.

2.2.4 Pilot Control Assembly

The pilot control assembly shall be of the electro-hydraulic transducer type which through hydraulic amplifier elements, as required, influences action of other elements of the governor system. A gate position locking function shall be provided in the governor, such that upon loss of power supply or speed signal to the control circuits the governor will maintain approximately the load carried by the unit at the time of the malfunction. The locking function shall not prevent normal or emergency shutdown of the unit. The locking function shall be provided with a set of alarm contacts to close upon “Lock-up” of the wicket gates.

2.2.5 Control Equipment

2.2.5.1 General

The control equipment and the electronic speed switches shall be of the solid state digital electronic type composed of high quality stable long life components. The equipment shall not require warm-up or stabilizing time and shall have no drift or temperature characteristics which will affect accuracy or the stability of the governing system.

2.2.5.2 Digital Controller

One digital controller shall be provided for each unit, and each controller shall perform all of the functional requirement specified herein. Each digital controller shall be equipped with at least two RS-232 communications ports, one for external monitoring and one for PLC programming via external PC. Each digital controller shall also be equipped with one RS-485 communication port for external monitoring. The digital controller shall consist of a solid state configurable microprocessor system inside a metal enclosure and shall be enclosed in the actuator cabinet. The controller shall allow adjustment of all pertinent unit parameters while the unit is in operation. The hardware shall be designed to operate in ambient temperatures from 0ºC to +55ºC and humidity up to 95%(non-condensing). The application programming shall be designed to be fail-safe. Critical control signals shall be monitored for signal integrity. Upon failure of any control signal, appropriate corrective action shall be taken and the failure shall be annunciated. Corrective action may include switching to a redundant backup signal, switching to an alternate mode of operation, or switching to a failsafe shutdown. The application programming shall be designed such that a startup or a reset of the digital controller will provide a bumpless transfer from the shut down or manual mode into the automatic control mode.

2.2.5.3 Programming

It shall not be possible to enter the program mode unless the turbine is shut down and an internal, password protected menu is accessed using the Contractor furnished laptop computer. The Contractor shall provide all the necessary software and software licenses to enable the Government to change, test, and implement new controller programming. The program shall have a generic structure and shall include the following functions, as a minimum:

a. Turbine Start. This function shall provide for programming the automatic, semiautomatic, or manual starting functions.

b. Speed Governing. This function shall provide for programming the proportional, integral, and derivative speed gains for stable operation, when synchronizing, paralleled with the grid, and isolated from the grid.

c. Speed Reference. This function shall provide for programming the maximum overspeed, speed reference limits for governor control, and the rate at which the speed references can be changed.

d. Servomotor Limit Control. This function shall provide a starting servomotor limit, which may be applied or removed by an external contact. The maximum position for the starting servomotor limit and the rate of change shall be programmable. The rate of change of the servomotor limit after removal of the starting servomotor limit shall also be programmable. This function shall also provide for programmable "Rough zone" or cavitation avoidance zones.

e. Speed Droop Speed Regulation (MW Control). This function shall provide the speed droop and speed regulation (also known as MW Control) characteristics. Speed droop shall be adjustable form 0% (isochronous) to 10% droop. Speed regulation shall include upper and lower MW limits, an automatic loading feature, and reverse power alarm.

f. Upload/Download programming Changes. This function shall facilitate the uploading and downloading of the complete software code, including all parameters, to/from an external PC. Suitable safeguards and passwords shall be provided to prevent the unauthorized modification of software code.

g. Communication Ports. This function shall facilitate communicating with other devices. Communication ports on the digital controller shall be compatible with RS-232 or RS-485 standards. The digital controller shall communicate using a standard PLC protocol, or equivalent protocol commonly available and approved by the Government. It is the Government's intention to interface the new governors with Supervisory Control and Data Acquisition (SCADA) equipment supplied by others. A SCADA Interface Document shall be submitted for approval, and the approved document shall be included in the Operation and Maintenance manuals.

2.2.5.4 Local Touchscreen HMI.

A local touchscreen HMI shall be provided for monitoring and adjusting governor parameters, settings, and dynamic characteristics by the operator or other trained technician. The local touchscreen HMI shall include the following functions as a minimum:

a. Display all controlling parameters. Controlling parameters shall be those values that are representative of unit operation (e.g. gate position, gate limit, speed, load) and controller operating state (e.g. current control mode and state within that control mode, status of external manual/auto control switch).

b. Display all inputs, outputs and setpoints. This function shall also allow the adjustment of speed and power setpoints, gate limit setpoints, and any other parameters that are intended to be adjusted.

c. Display all control alarm causes. This function shall display all alarm conditions, with adjustable flash rate and color, and shall provide a sequenced list of internal and external alarms detected by the controller.

d. Display governor dynamic parameters. This function shall display proportional, integral, and derivative gains and provide a means of adjusting these parameters for synchronizing, paralleled, and isolated operations.

2.2.5.5 Construction

The components (printed circuit boards) for governor control, electronic type speed switches and speed indicator circuits shall either be mounted in the governor chassis within the actuator cabinet, or mounted in the cabinet and arranged so that the components are readily accessible for service, inspection and convenient replacement. Electrical interconnections within the controller shall be made with suitable connectors to allow I/O modules to be easily removed for inspection or replacement.

2.2.5.6 Circuit Boards

Printed circuit boards shall be epoxy-resin-impregnated glass fabric of the manufacturer's standard design. Boards shall be plug-in type with edge card tabs for mating with connectors designed to withstand a minimum of 200 insertions. Circuit boards shall be marked to provide easy identification from the insertion side without removal from their operating positions. Conformal coatings which cover components and solder pads shall not be used, but solder-resistant coatings which protect the copper paths may be used. The printed circuit boards shall be mounted for easy access and replacement.

2.2.5.7 Watt Transducers

Standard watt transducers (one for each unit) shall be furnished and mounted in the actuator cabinet. The transducers shall be completely solid-state and suitable for operation from Government-furnished current and potential transformers. Generator voltage indication will be supplied from three potential transformers, grounded wye connected, each rated 14,400-120 volts, 400 volt-amperes, 0.3 W, 0.3 X, 0.3 Y, 0.6 Z, 1.2 ZZ. Generator current indication will be supplied from three current transformers, grounded wye connected, each rated 4000:5 amperes, 0.3 B-2, C 400. The PT's and CT's are existing government equipment.

2.3 MANUAL GOVERNOR CONTROL

Manual control of the wicket gates shall be provided at the actuator front panel to permit operation of the turbine for testing and to position the turbine wicket gate for maintenance with the turbine unwatered. The manual control shall be continuous for the full opening and closing strokes of the gate servomotor. All of the necessary shutoff valves required to transfer to manual control shall be provided in the actuator. Valves, if required, shall be of the hydraulically operated type with pilot pressure controlled by a solenoid-operated valve. The governor control mode shall be selectable by means of a governor mode control switch (Device 65TS) mounted on the front of the governor control cabinet. Indication shall be provided on the front of the actuator cabinet to show the governor control mode. The governor electronic circuit or the electric-hydraulic transducers may be used in the manual control of the unit. The manual control shall limit the gate operating time to an adjustable value. This value shall be fully adjustable over the acceptable range of gate operating time.

2.4 GATE POSITION FEEDBACK

Turbine gate position feedback shall consist of two totally redundant paths. The primary feedback path shall provide the control input to the digital controller. Gate position feedback shall consist of a magnetostrictive linear displacement transducer (MLDT) connected by an adjustable connection to the gate servomotor piston. The Contractor will provide suitable means for making the connection. The transducers shall be connected to the governor by unbroken leads run in conduit. A back-up transducer, identical with the primary one, shall be provided. Back-up transducers shall use separate mechanical connections to the turbine and separate leads routed back to the governor. The governor shall monitor both primary and secondary transducer electrical signals and, upon sensing an out-of-limit condition for either, it shall switch control to the good transducer and generate an alarm signal for a trouble annunciation. If the governor senses significant position deviation between primary and

secondary transducers and both electrical signals are within limits, the governor shall initiate unit shutdown and generate an alarm signal for annunciation.

2.5 GOVERNOR POWER SOURCES

An ungrounded 125-volt (nominal) d-c power supply will be provided from the station battery for operation of the electronic control system and certain accessories. The voltage of this power supply will vary from a minimum of 105 volts to a maximum of 140 volts. Unless otherwise specified, the controls and accessories (such as pressure, and limit switches) shall be suitable for continuous duty over the voltage range from 105 volts to 140 volts d-c and all contacts shall be electrically independent, suitable for 1.5 ampere, 125-volt d-c ungrounded service. Solid state components subject to voltage transients due to switching in the 125-volt d-c system shall be designed for, or protected from, 4000-volt crests with microsecond rise times. An ungrounded 120-volt, 60 Hz, a-c power supply will also be provided for the electronic control system. Automatic solid state switching to the alternate 120-volt a-c power supply in the event of failure of the 125-volt d-c power supply shall be provided. A set of electrical contacts shall be provided to indicate when the alternate supply is being used.

2.6 GATE LIMIT CONTROL

2.6.1 General

A gate limiting provision which will positively limit the wicket gate opening travel to any preset value shall be provided. This provision shall give full control of gate position to the actuator from closed gate position to the gate position at which the pilot control assembly takes control. This provision shall permit the gate limit to be controlled at the actuator control panel and the plant control board. This provision shall be adjustable such that it will allow setting the minimum operating time for the gate limit to travel from 0 to 100 percent and vice versa at any desired value between 20 and 40 seconds. For supervisory indication of the gate-limit adjustment over a telemeter channel to a remote station, an internally generated voltage signal proportional to gate limit position shall be provided by the Governor Contractor. An additional voltage signal shall be supplied by the Governor Contractor for supervisory indication of the wicket gate position.

2.6.2 Gate Limit Switches (Device Nos. 65ML-1 thru 3)

Three adjustable limit switches for use with the gate limit provision are presently installed. This functionality shall be replaced by three (3) adjustable relay contact outputs from the digital controller. Each output shall have separate, ungrounded contacts, suitable for interrupting a minimum of 1.5 amperes at 125 volts direct current. All contact outputs shall be adjustable to operate at any desired point and shall be readily changeable from circuit opening to circuit closing, as desired.

2.6.3 Speed Switches

Four (4) independent switches operated from generator shaft speed are presently available. Each switch is adjustable to close or open its contacts at any desired point throughout a specific range of unit speeds. This functionality shall be replaced by four (4) adjustable relay contact outputs from the digital controller, corresponding to similar unit speeds. Each speed switch shall have separate, ungrounded, auxiliary contacts, suitable for interrupting a minimum of 1.5 amperes at 125 volts direct current, and all contacts shall be readily changeable from circuit opening to circuit closing, as desired.

2.6.4 Alternative Proposals.

The Gate Limit Switches (paragraph 2.6.2), the Speed Adjust Limit Switches (paragraph 2.6.3), and the Gate Position Switches (paragraph 2.12) are incorporated into the Government automatic control and protection schemes. The Contractor may propose to delete certain of these relay outputs, if it can be proven, to the satisfaction of the Government, that an alternative control and/or protection scheme can be incorporated into the digital controller.

2.7 SPEED LEVEL CONTROL

A speed level control mechanism (Device No. 65MS) shall be provided which can be manually operated at the actuator control panel and electrically from remote control points by a 125-volt dc signal. The speed level mechanism shall be suitable for use with automatic synchronizing and load control equipment supplied by the Government. Speed control shall cover the range from 85 percent rated speed at no load and zero speed droop to 105 percent rated speed at rated load and maximum speed droop. The ramp time for speed level control setpoint changes shall be adjustable to any desired value between 20 and 40 seconds, corresponding to varying the speed level control setpoint between 85% and 105%, or 105% and 85%. The Contractor shall provide remote control and supervisory indication of the speed level control setpoint from the actuator cabinet and the plant control room.

2.8 SPEED DROOP CONTROL

A provision shall be provided at the actuator control panel for controlling the speed droop of the unit, which can be operated manually at the actuator control panel with accurate control and visual indication of the exact setting. The amount of droop shall be adjustable from 0 to 10 percent.

2.9 SPEED REGULATION CONTROL

A provision shall be provided, at the actuator control panel and electrically from the control room by a 125-volt dc signal, for controlling the power of the unit while still operating the unit in speed droop control. The Contractor shall provide a visual indication of the setpoint and actual power. The ramp time for speed regulation control setpoint changes shall be adjustable output to any desired value between 20 and 40 seconds, corresponding to varying power output from 0% to 100%, or 100 % to 0% of rated power.

2.10 AUTOMATIC SHUTDOWN MECHANISM

A solenoid-operated mechanism (Device No. 65SD) shall be provided which
when energized will permit the wicket gates to open and when deenergized will cause the gates to close at the normal rate of closure. The mechanism will be used for starting and stopping the unit by remote control and for automatic shut-down of the unit by means of automatic protective features in connection with the generator, turbine, governor equipment and/or transformer. Three (3) sets of independent form C contacts shall be provided.

2.11 GATE-LOCK CONTROL

A solenoid operated gate-lock control (Device No. 65GL) with associated hydraulic piping and a spring operated gate-lock mechanism with limit switches and hydraulic release servomotor is available as part of the existing governor system. The control functions in conjunction with the automatic shutdown mechanism specified in 2.10 and associated control devices. Unless the Contractor can demonstrate that it is impractical, to the satisfaction of the Government, the Contractor shall retain this device and incorporate the operation of this device as a part of the programming. If the Contractor can demonstrate the impracticability, and elects to remove this device, the Contractor shall provide similar functionality in the digital controller.

2.12 GATE POSITION SWITCHES

Twelve independent switches (Device No. 33) operate from the wicket gate motion are presently available. Each switch is adjustable to close or open its contacts at any desired point throughout the full range of the gate motion. The contacts are ungrounded and suitable for interrupting 1.5 amperes at 125 volts d-c and are connected to terminal blocks in the actuator cabinet. This functionality shall be replaced by twelve (12) adjustable relay contact outputs from the digital controller, corresponding to similar gate positions. Each position switch shall have separate, ungrounded auxiliary contacts suitable for interrupting a minimum of 1.5 amperes at 125 volts direct current, and all contacts shall be readily changeable from circuit opening to circuit closing, as desired.

2.13 INDICATING DEVICES AND INSTRUMENTS

2.13.1 General

Analog indicating devices and instruments to be furnished with the governor and mounted on the actuator cabinet shall be of the 6 inches, nominal square flush mounting type with black cases, black trims and rings, white dials with black figures and black pointers. Instrument identification legends shall be neatly printed on the dials or on separate legend plates inside the cases. Digital indicating devices shall be red LED type capable of accepting an analog signal. Display digits shall be a minimum of 1-3/4 inches in height. The meter shall be powered by 120 Vac, 60 Hz and shall operate satisfactorily over a temperature range of 0-60 °C. The Governor Contractor shall furnish trims, rings with cover glass, and mounting hard-ware required for mounting these devices and instruments on the actuator cabinet. The space between the face of the device or instrument and the mounting panel shall be sealed against air circulation.

2.13.2 Speed Level Indicator

A speed level indicator is provided on the existing actuator control panel for use in conjunction with the speed level control specified in 2.7. The indicator is calibrated to indicate the speed level from 85 to 105 percent of rated speed. A transmitter and indicator is provided for remote indication of the speed level setting on the control switchboards. This function shall be retained in the new system, and the existing indicators may be reused or replaced, as required. This indication shall be provided at the actuator cabinet and at the main control panel in the plant control room.

2.13.3 Speed Indicator

An electrically operated speed indicator is provided on the existing actuator control panel. This function shall be retained in the new system, and the existing indicator may be reused or replaced, as required. This indication shall be provided at the actuator cabinet and at the main control panel in the plant control room.

2.13.4 Gate Position-Gate Limit Indicator

A dual-type linear indicator shall be provided on the actuator control panel to indicate the position of the wicket gates and the setting of the gate limit control. A dual-type transmitter and indicator shall also be furnished for remote indication of the gate limit setting and gate position on the main control switchboards. If the Contractor provides dual-edgewise analog meters, the gate position pointer shall be black, and the gate limit pointer shall be red. A dual-type transmitter and indicator shall be furnished for remote indication of the gate limit setting and gate position on the control switchboards. The calibration of the indicator and arrangement of the pointers shall be as specified above for both the indicator mounted on the actuator cabinet and the indicator mounted in the main control switchboard.

2.14 CONTROL SWITCHES

All required control switches shall be furnished with the governor equipment. Contacts of all switches shall be self-aligning. A positive means of maintaining high pressure on closed contacts shall be provided. Compression springs or pivoted joints shall not carry current. The covers or plates on the switches shall be readily removable for inspection of contacts. All control switches shall be suitable for operation on 600 volt a-c or 250 volt d-c circuits and shall be capable of satisfactorily withstanding a life test of at least ten thousand operations with rated current flowing in the switch contacts. All control switches shall be capable of continuously carrying 20 amperes without exceeding a temperature rise of 30 degrees. The single break inductive load interrupting rating shall be not less than 10 amperes for 120 volts ac-c or 1.5 amperes for 125-volt d-c circuits.

2.15 INDICATIONS

All required indications shall be provided via touchscreen Human Machine Interface (HMI) or indicating lamps as appropriate. All required indications shall be furnished with the governor equipment.

2.15.1 Touchscreen HMI shall be industrial type, 10-inch diagonal (minimum), with associated software and cabling to interface with the controller. The user interface shall consist of simple screen menus, easy-to-read display numbers and letters, and large button areas to facilitate navigation between screens. The Contractor shall submit proposed screen layouts to the Government as part of the Contractor's drawing submittal package.

2.15.2 Indicating lamp assemblies shall be LED type with appropriate colored caps and integrally-mounted resistors, suitable for installation on 1/8 inch thick steel panels, General Electric Type ET-16, or equal. The lamp assemblies shall be suitable for operation on nominal circuit voltages of 125 volts d-c (140 volts max) or 120 volts a-c (130 volts max.). Lamps shall be replaceable from the front of the panel, and any special tools required for lamp replacement shall be furnished. All lamps shall be of the same type and rating and the color caps shall be interchangeable.

2.16 RELAYS

If required as part of the governor equipment, the Contractor shall furnish relays for mounting in the actuator cabinet. All relay coils and contacts shall be suitable for continuous operation at 125 volts d-c or 120 volts a-c, as required. The relays shall be complete with required resistors and of a type to require a minimum current when operated for long periods of time. Contacts and other features shall be provided as necessary. The relay will be subjected to shock loads and vibration during operation of the governor and suitable shockproof and vibration proof mountings shall be provided for the relays or relay panels.

2.17 WIRING AND TERMINAL BLOCKS

2.17.1 Wiring

Except for internal wiring of approved devices and wiring of electronic component assemblies, wiring shall be type MTW conforming to the applicable requirements for 600-volt single conductor power cable. Minimum wire size shall be No. 14 AWG, Class B or C stranding. Hinge wire, Class G or K stranding, shall be used in the portions of circuits to devices on hinged panels. Wiring of electronic component assemblies shall be adequate for the environment, voltage and power requirements. Shielded wiring shall be provided where required. Electrical control wiring for low-amperage control signal and feedback circuits related to the governor controller may be No. 16, 18, or 22 AWG, as appropriate.

2.17.1.1 Routing

All electrical wiring shall be arranged so that all external connections will be made in the terminal compartments of the actuator cabinet. A wiring duct and channel system arranged to provide easy access for inspection and replacement of wiring shall be provided in the actuator cabinet. Insofar as practicable, the wiring shall be installed in the channels and ducts. Oil-vapor tight wireways or cable ducts shall be provided for wiring of external circuits to the cabinet terminal compartments where such wiring is exposed to oil vapors and for wiring of circuits between the terminal compartments and relay section of the cabinet. The wireway is provided with a hinged or screwed cover for access to the terminal block area. Each wire shall be properly protected where it leaves a channel or duct. Wiring, when not installed in channels or ducts, shall be formed into compact wire bundles suitable bound together and properly supported. Binding and supports shall not cause damage or cold flow of the insulation. Groups of exposed wires shall be run straight horizontally or vertically with short radius right angle bends. Wiring supports shall be of heavy-gage rustproof material or steel with rust-resisting finish equivalent to sherardizing or cadmium-zinc plating. There shall be no splices in the wiring and all connections shall be made at device terminal studs or at terminal blocks with ring-tongue indented terminal connectors, Burndy Type YAV, T&B STA-KON, or equal. Screw terminals shall be provided with toothed lock washers at the time the wiring is installed. All stud type terminals shall be provided with contact nuts and either locking nuts or lock-washers. All wires installed by the Contractor shall be identified at both ends with wire markers of the sleeve type located near each terminal fitting. Wire markers shall be similar to those manufactured by W.H. Brady Company. The markers shall contain legible

identification and shall be durable and resistant to change due to age or contact with insulating materials. Markers shall have dark print on a light background.

2.17.1.2 Hinge Wiring

Hinge wiring shall be used between stationary panels and swinging panels or swinging doors, and shall be formed in vertical wire loops which shall provide rotation around the longitudinal axis of the conductors. Terminals and wiring shall be provided for the future connection of remote circuits to all control device spare contacts. Suitable provisions shall be made for training and supporting incoming external cables from the point of entrance to the termination on the terminal blocks. Drawings showing the proposed arrangement of terminal blocks and supports for incoming cables shall be submitted for approval. Special attention shall be given to wiring and terminal arrangement to permit the individual conductors of an external cable to be conveniently grouped for connection to adjacent terminal points. Suitable entrance locations shall be indicated on the Contractor's shop drawings for entrance of all external cables. No cabinet wiring shall terminate on the external cable side of terminal blocks. The wire (terminal point) designations used on the Contractor's wiring diagrams and printed on terminal block marking strips specified in 2.17.2.2 may be according to the Contractor's standard practice; however, additional wire and cable designations for identification of external circuits will be required, and drawings submitted for approval shall be prepared in accordance with the Government's cable terminal connection diagrams.

2.17.1.3 SSG Connections

Electrical circuits from the SSG are to be run in conduit to the generator terminal box. Existing conduit may be used, or new Contractor furnished conduit installed by the Contractor. The SSG wires from the SSG to the governor actuator cabinet will be provided by the Contractor. The design of the wiring compartment of the SSG shall be suitable for coupling to the conduit used.

2.17.2 Terminal Blocks

2.17.2.1 General

Terminal blocks furnished for external control wiring, except terminal blocks for interconnected electronic governor components, shall be heavy-duty molded or fabricated type with barriers, rated not less than 30 amperes, 600 volts, with slide link construction to facilitate the isolation of the governor circuits from the external circuits, as provided by States Company type NT or equal, complete with screws, marking strips and covers. Short circuiting type terminal blocks shall be furnished for all current transformer secondary leads and shall have provisions for short-circuiting together all leads from each current transformer without first opening any circuit. The terminals shall be removable binding, fillister, or washer head screw type. Each terminal shall be not less than No. 10 in size having length and space for connecting two ring-tongue terminal connectors for No. 12 AWG conductors to each terminal. At least 10 percent extra terminals shall be provided on each group of terminal blocks. Electronic component assemblies shall be provided with terminal blocks or connectors adequate to accommodate the incoming wiring.

2.17.2.2 Marking

White or other light-colored plastic marking strips, fastened by screws to each terminal block, shall be provided for wire designations. The manufacturer's wire number and the Government's wire number shall both be shown for each connected terminal on the marking strips with permanent marking fluid. The marking strips shall be reversible to permit marking both sides, or two marking strips shall be furnished with each block, to accommodate the two sets of wire numbers. The wire designations used on the Contractor's wiring diagrams and marked on terminal block marking strips may be according to the Contractor's standard practice; however, additional wire and cable designations for identification of remote (external) circuits will be required, and prints of drawings submitted for approval will be so marked and returned to the Contractor for these additional designations. Drawings prepared in accordance with Government terminal connection schedules may require revision of external circuit connections, designations and wire grouping when submitted for approval.

2.18 ESCUTCHEONS AND NAMEPLATES

Each item of equipment provided for mounting on the actuator cabinet which does not have a suitable designation included as an integral part of the device shall be provided with an engraved nameplate. All dials, gages and nameplates shall be marked with the nomenclature and units of measure used in the United States. A schedule of all such marking shall be submitted with the shop drawings and shall be subject to the approval of the Contracting Officer.

2.19 TOOLS AND ACCESSORIES

The Contractor shall furnish, a complete set of casehardened wrenches and special tools or equipment which may be necessary or convenient for assembling, dismantling or adjusting the governor. The Contractor shall also furnish all bolts, studs, lubricating devices, packing for stuffing boxes, and other appurtenances that may be required to make the governor a complete unit ready for operation.

2.20 SPARE PARTS

The Contractor shall furnish the following spare parts:

a. One gate pilot-valve plunger and bushing, if a gate pilot-valve is required in addition to the electro-hydraulic transducer pilot-valve.

b. Two speed sensing devices of each type furnished.

c. Two position sensing devices of each type furnished.

d. Two plug-in printed circuit cards (with components) of each type furnished.

e. One watt transducer.

f. Two power supplies of each type furnished.

g. Four relays of each type furnished.

h. Two solenoid valves of each type furnished.

i. Two control switches of each type furnished.

j. Ten indicating lamps, if applicable.

k. One indicating lamp puller, if applicable.

l. One case (Qty: 24) of filters for the pilot control assembly.

All spare parts furnished shall be interchangeable with and shall be made of the same materials and workmanship as the corresponding parts of the governors furnished under this specification.

PART 3 EXECUTION

3.1 General

All governor equipment installations not otherwise specified shall comply with the current industry standard for that type of equipment. All installations shall present a neat clean appearance. All components of the governor retrofit,

not responsible for remote indication shall be located within the existing governor cabinet. During disassembly of the governor, the Contractor shall note any sub-component that is not suitable for continued service. The Contractor shall provide a recommendation for sub-components needing repair or replacement, to the Contracting Officer. All recommendations must be accompanied by an explanation of the condition observed and the justification for repair or replacement.

3.2 SHOP ASSEMBLY AND TESTS

3.2.1 General

The governor equipment to be furnished shall be completely assembled in the Contractor's shop and tested, insofar as practicable. Since there are no hydraulic components furnished as part of these specifications, a suitable hydraulic system may be substituted, to simulate the actions of the distributing valve and servomotors. All components of the governing system, responsible for control and feedback functions of these governors shall be included in the test. The Contractor shall provide a means of simulating the operation of a turbine, that will test the capabilities of the governors. Copies of test reports shall be submitted. Factory and field tests of the governor shall be performed in accordance with ASME PTC 29, except as otherwise stated herein. The Government reserves the right to witness the shop testing of the governor. The waiver of any tests or the observance thereof by a Government witness shall not relieve the Contractor of the responsibility of meeting the requirements of the specification. All test equipment, instruments, and personnel for factory tests shall be furnished by the Contractor. The governor components shall be shipped with parts complete and ready for operation.

3.2.2 Dielectric Test

Device nameplate markings, wire markers and terminal block wire
designations shall be checked. Insofar as practicable, wiring shall be given point-to point circuit continuity tests. Dielectric tests shall be performed to determine the adequacy of the insulation of wiring. After all wiring has been installed, it shall be subjected to dielectric tests in accordance with NEMA ICS 1, except that the test voltage shall be 1500 volts applied successively for the one second between on terminal and ground of each isolated conductor. All necessary precautions shall be taken to prevent damage to equipment not designed or intended to withstand this test. All grounding connections to the ground bus shall be removed during the test. Government furnished equipment shall not be tested.

3.2.3 Adjustments

All devices requiring adjustment shall be checked for range of adjustment, operationally tested and then given final adjustment as required so that a minimum of further adjustment will be required after erection in the field.

3.2.4 Dead Time, Dead Band, Speed, Load, and Stability Test

The governor equipment shall be tested in the Contractor's shop and in the field to demonstrate that it meets the requirements of the specifications in respect to dead time, gate dead band, speed-regulation, no-load stability and speed of response of the speed responsive elements. Except as otherwise specified, the tests shall be conducted in accordance with ASME PTC 29. Prior to the tests, the Contractor shall submit for approval a detailed description of the procedures and equipment to be used in making the test. The tests shall be accomplished with the use of an oscillograph high-speed strip recorder, or other approved means which will provide a simultaneous and parallel record of speed, pilot control assembly command signal, relay valve position (field test only), servomotor position (field test only) and a timing signal. The oscillograph or recorder and associated movement and speed conversion devices and amplifiers shall be such that the time delay is the same in all measuring channels or can be accurately calibrated. The actual gate dead band need not be determined, provided the tests demonstrate that the dead band does not exceed the limit stated in 2.1.4. For the purpose of the shop test, dead time is defined as the elapsed time from an initial speed change of 0.02 percent of rated speed to the first change in command signal to the pilot control assembly. The dead time shall not exceed the time stated in 2.1.3. For the no-load stability test the speed signal shall be simulated by a turbine simulator, which includes a model of the response of the actual unit to gate position

changes. Tests shall be performed or data on similar equipment submitted to show that the output of the speed sensing elements varies essentially directly with the speed of the generator shaft for all rates or acceleration and deceleration up to 15 percent of rated speed per second.

3.3 FIELD TEST

After the governors have been place in satisfactory operating condition, one or more governors will be tested in accordance with ASME PTC 29 to determine if the equipment meets the requirements of the specifications and guarantees of the Contractor. Governor timing will be measured for the purpose of determining that the specified capacity is available to move the wicket gates in both directions for full strokes in the specified minimum time. The power stability, dead time, and off-line speed stability will be tested to determine the ability of the governor to maintain on-line speed stability, or any other test deemed necessary to check compliance with the Specification requirements. The Contractor's representative will be required to be present and to assist with the field tests.

3.4 OPERATION AND MAINTENANCE MANUALS

Parts catalogs and operating instructions needed or useful in operation, maintenance, repairs, dismantling, or assembling, and for repair and identification of parts for ordering replacements, shall be included, as well as PLC software documentation. The parts catalogs and operating instructions shall cover all equipment furnished under this contract and shall be assembled under a common cover. The assembled material shall include complete identification of the spare parts furnished in compliance with the requirements of these specifications. The manuals shall also include a complete set of drawings and diagrams as well as a complete set of the same drawings and diagrams in CADD, formatted for MicroStation "J" on CD. The descriptions and instructions shall be specific to the equipment furnished instead of common to a family of products.

3.5 CONTRACTOR FURNISHED TRAINING OF GOVERNMENT PERSONNEL

The Contractor shall conduct a course in the theory, operation, and maintenance of the governor. The course shall be of approximately 24 hours duration for approximately 14 Government personnel. The course shall be held at the Hartwell Project and shall commence after the first governor has been placed in service. The course shall include governor control system design; theory of basic governor electrical, electronic, and hydraulic control circuits and systems; trouble shooting of printed circuit cards; programming the PLC and adjusting parameters; and governor trouble analysis. The training shall be tailored to be
specific to the governor furnished. Course outline and subject matter shall have been submitted and approved prior to the starting date of the course. The "Approved" Operations and Maintenance Manual shall be incorporated into the training materials. Government project personnel will video tape all training sessions presented by the Contractor for future use by the Government.

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SECTION 16253

RICHARD B. RUSSELL GOVERNORS

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SECTION 16253

RICHARD B. RUSSELL GOVERNORS

PART 1 GENERAL

1.1 GENERAL INFORMATION

The Contractor shall furnish and install all governor equipment and auxiliaries required for the conversion of eight (8) Analog-Electric Proportional-Integral-Derivative (P-I-D) governors to electronic digital P-I-D governors. The governors to be converted are on main units 1-4 and pump-generating units 5-8 and were manufactured by the Woodward Governor Company. The equipment provided under these specifications shall be a type having an established reputation of five years or more for satisfactory and reliable operations of Francis type turbines. The operation and performance of the equipment furnished shall be guaranteed by the Contractor to meet the requirements of these specifications.

1.1.2 Components to be Retained

The components of the existing governor systems which will be retained and not replaced are the pressure tank, pumping units, sump tank, distributing valve, and actuator cabinet. Existing wiring, control mechanisms, and switches will be replaced. Existing oil piping will be retained and used to the maximum extent possible without degradation of the required performance standards.

1.1.4 Components to be Furnished

The new governor will essentially consist of the programmable logic controller (PLC), speed sensor, P-I-D speed governing with adjustable droop, pilot control valve assembly, gate position sensing, and all accessories necessary for a complete governing system. In addition, the Contractor shall provide a laptop computer with all of the necessary diagnostic and programming software installed, to facilitate the requirements of this specification. The diagnostic and programming software shall also be provided on either Manufacturer-labeled 3½" floppy disk or CD, complete with manuals and proper licensing.

1.2 REFERENCES

The publications listed below form a part of this specifications to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 27 (1995) Steel Castings, Carbon, for General Application

ASTM A 36 (2001) Structural Steel

ASTM A 48 (2000) Gray Iron Castings

ASTM A 269 (2001) Seamless and Welded Austenitic Stainless Steel Tubing for General Service

ASTM A 283 (2000) Low and Intermediate Tensile Strength Carbon Steel Plates

ASTM A 668 (1996) Steel Forgings, Carbon and Alloy, for General

	Industrial Use
ASTM B 42	(1998) Seamless Copper Pipe, Standard Sizes
ASTM B 43	(1998) Seamless Red Brass Pipe, Standard Sizes
ASTM B 88	(1999) Seamless Copper Water Tube

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME-14	(1998) Boiler and Pressure Vessel Code; Section V, Nondestructive Examination
ASME-16	(1998) Boiler and Pressure Vessel Code; Section VIII, Pressure Vessels Division 1 - Basic Coverage
ASME B16.5	(1996) Pipe Flanges and Flanged Fittings
ASME-17	(1998) Boiler and Pressure Vessel Code; Section IX, Welding and Brazing Qualifications
ASME B31.1	(1998) Power Piping
ASME B40.100	(1998) Gauges - Pressure Gauges and Gauge Attachments
ASME PTC 29	(1998) Speed-Governing Systems for Hydraulic Turbine-Generator Units

ELECTRONICS INDUSTRIES ASSOCIATION

RS-485	(1983)Electrical Characteristics of Generators and Receivers for use in Balanced Digital Multi-point Systems

FEDERAL STANDARDS (FED-STD)

FED-STD 595	(Rev B) Color Used in Government Procurement

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE Std 125	(1996) Preparation of Equipment Specifications for Speed-Governing of Hydraulic Turbines Intended to Drive Electric Generators

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA ICS 1	(2000) Industrial Control and Systems General Requirements

1.3 SUBMITTALS

Submittals required by this section of the Technical Specifications shall be for Government approval (GA) or for information only (FIO) and shall be submitted as stated below.

SD-01 Data

Manufacturers Information; GA

The names of the manufacturers of all machinery and electronic equipment intended for incorporation into the work, together with performance capacities and other relevant information pertaining to the equipment, 60 days after award of contract, para. 2.1.

Catalog Data; GA

Specific catalog data for equipment, components, or materials intended for use in the manufacture of the governors 60 days prior to the purchase of these components, para. 2.1.

Replacement Sub-components; GA

Recommendations for replacement of existing governor sub-components, not more than ten calendar days after disassembly, para. 3.1.

Operation and Maintenance Manuals; GA

Draft copies of proposed Operation and Maintenance manuals for review and comment not less than 30 days prior to delivery of the equipment, para. 3.4 and SECTION C, para. 1.11.

Contractor-Furnished Training; GA

A course outline and subject matter for the theory, operation, and maintenance of the governor shall be submitted not later than 45 days prior to the starting date of the training, para. 3.5.

SD-04 Drawings

Governor Drawings; GA

Drawings showing the proposed arrangement of the governor, existing equipment modifications and piping modifications shall be submitted for approval, not more than 120 calendar days after award, para. 1.4.4.

Governor Wiring Diagrams; GA

Six copies of electrical drawings for the governor design. Drawings shall include a connection diagram with wire designations and schematic diagrams, not more than 120 calendar days after award, para. 1.4.4.

HMI Screen Layout; GA

Drawings showing proposed screen layout for all menus and functional screens, not more than 120 calendar days after award, para. 2.15.1.

SD-06 Instructions

SCADA Interface Document; GA

The Contractor shall provide a SCADA Interface Document which fully describes how the communications protocol software provided for a SCADA interface is used by the governor equipment. This document may be provided to a SCADA contractor, and it shall contain sufficient information for the SCADA contractor to be able to interface with the governor. The document shall list and describe all the specific commands that the governor will

accept, the specific responses to each command (including error responses), and any sequences required to use the commands. The document shall also list all input and output points available and how to access them.

SD-07 Schedules

Factory and Field Tests; GA

The following shall be submitted:

a. Method and Procedures - Not later than 60 days prior to the start of factory tests, the Governor Contractor shall submit for approval a complete outline of the proposed method and procedure for all factory tests. This shall include a list of instruments and equipment to be used and a sample of the data sheets for recording the test data. The Governor Contractor shall also submit the same information for the field tests, not later than 60 days prior to the commencement of field testing, para. 3.2 and 3.3.

b. Test Reports - Copies of test reports shall be furnished not later than 30 days after completion of tests, para. 3.2 and 3.3.

c. Notification of Factory Acceptance Testing shall be provided not less than 60 days prior to the conduct of the testing, para. 3.2.

1.4 EXISTING CONDITIONS

1.4.1 Governors

The eight (8) existing analog electric governor systems are all cabinet actuator-type hydraulic units with proportional-integral-derivative (P-I-D) control action. Each governor is complete with actuator, restoring mechanism, two motor-driven pumping units, pressure tank, sump tank, oil piping, 12 volt DC powered SSG with ZVPU, mechanical gate position switches, and all parts and accessories for a complete operational unit. Each governor oil-pressure system, for Units 1-4, is designed for an operating pressure of 550 psig. The capacity of the gate servomotors, for Units 1-4, at 360 psig is 348,000 foot-pounds. Each governor oil-pressure system, for Units 5-8, is designed for an operating pressure of 550 psig. The capacity of the gate servomotors, for Units 5-8, at 360 psig is 766,230 foot-pounds. The governors for Units 1-4 are capable of independently and continuously adjusting both the opening and closing rate of movement of the turbine gates to any rate between five (5) seconds and ten (10) seconds for a full gate-opening or a full gate-closing stroke. The governors for Units 5-8 are capable of independently and continuously adjusting both the opening and closing rate of movement of the turbine gates to any rate between five (5) seconds and fifteen (15) seconds for a full gate-opening or a full gate-closing stroke. Units 2 an 3 are currently used as pump start units for the Pump-Turbines 5-8. For pump operation, the air depression system is used to push the water off of the impeller. The pump motor is coupled to the pump-start generator and the units are brought up to speed using the pump-start turbine. Once the units are synchronized at 120 rpm, they are uncoupled and the pump breaker is engaged. The air is evacuated and the gates begin opening to bring the pump on line.

1.4.2 Turbines

1.4.2.1 The turbines for generating Units 1-4 are of the vertical-shaft, single-runner, Francis type, rated as follows:

a. Rated output, horsepower	116,000
b. Rated head, feet	144
c. Maximum head, feet	162
d. Minimum head, feet	134

e. Water starting time (T_W), seconds	2.0
f. Mechanical starting time (T_M), seconds	3.0_
g. Combined WK^2 (turbine & generator) LB-FT^2	89,250,000
h. Speed, rpm	120
i. Maximum runaway speed at rated head, rpm	215

1.4.2.2 Unit 5-8 are vertical-shaft, single-runner Francis type pump-turbines, rated as follows:

a. Rated output, horsepower	116,000
b. Rated head, feet	144
c. Maximum head, feet	162
d. Minimum head, feet	134
e. Water starting time (T_W), seconds	4.0
f. Mechanical starting time (T_M), seconds	6.0
g. Combined WK^2 (turbine & generator) LB-FT^2	90,500,000
h. Speed, rpm	120
i. Maximum runaway speed at rated head, rpm	205

1.4.5 Drawings and Data Furnished by the Government

The drawings included with these specifications are for reference only, and are intended to show the existing controls. The Government will furnish additional drawings and as built wiring diagrams to the Contractor upon request.

1.4.6 Drawings and Data Furnished by the Contractor

The Contractor shall furnish a complete set of drawings of the actuator cabinet arrangement showing any modifications to existing equipment and piping, electrical connections and controls, and nameplate schedules. The drawings shall include plan views, elevational views, and sections as required to completely show the equipment as provided and as modified. The drawings shall also include a connection diagram with wire designations and schematic diagrams to illustrate operation of the governor and interface with the existing system of control and annunciation. Wiring diagrams shall be in a form showing physical arrangement of the governor with interconnecting wiring shown by lines or by terminal designations. Approval drawings and diagrams, showing modifications to existing electrical installations, shall be submitted in color; with green for deletions and red for additions. Final drawings and diagrams shall be black on white and shall not show deletions. If the drawings and data furnished are insufficient to satisfy the requirements of the Contracting Officer, the Contractor shall furnish additional drawings and data as specifically requested in writing.

PART 2 PRODUCTS

2.1 GOVERNOR PERFORMANCE REQUIREMENTS

The governors being retrofit under these specifications are of the oil-pressure, pilot-operated distributor valve, cabinet actuator type and shall be equipped with electrically driven or electrically controlled speed-responsive elements. The governor retrofit shall be designed for regulating the speed and controlling the wicket gates of the turbine, using a microprocessor-based digital control system, as described under these specifications. The Governor Contractor shall furnish design calculations, catalog data, capacities, and manufacturers name for specific machinery and components intended for use in the manufacture of the retrofit components. The governor shall meet the following performance requirements as demonstrated by the shop and field tests specified in 3.2 and 3.3.

2.1.1 Stability (See paragraph 4.4 of ASME PTC 29)

The governor system shall be capable of controlling with stability the speed of the turbine when operated at rated speed and no load, or when operated at rated speed with isolated load at all power outputs inclusive of maximum output. The governor system shall also be capable of controlling with stability the power output of the turbine at all power outputs, inclusive of maximum output when the unit is operating in parallel with other units in the plant or in a transmission system. If the hydraulic system of the turbine and associated water passages is inherently stable, the governor system shall be deemed stable when:

a. Speed-Stability Index (See paragraph 4.4.2 of ASME PTC 29). The magnitude of the sustained speed oscillation caused by the governor does not exceed 0.02 percent of rated speed with the unit operating at rated speed and no load, or operating at rated speed and isolated sustained load and with the governor speed droop set at five percent. The magnitude of speed oscillations is defined as the sum of the amplitude of such oscillations above and below the average speed.

b. Power-Stability Index (See paragraph 4.4.3 of ASME PTC 29). The magnitude of the sustained power output oscillation caused by the governor does not exceed 0.1 percent of the rated capacity of the turbine with the unit operating under sustained load demand in parallel with other units which are themselves capable of operating in parallel with other units and with the governor speed droop set at five percent. The magnitude of power oscillations is defined as the sum of the amplitudes of such oscillations above and below the average speed.

2.1.2 Speed Signal

The speed signal to the speed responsive elements shall vary directly with the speed of the main shaft of the unit for all rates of acceleration and deceleration up to 15 percent of rated speed per second (18 rpm/sec). The signal shall not be affected by nominal variations in the voltage or current of the main generator or main generator excitation system or of the power system to which the unit is connected. Vibration or normal lateral movement of the main shaft shall not affect the fidelity of the speed signal.

2.1.3 Dead Time (See paragraph 4.3 of ASME PTC 29)

The elapsed time from the initial speed change of the unit to the first corrective movement of the gate servomotors shall be not more than 0.2 seconds as demonstrated during the load dump field test. For the shop test the dead time shall not exceed 0.2 seconds for a speed change of 0.02 percent or more of rated speed.

2.1.4 Gate-Control Dead Band (See paragraph 4.2 of ASME PTC 29)

The total magnitude of the change in steady-state speed within which there is no resulting change in the position of the gate servomotors at rated speed of the unit shall not exceed 0.02 percent of the rated speed of the unit at any gate opening as demonstrated by shop tests.

2.2 SPEED SIGNAL GENERATOR, PILOT CONTROL ASSEMBLY AND CONTROLS

2.2.1 Speed signal generator

The pilot control assembly specified in 2.2.4 below shall be controlled by the speed signal generator which produces a signal proportional to the speed of the unit. The existing speed signal generator (SSG) shall be used. Any modifications required shall made to make the existing SSG compatible with the governor furnished. Wiring and terminal blocks shall conform to paragraph 2.17.

2.2.2 Speed Switches

2.2.2.1 Adjustable speed switches for Units 1-4 shall be provided which operate at the speeds indicated below:

UNIT SPEED PERCENT	ACTION	
	START-UP	SHUT-DOWN
15	Energize Unit Run Aux.	
20		Trips automatic air brake valve
50	De-energize 14X to stop high lift pump	Re-energize 14X to start high lift pump Energize air brakes (Emergency Shut down)
95	Energize excitation	
105		Reset 65SNL and overspeed switch
110		Reset overspeed annunciation
120	Operates annunciation. Energize 65SNL	

2.2.2.2 Adjustable speed switches for Units 5-8 shall be provided which operate at the speeds indicated below:

UNIT SPEED PERCENT	ACTION	
	START-UP	SHUT-DOWN
15	Energize Unit Run Aux.	Reset Unit Run Aux.
20		Trips automatic air brake valve
45		Re-energize 14X to start high lift pump
50		Energize air brakes (Emergency shut down)
95	De-energize 14X to stop high lift pump Energize excitation	
120		Reset 65SNL and overspeed switch
130	Operates annunciation. Energize 65SNL	

2.2.2.3 The main overspeed switch, Device No. 12G, shall be of the mechanical type and shall be direct-connected to the rotating elements of the SSG. All other speed switches shall be of the electronic type. All speed switches shall have separate, ungrounded auxiliary contacts suitable for interrupting a minimum of 1.5 amperes at 125 volt direct current, and all contacts shall be readily changeable from circuit opening to circuit closing as desired.

2.2.3 Creep Indication

Creep detection shall be accomplished by two proximity probes mounted near the toothed disc of the SSG. A creep detecting function shall be provided which will sense creeping rotation of the unit within 3 degrees. Upon detection of unit creep, the digital controller shall issue a creep alarm at the governor cabinet and in the control room. The controller shall also energize the high lift pump. Equipment shall be designed so that the creep signal will turn off once start up of the unit is initiated. The creep detection system shall not indicate creep for rotation of 1 degree or less. The creep detection system shall be designed such that the position in which the unit stops cannot result in false operation of the alarm.

2.2.4 Pilot Control Assembly

The pilot control assembly shall be of the electro-hydraulic transducer type which through hydraulic amplifier elements, as required, influences action of other elements of the governor system. A gate position locking function shall be provided in the governor, such that upon loss of power supply or speed signal to the control circuits the governor will maintain approximately the load carried by the unit at the time of the malfunction. The locking function shall not prevent normal or emergency shutdown of the unit. The locking function shall be provided with a set of alarm contacts to close upon “Lock-up” of the wicket gates.

2.2.5 Control Equipment

2.2.5.1 General

The control equipment and the electronic speed switches shall be of the solid state digital electronic type composed of high quality stable long life components. The equipment shall not require warm-up or stabilizing time and shall have no drift or temperature characteristics which will affect accuracy or the stability of the governing system.

2.2.5.2 Digital Controller

One digital controller shall be provided for each unit, and each controller shall perform all of the functional requirement specified herein. Each digital controller shall be equipped with at least two RS-232 communications ports, one for external monitoring and one for PLC programming via external PC. Each digital controller shall also be equipped with one RS-485 communication port for external monitoring. The digital controller shall consist of a solid state configurable microprocessor system inside a metal enclosure and shall be enclosed in the actuator cabinet. The controller shall allow adjustment of all pertinent unit parameters while the unit is in operation. The hardware shall be designed to operate in ambient temperatures from 0ºC to +55ºC and humidity up to 95%(non-condensing). The application programming shall be designed to be fail-safe. Critical control signals shall be monitored for signal integrity. Upon failure of any control signal, appropriate corrective action shall be taken and the failure shall be annunciated. Corrective action may include switching to a redundant backup signal, switching to an alternate mode of operation, or switching to a failsafe shutdown. The application programming shall be designed such that a startup or a reset of the digital controller will provide a bumpless transfer from the shut down or manual mode into the automatic control mode.

2.2.5.3 Programming

It shall not be possible to enter the program mode unless the turbine is shut down and an internal, password protected menu is accessed using the Contractor furnished laptop computer. The Contractor shall provide all the necessary software and software licenses to enable the Government to change, test, and implement new controller programming. The program shall have a generic structure and shall include the following functions, as a minimum:

a. Turbine Start. This function shall provide for programming the automatic, semiautomatic, or manual starting functions.

b. Speed Governing. This function shall provide for programming the proportional, integral, and derivative speed gains for stable operation, when synchronizing, paralleled with the grid, and isolated from the grid.

c. Speed Reference. This function shall provide for programming the maximum overspeed, speed reference limits for governor control, and the rate at which the speed references can be changed.

d. Servomotor Limit Control. This function shall provide a starting servomotor limit, which may be applied or removed by an external contact. The maximum position for the starting servomotor limit and the rate of change shall be programmable. The rate of change of the servomotor limit after removal of the starting servomotor limit shall also be programmable. This function shall also provide for programmable "Rough zone" or cavitation avoidance zones.

e. Speed Droop Speed Regulation (MW Control). This function shall provide the speed droop and speed regulation (also known as MW Control) characteristics. Speed droop shall be adjustable form 0% (isochronous) to 10% droop. Speed regulation shall include upper and lower MW limits, an automatic loading feature, and reverse power alarm.

f. Upload/Download programming Changes. This function shall facilitate the uploading and downloading of the complete software code, including all parameters, to/from an external PC. Suitable safeguards and passwords shall be provided to prevent the unauthorized modification of software code.

g. Communication Ports. This function shall facilitate communicating with other devices. Communication ports on the digital controller shall be compatible with RS-232 or RS-485 standards. The digital controller shall communicate using a standard PLC protocol, or equivalent protocol commonly available and approved by the Government. It is the Government's intention to interface the new governors with Supervisory Control and Data Acquisition (SCADA) equipment supplied by others. A SCADA Interface Document shall be submitted for approval, and the approved document shall be included in the Operation and Maintenance manuals.

h. Pump Start. This function shall be provided for Units 5-8, in addition to the above requirements, and shall provide for programming the automatic, semiautomatic, or manual starting functions in pumping mode.

2.2.5.4 Local Touchscreen HMI.

A local touchscreen HMI shall be provided for monitoring and adjusting governor parameters, settings, and dynamic characteristics by the operator or other trained technician. The local touchscreen HMI shall include the following functions as a minimum:

a. Display all controlling parameters. Controlling parameters shall be those values that are representative of unit operation (e.g. gate position, gate limit, speed, load) and controller operating state (e.g. current control mode and state within that control mode, status of external manual/auto control switch).

b. Display all inputs, outputs and setpoints. This function shall also allow the adjustment of speed and power setpoints, gate limit setpoints, and any other parameters that are intended to be adjusted.

c. Display all control alarm causes. This function shall display all alarm conditions, with adjustable flash rate and color, and shall provide a sequenced list of internal and external alarms detected by the controller.

d. Display governor dynamic parameters. This function shall display proportional, integral, and derivative gains and provide a means of adjusting these parameters for synchronizing, paralleled, and isolated operations.

2.2.5.5 Construction

The components (printed circuit boards) for governor control, electronic type speed switches and speed indicator circuits shall either be mounted in the governor chassis within the actuator cabinet, or mounted in the cabinet and arranged so that the components are readily accessible for service, inspection and convenient replacement. Electrical interconnections within the controller shall be made with suitable connectors to allow I/O modules to be easily removed for inspection or replacement.

2.2.5.6 Circuit Boards

Printed circuit boards shall be epoxy-resin-impregnated glass fabric of the manufacturer's standard design. Boards shall be plug-in type with edge card tabs for mating with connectors designed to withstand a minimum of 200 insertions. Circuit boards shall be marked to provide easy identification from the insertion side without removal from their operating positions. Conformal coatings which cover components and solder pads shall not be used, but solder-resistant coatings which protect the copper paths may be used. The printed circuit boards shall be mounted for easy access and replacement.

2.2.5.7 Watt Transducers

Standard watt transducers (one for each unit) shall be furnished and mounted in the actuator cabinet. The transducers shall be completely solid-state and suitable for operation from Government-furnished current and potential transformers. Generator voltage indication will be supplied from three potential transformers, grounded wye connected, each rated 14,400-120 volts, 400 volt-amperes, 0.3 W, 0.3 X, 0.3 Y, 0.6 Z, 1.2 ZZ. Generator current indication will be supplied from three current transformers, grounded wye connected, each rated 4000:5 amperes, 0.3 B-2, C 400. The PT's and CT's are existing government equipment.

2.3 MANUAL GOVERNOR CONTROL

Manual control of the wicket gates shall be provided at the actuator front panel to permit operation of the turbine for testing and to position the turbine wicket gate for maintenance with the turbine unwatered. The manual control shall be continuous for the full opening and closing strokes of the gate servomotor. All of the necessary shutoff valves required to transfer to manual control shall be provided in the actuator. Valves, if required, shall be of the hydraulically operated type with pilot pressure controlled by a solenoid-operated valve. The governor control mode shall be selectable by means of a governor mode control switch (Device 65TS) mounted on the front of the governor control cabinet. Indication shall be provided on the front of the actuator cabinet to show the governor control mode. The governor electronic circuit or the electric-hydraulic transducers may be used in the manual control of the unit. The manual control shall limit the gate operating time to an adjustable value. This value shall be fully adjustable over the acceptable range of gate operating time.

2.4 GATE POSITION FEEDBACK

Turbine gate position feedback shall consist of two totally redundant paths. The primary feedback path shall provide the control input to the digital controller. Gate position feedback shall consist of a magnetostrictive linear displacement transducer (MLDT) connected by an adjustable connection to the gate servomotor piston. The Contractor will provide suitable means for making the connection. The transducers shall be connected to the governor by unbroken leads run in conduit. A back-up transducer, identical with the primary one, shall be provided. Back-up transducers shall use separate mechanical connections to the turbine and separate leads routed back to the governor. The governor shall monitor both primary and secondary transducer electrical signals and, upon sensing an out-of-limit condition for either, it shall switch control to the good transducer and generate an alarm signal for a trouble annunciation. If the governor senses significant position deviation between primary and secondary transducers and both electrical signals are within limits, the governor shall initiate unit shutdown and generate an alarm signal for annunciation.

2.5 GOVERNOR POWER SOURCES

An ungrounded 125-volt (nominal) d-c power supply will be provided from the station battery for operation of the electronic control system and certain accessories. The voltage of this power supply will vary from a minimum of 105 volts to a maximum of 140 volts. Unless otherwise specified, the controls and accessories (such as pressure, and limit switches) shall be suitable for continuous duty over the voltage range from 105 volts to 140 volts d-c and all contacts shall be electrically independent, suitable for 1.5 ampere, 125-volt d-c ungrounded service. Solid state components subject to voltage transients due to switching in the 125-volt d-c system shall be designed for, or protected from, 4000-volt crests with microsecond rise times. An ungrounded 120-volt, 60 Hz, a-c power supply will also be provided for the electronic control system. Automatic solid state switching to the alternate 120-volt a-c power supply in the event of failure of the 125-volt d-c power supply shall be provided. A set of electrical contacts shall be provided to indicate when the alternate supply is being used.

2.6 GATE LIMIT CONTROL

2.6.1 General

A gate limiting provision which will positively limit the wicket gate opening travel to any preset value shall be provided. This provision shall give full control of gate position to the actuator from closed gate position to the gate position at which the pilot control assembly takes control. This provision shall permit the gate limit to be controlled at the actuator control panel and the plant control board. This provision shall be adjustable such that it will allow setting the minimum operating time for the gate limit to travel from 0 to 100 percent and vice versa at any desired value between 20 and 40 seconds. For supervisory indication of the gate-limit adjustment over a telemeter channel to a remote station, an internally generated voltage signal proportional to gate limit position shall be provided by the Governor Contractor. An additional voltage signal shall be supplied by the Governor Contractor for supervisory indication of the wicket gate position.

2.6.2 Gate Limit Switches (Device Nos. 65ML-1 thru 6)

Six adjustable limit switches for use with the gate limit provision are presently installed. This functionality shall be replaced by six (6) adjustable relay contact outputs from the digital controller. Each output shall have separate, ungrounded contacts, suitable for interrupting a minimum of 1.5 amperes at 125 volts direct current. All contact outputs shall be adjustable to operate at any desired point and shall be readily changeable from circuit opening to circuit closing, as desired.

2.6.3 Speed Switches

Four (4) independent switches operated from generator shaft speed are presently available. Each switch is adjustable to close or open its contacts at any desired point throughout a specific range of unit speeds. This functionality shall be replaced by four (4) adjustable relay contact outputs from the digital controller, corresponding to similar unit speeds. Each speed switch shall have separate, ungrounded, auxiliary contacts, suitable for interrupting a minimum of 1.5 amperes at 125 volts direct current, and all contacts shall be readily changeable from circuit opening to circuit closing, as desired.

2.6.5 Alternative Proposals.

The Gate Limit Switches (paragraph 2.6.2), the Speed Switches (paragraph 2.6.3), and the Gate Position Switches (paragraph 2.12) are incorporated into the Government automatic control and protection schemes. The Contractor may propose to delete certain of these relay outputs, if it can be proven, to the satisfaction of the Government, that an alternative control and/or protection scheme can be incorporated into the digital controller.

2.7 SPEED LEVEL CONTROL

A speed level control mechanism (Device No. 65MS) shall be provided which can be manually operated at the actuator control panel and electrically from remote control points by a 125-volt dc signal. The speed level

mechanism shall be suitable for use with automatic synchronizing and load control equipment supplied by the Government. Speed control shall cover the range from 85 percent rated speed at no load and zero speed droop to 105 percent rated speed at rated load and maximum speed droop. The ramp time for speed level control setpoint changes shall be adjustable to any desired value between 20 and 40 seconds, corresponding to varying the speed level control setpoint between 85% and 105%, or 105% and 85%. The Contractor shall provide remote control and supervisory indication of the speed level control setpoint from the actuator cabinet and the plant control room.

2.8 SPEED DROOP CONTROL

A provision shall be provided at the actuator control panel for controlling the speed droop of the unit, which can be operated manually at the actuator control panel with accurate control and visual indication of the exact setting. The amount of droop shall be adjustable from 0 to 10 percent.

2.10 SPEED REGULATION CONTROL

A provision shall be provided, at the actuator control panel and electrically from the control room by a 125-volt dc signal, for controlling the power of the unit while still operating the unit in speed droop control. The Contractor shall provide a visual indication of the setpoint and actual power. The ramp time for speed regulation control setpoint changes shall be adjustable output to any desired value between 20 and 40 seconds, corresponding to varying power output from 0% to 100%, or 100 % to 0% of rated power.

2.10 AUTOMATIC SHUTDOWN MECHANISM

A solenoid-operated mechanism (Device No. 65SD) shall be provided which
when energized will permit the wicket gates to open and when deenergized will cause the gates to close at the normal rate of closure. The mechanism will be used for starting and stopping the unit by remote control and for automatic shut-down of the unit by means of automatic protective features in connection with the generator, turbine, governor equipment and/or transformer. Three (3) sets of independent form C contacts shall be provided.

2.11 GATE-LOCK CONTROL

A solenoid operated gate-lock control (Device No. 65GL) with associated hydraulic piping and a spring operated gate-lock mechanism with limit switches and hydraulic release servomotor is available as part of the existing governor system. The control functions in conjunction with the automatic shutdown mechanism specified in 2.10 and associated control devices. Unless the Contractor can demonstrate that it is impractical, to the satisfaction of the Government, the Contractor shall retain this device and incorporate the operation of this device as a part of the programming. If the Contractor can demonstrate the impracticability, and elects to remove this device, the Contractor shall provide similar functionality in the digital controller.

2.12 GATE POSITION SWITCHES

Twelve independent switches (Device No. 33) operate from the wicket gate motion are presently available. Each switch is adjustable to close or open its contacts at any desired point throughout the full range of the gate motion. The contacts are ungrounded and suitable for interrupting 1.5 amperes at 125 volts d-c and are connected to terminal blocks in the actuator cabinet. This functionality shall be replaced by twelve (12) adjustable relay contact outputs from the digital controller, corresponding to similar gate positions. Each position switch shall have separate, ungrounded auxiliary contacts suitable for interrupting a minimum of 1.5 amperes at 125 volts direct current, and all contacts shall be readily changeable from circuit opening to circuit closing, as desired.

2.13 INDICATING DEVICES AND INSTRUMENTS

2.13.1 General

Analog indicating devices and instruments to be furnished with the governor and mounted on the actuator cabinet shall be of the 6 inches, nominal square flush mounting type with black cases, black trims and rings, white dials with black figures and black pointers. Instrument identification legends shall be neatly printed on the dials or on separate legend plates inside the cases. Digital indicating devices shall be red LED type capable of accepting an analog signal. Display digits shall be a minimum of 1-3/4 inches in height. The meter shall be powered by 120 Vac, 60 Hz and shall operate satisfactorily over a temperature range of 0-60 °C. The Governor Contractor shall furnish trims, rings with cover glass, and mounting hard-ware required for mounting these devices and instruments on the actuator cabinet. The space between the face of the device or instrument and the mounting panel shall be sealed against air circulation.

2.13.2 Speed Level Indicator

A speed level indicator is provided on the existing actuator control panel for use in conjunction with the speed level control specified in 2.7. The indicator is calibrated to indicate the speed level from 85 to 105 percent of rated speed. A transmitter and indicator is provided for remote indication of the speed level setting on the control switchboards. This function shall be retained in the new system, and the existing indicators may be reused or replaced, as required. This indication shall be provided at the actuator cabinet and at the main control panel in the plant control room.

2.13.3 Speed Indicator

An electrically operated speed indicator is provided on the existing actuator control panel. This function shall be retained in the new system, and the existing indicator may be reused or replaced, as required. This indication shall be provided at the actuator cabinet and at the main control panel in the plant control room.

2.13.4 Gate Position-Gate Limit Indicator

A dual-type linear indicator shall be provided on the actuator control panel to indicate the position of the wicket gates and the setting of the gate limit control. A dual-type transmitter and indicator shall also be furnished for remote indication of the gate limit setting and gate position on the main control switchboards. If the Contractor provides dual-edgewise analog meters, the gate position pointer shall be black, and the gate limit pointer shall be red. A dual-type transmitter and indicator shall be furnished for remote indication of the gate limit setting and gate position on the control switchboards. The calibration of the indicator and arrangement of the pointers shall be as specified above for both the indicator mounted on the actuator cabinet and the indicator mounted in the main control switchboard.

2.14 CONTROL SWITCHES

All required control switches shall be furnished with the governor equipment. Contacts of all switches shall be self-aligning. A positive means of maintaining high pressure on closed contacts shall be provided. Compression springs or pivoted joints shall not carry current. The covers or plates on the switches shall be readily removable for inspection of contacts. All control switches shall be suitable for operation on 600 volt a-c or 250 volt d-c circuits and shall be capable of satisfactorily withstanding a life test of at least ten thousand operations with rated current flowing in the switch contacts. All control switches shall be capable of continuously carrying 20 amperes without exceeding a temperature rise of 30 degrees. The single break inductive load interrupting rating shall be not less than 10 amperes for 120 volts ac-c or 1.5 amperes for 125-volt d-c circuits.

2.15 INDICATIONS

All required indications shall be provided via touchscreen Human Machine Interface (HMI) or indicating lamps as appropriate. All required indications shall be furnished with the governor equipment.

2.15.1 Touchscreen HMI shall be industrial type, 10-inch diagonal (minimum), with associated software and cabling to interface with the controller. The user interface shall consist of simple screen menus, easy-to-read

display numbers and letters, and large button areas to facilitate navigation between screens. The Contractor shall submit proposed screen layouts to the Government as part of the Contractor's drawing submittal package.

2.15.2 Indicating lamp assemblies shall be LED type with appropriate colored caps and integrally-mounted resistors, suitable for installation on 1/8 inch thick steel panels, General Electric Type ET-16, or equal. The lamp assemblies shall be suitable for operation on nominal circuit voltages of 125 volts d-c (140 volts max) or 120 volts a-c (130 volts max.). Lamps shall be replaceable from the front of the panel, and any special tools required for lamp replacement shall be furnished. All lamps shall be of the same type and rating and the color caps shall be interchangeable.

2.16 RELAYS

If required as part of the governor equipment, the Contractor shall furnish relays for mounting in the actuator cabinet. All relay coils and contacts shall be suitable for continuous operation at 125 volts d-c or 120 volts a-c, as required. The relays shall be complete with required resistors and of a type to require a minimum current when operated for long periods of time. Contacts and other features shall be provided as necessary. The relay will be subjected to shock loads and vibration during operation of the governor and suitable shockproof and vibration proof mountings shall be provided for the relays or relay panels.

2.17 WIRING AND TERMINAL BLOCKS

2.17.1 Wiring

Except for internal wiring of approved devices and wiring of electronic component assemblies, wiring shall be type MTW conforming to the applicable requirements for 600-volt single conductor power cable. Minimum wire size shall be No. 14 AWG, Class B or C stranding. Hinge wire, Class G or K stranding, shall be used in the portions of circuits to devices on hinged panels. Wiring of electronic component assemblies shall be adequate for the environment, voltage and power requirements. Shielded wiring shall be provided where required. Electrical control wiring for low-amperage control signal and feedback circuits related to the governor controller may be No. 16, 18, or 22 AWG, as appropriate.

2.17.1.1 Routing

All electrical wiring shall be arranged so that all external connections will be made in the terminal compartments of the actuator cabinet. A wiring duct and channel system arranged to provide easy access for inspection and replacement of wiring shall be provided in the actuator cabinet. Insofar as practicable, the wiring shall be installed in the channels and ducts. Oil-vapor tight wireways or cable ducts shall be provided for wiring of external circuits to the cabinet terminal compartments where such wiring is exposed to oil vapors and for wiring of circuits between the terminal compartments and relay section of the cabinet. The wireway is provided with a hinged or screwed cover for access to the terminal block area. Each wire shall be properly protected where it leaves a channel or duct. Wiring, when not installed in channels or ducts, shall be formed into compact wire bundles suitable bound together and properly supported. Binding and supports shall not cause damage or cold flow of the insulation. Groups of exposed wires shall be run straight horizontally or vertically with short radius right angle bends. Wiring supports shall be of heavy-gage rustproof material or steel with rust-resisting finish equivalent to sherardizing or cadmium-zinc plating. There shall be no splices in the wiring and all connections shall be made at device terminal studs or at terminal blocks with ring-tongue indented terminal connectors, Burndy Type YAV, T&B STA-KON, or equal. Screw terminals shall be provided with toothed lock washers at the time the wiring is installed. All stud type terminals shall be provided with contact nuts and either locking nuts or lock-washers. All wires installed by the Contractor shall be identified at both ends with wire markers of the sleeve type located near each terminal fitting. Wire markers shall be similar to those manufactured by W.H. Brady Company. The markers shall contain legible identification and shall be durable and resistant to change due to age or contact with insulating materials. Markers shall have dark print on a light background.

2.17.1.2 Hinge Wiring

Hinge wiring shall be used between stationary panels and swinging panels or swinging doors, and shall be formed in vertical wire loops which shall provide rotation around the longitudinal axis of the conductors. Terminals and wiring shall be provided for the future connection of remote circuits to all control device spare contacts. Suitable provisions shall be made for training and supporting incoming external cables from the point of entrance to the termination on the terminal blocks. Drawings showing the proposed arrangement of terminal blocks and supports for incoming cables shall be submitted for approval. Special attention shall be given to wiring and terminal arrangement to permit the individual conductors of an external cable to be conveniently grouped for connection to adjacent terminal points. Suitable entrance locations shall be indicated on the Contractor's shop drawings for entrance of all external cables. No cabinet wiring shall terminate on the external cable side of terminal blocks. The wire (terminal point) designations used on the Contractor's wiring diagrams and printed on terminal block marking strips specified in 2.17.2.2 may be according to the Contractor's standard practice; however, additional wire and cable designations for identification of external circuits will be required, and drawings submitted for approval shall be prepared in accordance with the Government's cable terminal connection diagrams.

2.17.1.3 SSG Connections

Electrical circuits from the SSG are to be run in conduit to the generator terminal box. Existing conduit may be used, or new Contractor furnished conduit installed by the Contractor. The SSG wires from the SSG to the governor actuator cabinet will be provided by the Contractor. The design of the wiring compartment of the SSG shall be suitable for coupling to the conduit used.

2.17.2 Terminal Blocks

2.17.2.1 General

Terminal blocks furnished for external control wiring, except terminal blocks for interconnected electronic governor components, shall be heavy-duty molded or fabricated type with barriers, rated not less than 30 amperes, 600 volts, with slide link construction to facilitate the isolation of the governor circuits from the external circuits, as provided by States Company type NT or equal, complete with screws, marking strips and covers. Short circuiting type terminal blocks shall be furnished for all current transformer secondary leads and shall have provisions for short-circuiting together all leads from each current transformer without first opening any circuit. The terminals shall be removable binding, fillister, or washer head screw type. Each terminal shall be not less than No. 10 in size having length and space for connecting two ring-tongue terminal connectors for No. 12 AWG conductors to each terminal. At least 10 percent extra terminals shall be provided on each group of terminal blocks. Electronic component assemblies shall be provided with terminal blocks or connectors adequate to accommodate the incoming wiring.

2.17.2.2 Marking

White or other light-colored plastic marking strips, fastened by screws to each terminal block, shall be provided for wire designations. The manufacturer's wire number and the Government's wire number shall both be shown for each connected terminal on the marking strips with permanent marking fluid. The marking strips shall be reversible to permit marking both sides, or two marking strips shall be furnished with each block, to accommodate the two sets of wire numbers. The wire designations used on the Contractor's wiring diagrams and marked on terminal block marking strips may be according to the Contractor's standard practice; however, additional wire and cable designations for identification of remote (external) circuits will be required, and prints of drawings submitted for approval will be so marked and returned to the Contractor for these additional designations. Drawings prepared in accordance with Government terminal connection schedules may require revision of external circuit connections, designations and wire grouping when submitted for approval.

2.18 ESCUTCHEONS AND NAMEPLATES

Each item of equipment provided for mounting on the actuator cabinet which does not have a suitable designation included as an integral part of the device shall be provided with an engraved nameplate. All dials, gages and

nameplates shall be marked with the nomenclature and units of measure used in the United States. A schedule of all such marking shall be submitted with the shop drawings and shall be subject to the approval of the Contracting Officer.

2.19 TOOLS AND ACCESSORIES

The Contractor shall furnish, a complete set of casehardened wrenches and special tools or equipment which may be necessary or convenient for assembling, dismantling or adjusting the governor. The Contractor shall also furnish all bolts, studs, lubricating devices, packing for stuffing boxes, and other appurtenances that may be required to make the governor a complete unit ready for operation.

2.20 SPARE PARTS

The Contractor shall furnish the following spare parts:

a. One gate pilot-valve plunger and bushing, if a gate pilot-valve is required in addition to the electro-hydraulic transducer pilot-valve.

b. Two speed sensing devices of each type furnished.

c. Two position sensing devices of each type furnished.

d. Two plug-in printed circuit cards (with components) of each type furnished.

f. One watt transducer.

f. Two power supplies of each type furnished.

g. Four relays of each type furnished.

h. Two solenoid valves of each type furnished.

i. Two control switches of each type furnished.

j. Ten indicating lamps, if applicable.

k. One indicating lamp puller, if applicable.

l. One case (Qty: 24) of filters for the pilot control assembly.

All spare parts furnished shall be interchangeable with and shall be made of the same materials and workmanship as the corresponding parts of the governors furnished under this specification.

PART 3 EXECUTION

3.1 General

All governor equipment installations not otherwise specified shall comply with the current industry standard for that type of equipment. All installations shall present a neat clean appearance. All components of the governor retrofit, not responsible for remote indication shall be located within the existing governor cabinet. During disassembly of the governor, the Contractor shall note any sub-component that is not suitable for continued service. The Contractor

shall provide a recommendation for sub-components needing repair or replacement, to the Contracting Officer. All recommendations must be accompanied by an explanation of the condition observed and the justification for repair or replacement.

3.2 SHOP ASSEMBLY AND TESTS

3.2.1 General

The governor equipment to be furnished shall be completely assembled in the Contractor's shop and tested, insofar as practicable. Since there are no hydraulic components furnished as part of these specifications, a suitable hydraulic system may be substituted, to simulate the actions of the distributing valve and servomotors. All components of the governing system, responsible for control and feedback functions of these governors shall be included in the test. The Contractor shall provide a means of simulating the operation of a turbine, that will test the capabilities of the governors. Copies of test reports shall be submitted. Factory and field tests of the governor shall be performed in accordance with ASME PTC 29, except as otherwise stated herein. The Government reserves the right to witness the shop testing of the governor. The waiver of any tests or the observance thereof by a Government witness shall not relieve the Contractor of the responsibility of meeting the requirements of the specification. All test equipment, instruments, and personnel for factory tests shall be furnished by the Contractor. The governor components shall be shipped with parts complete and ready for operation.

3.2.2 Dielectric Test

Device nameplate markings, wire markers and terminal block wire
designations shall be checked. Insofar as practicable, wiring shall be given point-to point circuit continuity tests. Dielectric tests shall be performed to determine the adequacy of the insulation of wiring. After all wiring has been installed, it shall be subjected to dielectric tests in accordance with NEMA ICS 1, except that the test voltage shall be 1500 volts applied successively for the one second between on terminal and ground of each isolated conductor. All necessary precautions shall be taken to prevent damage to equipment not designed or intended to withstand this test. All grounding connections to the ground bus shall be removed during the test. Government furnished equipment shall not be tested.

3.2.3 Adjustments

All devices requiring adjustment shall be checked for range of adjustment, operationally tested and then given final adjustment as required so that a minimum of further adjustment will be required after erection in the field.

3.2.4 Dead Time, Dead Band, Speed, Load, and Stability Test

The governor equipment shall be tested in the Contractor's shop and in the field to demonstrate that it meets the requirements of the specifications in respect to dead time, gate dead band, speed-regulation, no-load stability and speed of response of the speed responsive elements. Except as otherwise specified, the tests shall be conducted in accordance with ASME PTC 29. Prior to the tests, the Contractor shall submit for approval a detailed description of the procedures and equipment to be used in making the test. The tests shall be accomplished with the use of an oscillograph high-speed strip recorder, or other approved means which will provide a simultaneous and parallel record of speed, pilot control assembly command signal, relay valve position (field test only), servomotor position (field test only) and a timing signal. The oscillograph or recorder and associated movement and speed conversion devices and amplifiers shall be such that the time delay is the same in all measuring channels or can be accurately calibrated. The actual gate dead band need not be determined, provided the tests demonstrate that the dead band does not exceed the limit stated in 2.1.4. For the purpose of the shop test, dead time is defined as the elapsed time from an initial speed change of 0.02 percent of rated speed to the first change in command signal to the pilot control assembly. The dead time shall not exceed the time stated in 2.1.3. For the no-load stability test the speed signal shall be simulated by a turbine simulator, which includes a model of the response of the actual unit to gate position changes. Tests shall be performed or data on similar equipment submitted to show that the output of the speed

sensing elements varies essentially directly with the speed of the generator shaft for all rates or acceleration and deceleration up to 15 percent of rated speed per second.

3.3 FIELD TEST

After the governors have been place in satisfactory operating condition, one or more governors will be tested in accordance with ASME PTC 29 to determine if the equipment meets the requirements of the specifications and guarantees of the Contractor. Governor timing will be measured for the purpose of determining that the specified capacity is available to move the wicket gates in both directions for full strokes in the specified minimum time. The power stability, dead time, and off-line speed stability will be tested to determine the ability of the governor to maintain on-line speed stability, or any other test deemed necessary to check compliance with the Specification requirements. The Contractor's representative will be required to be present and to assist with the field tests.

3.4 OPERATION AND MAINTENANCE MANUALS

Parts catalogs and operating instructions needed or useful in operation, maintenance, repairs, dismantling, or assembling, and for repair and identification of parts for ordering replacements, shall be included, as well as PLC software documentation. The parts catalogs and operating instructions shall cover all equipment furnished under this contract and shall be assembled under a common cover. The assembled material shall include complete identification of the spare parts furnished in compliance with the requirements of these specifications. The manuals shall also include a complete set of drawings and diagrams as well as a complete set of the same drawings and diagrams in CADD, formatted for MicroStation "J" on CD. The descriptions and instructions shall be specific to the equipment furnished instead of common to a family of products.

3.5 CONTRACTOR FURNISHED TRAINING OF GOVERNMENT PERSONNEL

The Contractor shall conduct a course in the theory, operation, and maintenance of the governor. The course shall be of approximately 24 hours duration for approximately 14 Government personnel. The course shall be held at the Richard B. Russell Project and shall commence after the first governor has been placed in service. The course shall include governor control system design; theory of basic governor electrical, electronic, and hydraulic control circuits and systems; trouble shooting of printed circuit cards; programming the PLC and adjusting parameters; and governor trouble analysis. The training shall be tailored to be specific to the governor furnished. Course outline and subject matter shall have been submitted and approved prior to the starting date of the course. The "Approved" Operations and Maintenance Manual shall be incorporated into the training materials. Government project personnel will video tape all training sessions presented by the Contractor for future use by the Government.****

Section D - Packaging and Marking

CLAUSES INCORPORATED BY FULL TEXT

52.211-4006 PROTECTION OF MATERIAL AND WORK

At all times prior to delivery and as also specified in paragraph PACKING, MARKING AND SHIPMENT, all materials, supplies, and equipment of every description including property which may be Government-owned and all work performed shall be protected and preserved. All reasonable requests from work performed shall be protected and preserved. All reasonable requests from the Government to enclose or specially protect such property shall be complied with. If, as determined, material, equipment, supplies, and work performed are not adequately protected, such property may be protected by the Government and the cost thereof may be charged to the Contractor or deducted from any payment due. All machinery, materials, and articles in a complete or incomplete state for which progress payment has been made prior to delivery shall be adequately protected from loss and from corrosion and all other forms of damage.

52.211-4007 PACKAGING, MARKING AND SHIPMENT

1. The Contractor shall prepare and load all material and articles for shipment in such a manner as to protect them from damage in transit, and shall be responsible for and make good any and all damage until the equipment is delivered to the Government at the specified delivery point. Where necessary, heavy parts or machines shall be mounted on skids or shall be crated, and any articles or materials that might otherwise be lost shall be boxed or wired in bundles and plainly marked for identification. All parts exceeding two hundred (200) pounds gross weight shall be prepared for shipment so that slings for handling by the crane may be readily attached while the parts are on the car or transport truck. Boxed parts, where it is unsafe to attach slings to the box, shall be packed with slings attached to the part, the slings to project through the box or crate so that attachment to the hoisting equipment can be readily made. Packaging designed for fork lifting shall have any areas where lifting forks should not be placed clearly identified.

2. No material or equipment shall be shipped until after it has been inspected and accepted for shipment by the Government, or unless inspection of the equipment has been waived in writing.

3. The Government will accept delivery of materials and equipment when delivered by the Contractor at the specified delivery point between the hours of 0730 and 1400 hours, Monday through Friday. The Contractor shall notify the Government at least 15 days in advance as to the expected delivery dates of the equipment.

4. All accessories and spare parts shall be packed separately in containers plainly marked: ACCESSORIES ONLY, or SPARE PARTS ONLY. All packing material shall be fire retardant. A packing list, listing the contents of each container, shall be placed in a moisture-proof envelope securely fastened to the outside of the container. The packing list shall provide the following information for each spare part or accessory in the container:

(1) Manufacturer.

(2) Contract number.

(3) Identification, including the manufacturer's drawing number reference.

Each spare part or accessory shall be identified so that it can be easily matched against its entry on the packing list.

5. As soon as each shipment is made, the Contractor shall furnish to the Government shipping notices on which shall be shown, in addition to the usual data, a description of the article furnished, the item number of the contract schedule to which the article applies, the shipping weight of each item, the number of pieces, the total weight, and if shipped by railroad carload lots, the car number.

Section E - Inspection and Acceptance

CLAUSES INCORPORATED BY FULL TEXT

52.246-2 INSPECTION OF SUPPLIES--FIXED-PRICE (AUG 1996)

(a) Definition. "Supplies," as used in this clause, includes but is not limited to raw materials, components, intermediate assemblies, end products, and lots of supplies.

(b) The Contractor shall provide and maintain an inspection system acceptable to the Government covering supplies under this contract and shall tender to the Government for acceptance only supplies that have been inspected in accordance with the inspection system and have been found by the Contractor to be in conformity with contract requirements. As part of the system, the Contractor shall prepare records evidencing all inspections made under the system and the outcome. These records shall be kept complete and made available to the Government during contract performance and for as long afterwards as the contract requires. The Government may perform reviews and evaluations as reasonably necessary to ascertain compliance with this paragraph. These reviews and evaluations shall be conducted in a manner that will not unduly delay the contract work. The right of review, whether exercised or not, does not relieve the Contractor of the obligations under the contract.

(c) The Government has the right to inspect and test all supplies called for by the contract, to the extent practicable, at all places and times, including the period of manufacture, and in any event before acceptance. The Government shall perform inspections and tests in a manner that will not unduly delay the work. The Government assumes no contractual obligation to perform any inspection and test for the benefit of the Contractor unless specifically set forth elsewhere in this contract.

(d) If the Government performs inspection or test on the premises of the Contractor or a subcontractor, the Contractor shall furnish, and shall require subcontractors to furnish, at no increase in contract price, all reasonable facilities and assistance for the safe and convenient performance of these duties. Except as otherwise provided in the contract, the Government shall bear the expense of Government inspections or tests made at other than the Contractor's or subcontractor's premises; provided, that in case of rejection, the Government shall not be liable for any reduction in the value of inspection or test samples.

(e)(1) When supplies are not ready at the time specified by the Contractor for inspection or test, the Contracting Officer may charge to the Contractor the additional cost of inspection or test.

(2) The Contracting Officer may also charge the Contractor for any additional cost of inspection or test when prior rejection makes reinspection or retest necessary.

(f) The Government has the right either to reject or to require correction of nonconforming supplies. Supplies are nonconforming when they are defective in material or workmanship or are otherwise not in conformity with contract requirements. The Government may reject nonconforming supplies with or without disposition instructions.

(g) The Contractor shall remove supplies rejected or required to be corrected. However, the Contracting Officer may require or permit correction in place,promptly after notice, by and at the expense of the Contractor. The Contractor shall not tender for acceptance corrected or rejected supplies without disclosing the former rejection or requirement for correction, and, when required, shall disclose the corrective action taken.

(h) If the Contractor fails to promptly remove, replace, or correct rejected supplies that are required to be removed or to be replaced or corrected, the Government may either (1) by contract or otherwise, remove, replace, or correct the supplies and charge the cost to the Contractor or (2) terminate the contract for default. Unless the Contractor corrects or replaces the supplies within the delivery schedule, the Contracting Officer may require their delivery and make an equitable price reduction. Failure to agree to a price reduction shall be a dispute.

(i)(1) If this contract provides for the performance of Government quality assurance at source, and if requested by the Government, the Contractor shall furnish advance notification of the time (i) when Contractor inspection or tests will be performed in accordance with the terms and conditions of the contract and (ii) when the supplies will be ready for Government inspection.

(2) The Government's request shall specify the period and method of the advance notification and the Government representative to whom it shall be furnished. Requests shall not require more than 2 workdays of advance notification if the Government representative is in residence in the Contractor's plant, nor more than 7 workdays in other instances.

(j) The Government shall accept or reject supplies as promptly as practicable after delivery, unless otherwise provided in the contract. Government failure to inspect and accept or reject the supplies shall not relieve the Contractor from responsibility, nor impose liability on the Government, for nonconforming supplies.

(k) Inspections and tests by the Government do not relieve the Contractor of responsibility for defects or other failures to meet contract requirements discovered before acceptance. Acceptance shall be conclusive, except for latent defects, fraud, gross mistakes amounting to fraud, or as otherwise provided in the contract.

(l) If acceptance is not conclusive for any of the reasons in paragraph (k) hereof, the Government, in addition to any other rights and remedies provided by law, or under other provisions of this contract, shall have the right to require the Contractor (1) at no increase in contract price, to correct or replace the defective or nonconforming supplies at the original point of delivery or at the Contractor's plant at the Contracting Officer's election, and in accordance with a reasonable delivery schedule as may be agreed upon between the Contractor and the Contracting Officer; provided, that the Contracting Officer may require a reduction in contract price if the Contractor fails to meet such delivery schedule, or (2) within a reasonable time after receipt by the Contractor of notice of defects or nonconformance, to repay such portion of the contract as is equitable under the circumstances if the Contracting Officer elects not to require correction or replacement. When supplies are returned to the Contractor, the Contractor shall bear the transportation cost from the original point of delivery to the Contractor's plant and return to the original point when that point is not the Contractor's plant. If the Contractor fails to perform or act as required in (1) or (2) above and does not cure such failure within a period of 10 days (or such longer period as the Contracting Officer may authorize in writing) after receipt of notice from the Contracting Officer specifying such failure, the Government shall have the right by contract or otherwise to replace or correct such supplies and charge to the Contractor the cost occasioned the Government thereby.

(End of clause)

52.246-16 RESPONSIBILITY FOR SUPPLIES (APR 1984)

(a) Title to supplies furnished under this contract shall pass to the Government upon formal acceptance, regardless of when or where the Government takes physical possession, unless the contract specifically provides for earlier passage of title.

(b) Unless the contract specifically provides otherwise, risk of loss of or damage to supplies shall remain with the Contractor until, and shall pass to the Government upon--

(1) Delivery of the supplies to a carrier, if transportation is f.o.b. origin; or

(2) Acceptance by the Government or delivery of the supplies to the Government at the destination specified in the contract, whichever is later, if transportation is f.o.b. destination.

(c) Paragraph (b) of this section shall not apply to supplies that so fail to conform to contract requirements as to give a right of rejection. The risk of loss of or damage to such nonconforming supplies remains with the Contractor until

cure or acceptance. After cure or acceptance, paragraph (b) of this section shall apply.

(d) Under paragraph (b) of this section, the Contractor shall not be liable for loss of or damage to supplies caused by the negligence of officers, agents, or employees of the Government acting within the scope of their employment.

(End of clause)

52.246-4004 SUPPLY QUALITY MANAGEMENT CONTRACTOR QUALITY CONTROL

1.1 General Information

An effective Contractor's Quality Control (CQC) inspection system shall be established and maintained in compliance with Contract Clause, INSPECTION OF SUPPLIES - FIXED PRICE. The CQC inspection system shall include but not be limited to plans, procedures, and organization necessary to provide materials, equipment, workmanship, fabrication, construction, safety, and operations which comply with requirements specified in the various Technical Sections. The inspection systems shall cover factory operations and Government job-site operations.

1.2 Coordination Meeting

Before the start of work, the Contracting Officer (CO) or the Contracting Officer’s Representative (COR) and the Contractor shall meet to discuss the CQC inspection system. During the meeting a mutual understanding of the system details shall be developed including the forms for recording the CQC operations, control activities, testing, administration of the system for both job-site and off-site work, and the interrelationship of Contractor's inspection and control with Government's inspection. Minutes of the meeting shall be prepared and signed by the Contractor and then signed by the CO or COR. The minutes shall become a part of the contract file. There may also be occasions when subsequent conferences will be called to reconfirm mutual understandings.

1.3 Submittals

The following submittals described in detail in the referenced paragraphs shall be submitted for approval in accordance with SECTION C.

a. Factory quality control plan, paragraph 1.4, within 30 days after award of contract.

b. Government job site quality control plan, paragraph 1.5, no later than 90 days prior the performance of site work.

c. Qualifications of the Contractor Quality Control (CQC) manager, paragraph 1.5.3, no later than 90 days prior the performance of site work.

d. Qualifications of Laboratories and personnel, paragraphs 1.5.2(e) and 1.8.1, no later than 60 days prior to the use of the laboratory.

e. Notification of changes to CQC plan, paragraph 1.7, within 5 days of the change.

1.4 Factory Quality Control Plan

Not later than thirty (30) days after receipt of signed contract the Contractor shall submit for approval the factory Quality Control (QC) Plan. If an acceptable plan is not obtained prior to the date specified the Contracting Officer may refuse to allow work to begin or withhold funds from progress payments , in accordance with Contract Clause, METHODS OF PAYMENTS, until such time that an acceptable CQC plan is submitted. The Contractor's standard QC plan or modification thereof may be used as long as it contains the following salient features:

a. A description including names and responsibilities of the QC organization hierarchy.

b. Procedures to be used to manage submittals and ensure compliance with approved submittals and contract requirements.

c. Procedures for ensuring compliance with contract for subcontractors and testing laboratories.

d. Specific tests and inspections during salient phases of work used to verify QC plan is functioning properly.

e. Procedures for inspection and acceptance of delivery of materials.

1.5 Government Job Site Quality Control Plan

1.5.1 General

Not later than ninety (90) days prior to performance of site work the CQC plan which is proposed to implement the requirements of Contract Clause, INSPECTION OF SUPPLIES - FIXED PRICE, shall be submitted for approval. The plan shall identify personnel, procedures, instructions, records, and forms to be used. If an acceptable CQC plan is not submitted within the time herein prescribed, the CO may refuse to allow work to start or withhold funds from progress payments, in accordance with Contract Clause, METHODS OF PAYMENTS, until such time that an acceptable CQC plan is submitted.

1.5.2 The Contractor's Quality Control (CQC) Plan

The CQC plan shall include as a minimum, the following:

a. A description of the quality control organization, including chart showing lines of authority and acknowledgement that the CQC staff known as Contractor Quality Control Representatives (CQCR's) shall conduct the phase inspections for all aspects of the work specified and shall report to the project manager or someone higher in the Contractor's organization.

b. The name, qualifications, duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC manager signed by an authorized official of the firm shall be furnished which describes the responsibilities and delegates the authorities of the CQC manager.

d. Procedures for scheduling and managing submittals, including those of subcontractors, off-site fabricators, suppliers, and purchasing agents for each definable feature of work.

e. Control testing procedures and assignments for each specific test. Laboratory personnel and facilities shall be subject to approval.

f. Reporting procedures including proposed reporting forms.

After acceptance of the CQC plan, the CO shall be notified in writing of any proposed change. Proposed changes are subject to approval.

1.5.3 Quality Control Organization

The Contractor shall identify an individual within their organization at the site of the work whose responsibility shall be the overall management of the CQC, and they shall have the authority to act in all CQC matters and to direct correction of deficient work for the Contractor. This individual shall have experience and training in the testing and inspection techniques necessary to ensure compliance with the requirements of the contract. The Contractor shall submit the qualifications for approval to the Contracting Officer or his/her designated representative.

1.5.4 Submittal Management

Submittals shall be as specified in Section H and elsewhere in the technical sections. The CQC manager shall be responsible for certifying that all submittals are in compliance with the contract requirements.

1.5.5 Control

CQC is the means by which the Contractor assures that planning, scheduling, and execution of the work complies with the requirements of the contract plans and specifications. Controls shall be used to cover all operations, including both job-site and off-site fabrication, and will be keyed to the proposed work sequence. The controls shall include at least three phases of inspection for all definitive features of work as follows:

a. Preparatory Inspection Phase.

This phase shall be performed prior to beginning any work on any definable feature of work. The inspection shall include a review of contract requirements; a check to assure that all materials and or equipment have been tested, submitted, and approved; a check to assure that provisions have been made to provide required control testing; a review of the job hazard analysis for the feature of work about to start; examination of the work area to ascertain that all previous work has been completed; and a physical examination of materials, equipment, and sample work to assure that they conform to approved shop drawings or submittal data and that all labor, materials, and or equipment are on hand. A CQC shall meet with the Contracting Officer or his/her designated representative to discuss Findings of the inspection and develop a mutual understanding of the proposed feature of work and its execution. The CO shall be notified at least 24 hours in advance of the preparatory conference and such conference shall be made a matter of record in the CQC documentation as required by paragraph 1.5.7. Subsequent to the preparatory inspection and prior to commencement of work, the Contractor shall instruct each applicable worker as to the acceptable level of workmanship required in the CQC plan in order to meet contract specifications.

b. Initial Inspection Phase.

This phase shall be performed as soon as a representative portion of the particular feature of work has been accomplished and shall include examination of the quality of workmanship and a review of control testing for compliance with contract requirements. The work shall be inspected jointly by the CQC manager or CQCR and Contracting Officer or his/her designated representative for use of defective or damaged materials, omissions, and dimensional requirements. The CO shall be notified at least 24 hours in advance of the initial inspection phase. The inspection results shall be made a matter of record in the CQC documentation as required by paragraph 1.5.7. The initial phase shall be repeated for each new crew to work on-site, or if acceptable standards of workmanship are not being met.

c. Follow-up Inspection Phase.

Daily inspections shall be performed to assure continuing compliance with contract requirements, including control testing, until completion of the particular feature of the work. Such inspections shall be made a matter of record in the CQC documentation as required in paragraph 1.5.7 below. Final follow-up inspections shall be conducted and all deficiencies corrected prior to the start of additional features of work.

1.5.6 Completion Inspection

At the completion of all work or any increment thereof established by a completion time stated in SECTION F or stated elsewhere in the specifications, the CQC manager shall conduct an inspection of the work and develop a "punch list" of items which are incomplete and/or do not conform to the approved plans and specifications. Such a list shall be included in the CQC documentation, as required by paragraph 1.5.7, and shall include the estimated date by which the deficiencies shall be corrected. The CQC manager shall conduct a second completion inspection jointly with the Contracting Officer or his/her designated representative to ascertain that all deficiencies have been corrected and so notify the CO in writing. The completion inspection and any deficiency corrections required by this paragraph shall be accomplished within the time stated for completion of the entire work or any particular increment thereof if the project is divided into increments by separate completion dates.

1.5.7 Documentation

1.5.7.1 Current records of CQC operations, activities, and tests performed shall be maintained including the work of suppliers and subcontractors. A record shall be prepared for each scheduled working day. The records shall be numbered consecutively. The information shall be recorded on a form subject to approval and shall indicate for each work shift, a description of trades working on the project, the numbers of personnel working, the weather conditions encountered, the inspection phase conducted, any delays encountered, and acknowledgement of deficiencies noted along with the corrective actions taken on current and previous deficiencies. In addition, these records shall include factual evidence that required activities or tests have been performed, including but not limited to the following:

a. Type and number of control activities and tests involved.

b. Results of control activities or tests.

c. Nature of defects, causes for rejection, etc.

d. Proposed remedial action.

e. Corrective actions taken.

f. Safety-related issues.

1.5.7.2 These records shall cover both conforming and defective or deficient features and shall include a statement that supplies and materials incorporated in the work comply with the contract. One original and one legible copy of these records shall be furnished to the CO within 24 hours of the work performed.

1.5.8 Technical Section Requirements

The CQC manager or CQCR shall review the inspections, tests, assurances, reports etc., required in the technical sections of SECTION C, and shall conduct all required inspections and tests. Inspections and tests shall be recorded in the daily CQC report required in paragraph 1.5.7.

1.6 Acceptance of Plan

Acceptance of the CQC plan is required prior to the start of work. Acceptance is conditional and will be predicated on satisfactory performance during the contract period. The Government reserves the right to require the Contractor to make changes in the CQC plan and operations as necessary to obtain the quality specified.

1.7 Notification of Changes

After acceptance of the CQC plan, the Contracting Officer shall be notified in writing of any proposed change. Proposed changes are subject to approval.

1.8 Tests

1.8.1 Testing Procedure

Tests that are specified or required shall be performed to verify that control measures are adequate to provide a product which conforms to contract requirements. The Contractor shall employ the services of an industry-recognized testing laboratory or establish an approved testing facilities at the job site. A list of tests which the Contractor understands are to be performed shall be furnished as a part of the CQC plan to the CO. The list shall give the test name, specification paragraph containing the test requirements, and the personnel and testing facilities responsible for each type of test. The following activities shall be performed and recorded, and the following data shall be provided:

a. Verify that testing procedures comply with contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms, including all of the test documentation requirements, have been prepared.

1.8.2 Testing

Testing shall be as follows:

a. Capability Check.

The Contracting Officer or his/her designated representative will have the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques.

b. Capability Recheck.

If the selected laboratory fails the capability check, the Contractor will be assessed a charge equal to the cost to the Government for the initial test, to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently-selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

c. Project Laboratory.

The Contracting Officer or his/her designated representative will have the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

1.9 Noncompliance

If the Contractor fails or refuses to comply with any of the foregoing requirements, the CO may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.
(ER 1180-1-7, Appendix A.)

252.246-7000 MATERIAL INSPECTION AND RECEIVING REPORT (DEC 1991)

At the time of each delivery of supplies or services under this contract, the Contractor shall prepare and furnish to the Government a Material Inspection and Receiving Report in the manner and to the extent required by Appendix F, Material Inspection and Receiving Report, of the Defense FAR Supplement.

(End of clause)

Section F - Deliveries or Performance

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52.211-16 VARIATION IN QUANTITY (APR 1984)

(a) A variation in the quantity of any item called for by this contract will not be accepted unless the variation has been caused by conditions of loading, shipping, or packing, or allowances in manufacturing processes, and then only to the extent, if any, specified in paragraph (b) below.

(b) The permissible variation shall be limited to:
10% Percent increase
10% Percent decrease
This increase or decrease shall apply to Item Nos. 0007, 0008, 0017AA, 0017AD, 0017AE, 0017AF, 0017AG and 0017AH.

(End of clause)

52.211-17 DELIVERY OF EXCESS QUANTITIES (SEP 1989)

The Contractor is responsible for the delivery of each item quantity within allowable variations, if any. If the Contractor delivers and the Government receives quantities of any item in excess of the quantity called for (after considering any allowable variation in quantity), such excess quantities will be treated as being delivered for the convenience of the Contractor. The Government may retain such excess quantities up to $250 in value without compensating the Contractor therefor, and the Contractor waives all right, title, or interests therein. Quantities in excess of $250 will, at the option of the Government, either be returned at the Contractor's expense or retained and paid for by the Government at the contract unit price.

52.211-4001 PLACE OF DELIVERY

1. Equipment and materials supplied under this contract shall be delivered f.o.b. destination at Project Office:

Hartwell Powerhouse
Highway 29, North
Savannah River, Georgia - South Carolina

Richard B. Russell Powerplant Project
4144 Russell Dam Drive
Elberton, Georgia 30635

2. SITE OF ERECTION AND INSTALLATION

Installation shall be performed at the Hartwell Powerhouse and at the Richard B. Russell Powerhouse.

3. TRANSPORTATION FACILITIES

The Hartwell Powerplant may be reached by U.S. Highway 29 North, approximately 15 miles southwest of Anderson, South Carolina. The powerhouse access road is located off Highway 29, on the Georgia side of the river. The contractor shall be responsible for verifying that his transportation method complies with all applicable regulations.

The Richard B. Russell Powerplant may be reached by Highway 72, to Bobby Brown State Park Road, to Russell Dam Drive. The powerhouse access road is located , on Russell Dam Drive, off Bobby Brown State Park Road. The contractor shall be responsible for verifying that his transportation method complies with all applicable regulations.

52.211-4008 TIME OF DELIVERY.

1. The work shall be commenced under this contract within 10 calendar days after date of receipt of signed contract and delivery of all material and equipment specified herein shall be made not later than 270 calendar days after date of receipt of signed contract.

2. Final tracings as required under Section C shall be delivered no later than 30 days after final examination and acceptance of the equipment. As noted in Section E, final acceptance will take place after installation of the equipment.

52.242-17 GOVERNMENT DELAY OF WORK (APR 1984)

(a) If the performance of all or any part of the work of this contract is delayed or interrupted (1) by an act of the Contracting Officer in the administration of this contract that is not expressly or impliedly authorized by this contract, or (2) by a failure of the Contracting Officer to act within the time specified in this contract, or within a reasonable time if not specified, an adjustment (excluding profit) shall be made for any increase in the cost of performance of this contract caused by the delay or interruption and the contract shall be modified in writing accordingly. Adjustment shall also be made in the delivery or performance dates and any other contractual term or condition affected by the delay or interruption. However, no adjustment shall be made under this clause for any delay or interruption to the extent that performance would have been delayed or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an adjustment is provided or excluded under any other term or condition of this contract.

(b) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved, and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the delay or interruption, but not later than the day of final payment under the contract.

(End of clause)

52.247-34 F.O.B. DESTINATION (NOV 1991)

(a) The term "f.o.b. destination," as used in this clause, means--

(1) Free of expense to the Government, on board the carrier's conveyance, at a specified delivery point where the consignee's facility (plant, warehouse, store, lot, or other location to which shipment can be made) is located; and

(2) Supplies shall be delivered to the destination consignee's wharf (if destination is a port city and supplies are for export), warehouse unloading platform, or receiving dock, at the expense of the Contractor. The Government shall

not be liable for any delivery, storage, demurrage, accessorial, or other charges involved before the actual delivery (or "constructive placement" as defined in carrier tariffs) of the supplies to the destination, unless such charges are caused by an act or order of the Government acting in its contractual capacity. If rail carrier is used, supplies shall be delivered to the specified unloading platform of the consignee. If motor carrier (including "piggyback") is used, supplies shall be delivered to truck tailgate at the unloading platform of the consignee, except when the supplies delivered meet the requirements of Item 568 of the National Motor Freight Classification for "heavy or bulky freight." When supplies meeting the requirements of the referenced Item 568 are delivered, unloading (including movement to the tailgate) shall be performed by the consignee, with assistance from the truck driver, if requested. If the contractor uses rail carrier or freight forwarded for less than carload shipments, the contractor shall ensure that the carrier will furnish tailgate delivery, when required, if transfer to truck is required to complete delivery to consignee.

(b) The Contractor shall--

(1)(i) Pack and mark the shipment to comply with contract specifications; or

(ii) In the absence of specifications, prepare the shipment in conformance with carrier requirements;

(2) Prepare and distribute commercial bills of lading;

(3) Deliver the shipment in good order and condition to the point of delivery specified in the contract;

(4) Be responsible for any loss of and/or damage to the goods occurring before receipt of the shipment by the consignee at the delivery point specified in the contract;

(5) Furnish a delivery schedule and designate the mode of delivering carrier; and

(6) Pay and bear all charges to the specified point of delivery.

(End of clause)

Section G - Contract Administration Data

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52.232-4008 DESIGNATED BILLING OFFICE (APR 1989 CESAS-RM)

Invoices will be mailed to:

U.S. Army Corps of Engineers
Attn: CESAS-CD-RRH / Steven E. Brown
6961 Anderson Hwy
Hartwell, GA 30643

(End of Clause)

52.232-4009 DESIGNATED PAYMENT OFFICE (AUG 1998 CESAS-RM-F)

Payment will be made by:
U.S. Army Corps of Engineers Finance Center
ATTN: CEFC-AO-P
5720 Integrity Drive
Millington, TN 38054-5005
(End of clause)

52.232-4015 METHODS OF PAYMENTS

(a) Subject to Contract Clause, 52.232-25 “PROMPT PAYMENT”, and all the provisions set forth below, payments to the Contractor will be made monthly or at such other times as may be mutually agreed to on estimates of work performed under this contract and not included in any prior estimate. In preparing estimates the machinery, material, and articles which have been purchased, paid for, and received by the Contractor and which are to be incorporated into the completed equipment will be taken into consideration. Estimates or work will be by items as numbered and described in THE SCHEDULE, Section B of the contract.

(b) The contractor shall submit invoices to the designated Authorized Representative of the Contracting Officer (COR) at the project site.

(End of Clause)

52.232-5001 CONTINUING CONTRACTS (MAR 1995)--EFARS
(a) This is a continuing contract, as authorized by Section 10 of the River and Harbor Act of September 22, 1922 (33 U.S. Code 621). The payment of some portion of the contract price is dependent upon reservations of funds from future appropriations, and from future contribution to the project having one or more non-federal project sponsors. The responsibilities of the Government are limited by this clause notwithstanding any contrary provision of the "Payments to Contractor" clause or any other clause of this contract.
(b) The sum of $2.00 has been reserved for this contract and is available for payments to the contractor during the current fiscal year. It is expected that Congress will make appropriations for future fiscal years from which

additional funds together with funds provided by one or more non-federal project sponsors will be reserved for this contract.

(c) Failure to make payments in excess of the amount currently reserved, or that may be reserved from time to time, shall not entitle the contractor to a price adjustment under the terms of this contract except as specifically provided in paragraphs (f) and (i) below. No such failure shall constitute a breach of this contract, except that this provision shall not bar a breach-of-contract action if an amount finally determined to be due as a termination allowance remains unpaid for one year due solely to a failure to reserve sufficient additional funds therefore.

(d) The Government may at any time reserve additional funds for payments under the contract if there are funds available for such purpose. The contracting officer will promptly notify the contractor of any additional funds reserved for the contract by issuing an administrative modification to the contract.

(e) If earnings will be such that funds reserved for the contract will be exhausted before the end of any fiscal year, the contractor shall give written notice to the contracting officer of the estimated date of exhaustion and the amount of additional funds which will be needed to meet payments due or to become due under the contract during that fiscal year. This notice shall be given not less than 45 nor more than 60 days prior to the estimated date of exhaustion.

(f) No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. The contractor shall be entitled to simple interest on any payment that the contracting officer determines was actually earned under the terms of the contract and would have been made except for exhaustion of funds. Interest shall be computed from the time such payment would otherwise have been made until actually or constructively made, and shall be at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 STAT 97, as in effect on the first day of the delay in such payment.

(g) Any suspension, delay, or interruption of work arising from exhaustion or anticipated exhaustion of funds shall not constitute a breach of this contract and shall not entitle the contractor to any price adjustment under the "Suspension of Work" clause or in any other manner under this contract.

(h) An equitable adjustment in performance time shall be made for any increase in the time required for performance of any part of the work arising from exhaustion of funds or the reasonable anticipation of exhaustion of funds.

(i) If, upon the expiration of sixty (60) days after the beginning of the fiscal year following an exhaustion of funds, the Government has failed to reserve sufficient additional funds to cover payments otherwise due, the contractor, by written notice delivered to the contracting officer at any time before such additional funds are reserved, may elect to treat his right to proceed with the work as having been terminated. Such a termination shall be considered a termination for the convenience of the Government.

(j) If at any time it becomes apparent that the funds reserved for any fiscal year are in excess of the funds required to meet all payments due or to become due the contractor because of work performed and to be performed under the contract during the fiscal year, the Government reserves the right, after notice to the contractor, to reduce said reservation by the amount of such excess.

(End of clause)

252.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)

(a) "Definition. Contracting officer's representative" means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the contracting officer to perform specific technical or administrative functions.

(b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

(End of clause)

252.242-7000 POSTAWARD CONFERENCE (DEC 1991)

The Contractor agrees to attend any postaward conference convened by the contracting activity or contract administration office in accordance with Federal Acquisition Regulation subpart 42.5.

(End of clause)

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52.0200-4115 WAGE RATES (CESAS-CT FEB 95)

U.S. Department of Labor Wage Decision No. 94-2135 (Rev. 19) dated 05/28/02 shall be applicable to any contract resulting from this solicitation. These rates and benefits are the minimums to be paid employees hereunder.

(End of clause)

52.228-4002 REQUIRED INSURANCE (FEB 1987 SAS) (Ref. FAR 28.307)

(a) The Contractor shall procure and maintain during the entire period of his performance under this contract the following minimum insurance:

Comprehensive and Employer's Liability Insurance in the amount required by the State law in which the work is to be performed under this contract.

Comprehensive General Liability Insurance in an amount not less than $500,000 per accident.

Automobile Liability Insurance: $200,000 per person and $500,000 per accident for bodily injury liability and $20,000 property damage liability.

(b) Prior to the commencement of work hereunder, the Contractor shall furnish to the Contracting Officer a certificate or written statement of the above-required insurance. The policies evidencing required insurance shall contain an endorsement to the effect that cancellation, or any material change in the policies adversely affecting the interests of the Government in such insurance, shall not be effective for such period as may be prescribed by the laws of the State in which this contract is to be performed and in no event less than 30 days after written notice thereof to the Contracting Officer.

(c) The Contractor agrees to insert the substance of this clause, including this subparagraph (c), in all subcontracts hereunder.

(End of clause)

52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

(End of clause)

Section I - Contract Clauses

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52.202-1 DEFINITIONS (DEC 2001)

(a) Agency head or head of the agency means the Secretary (Attorney General, Administrator, Governor, Chairperson, or other chief official, as appropriate) of the agency, unless otherwise indicated, including any deputy or assistant chief official of the executive agency.

(b) Commercial component means any component that is a commercial item.

(c) Commercial item means--

(1) Any item, other than real property, that is of a type customarily used by the general public or by non-governmental entities for purposes other than governmental purposes, and that--

(i) Has been sold, leased, or licensed to the general public; or

(ii) Has been offered for sale, lease, or license to the general public;

(2) Any item that evolved from an item described in paragraph (c)(1) of this clause through advances in technology or performance and that is not yet available in the commercial marketplace, but will be available in the commercial marketplace in time to satisfy the delivery requirements under a Government solicitation;

(3) Any item that would satisfy a criterion expressed in paragraphs (c)(1) or (c)(2) of this clause, but for--

(i) Modifications of a type customarily available in the commercial marketplace; or

(ii) Minor modifications of a type not customarily available in the commercial marketplace made to meet Federal Government requirements. “Minor” modifications means modifications that do not significantly alter the nongovernmental function or essential physical characteristics of an item or component, or change the purpose of a process. Factors to be considered in determining whether a modification is minor include the value and size of the modification and the comparative value and size of the final product. Dollar values and percentages may be used as guideposts, but are not conclusive evidence that a modification is minor;

(4) Any combination of items meeting the requirements of paragraphs (c)(1), (2), (3), or (5) of this clause that are of a type customarily combined and sold in combination to the general public;

(5) Installation services, maintenance services, repair services, training services, and other services if--

(i) Such services are procured for support of an item referred to in paragraph (c)(1), (2), (3), or (4) of this definition, regardless of whether such services are provided by the same source or at the same time as the item; and

(ii) The source of such services provides similar services contemporaneously to the general public under terms and conditions similar to those offered to the Federal Government;

(6) Services of a type offered and sold competitively in substantial quantities in the commercial marketplace based on established catalog or market prices for specific tasks performed under standard commercial terms and conditions. This does not include services that are sold based on hourly rates without an established catalog or market price for a specific service performed. For purposes of these services--

(i) Catalog price means a price included in a catalog, price list, schedule, or other form that is regularly maintained by the manufacturer or vendor, is either published or otherwise available for inspection by customers, and states prices at which sales are currently, or were last, made to a significant number of buyers constituting the general public; and

(ii) Market prices means current prices that are established in the course of ordinary trade between buyers and sellers free to bargain and that can be substantiated through competition or from sources independent of the offerors.

(7) Any item, combination of items, or service referred to in subparagraphs (c)(1) through (c)(6), notwithstanding the fact that the item, combination of items, or service is transferred between or among separate divisions, subsidiaries, or affiliates of a Contractor; or

(8) A nondevelopmental item, if the procuring agency determines the item was developed exclusively at private expense and sold in substantial quantities, on a competitive basis, to multiple State and local Governments.

(d) Component means any item supplied to the Government as part of an end item or of another component, except that for use in 52.225-9, and 52.225-11 see the definitions in 52.225-9(a) and 52.225-11(a).

(e) Contracting Officer means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.

(f) Nondevelopmental item means--

(1) Any previously developed item of supply used exclusively for governmental purposes by a Federal agency, a State or local government, or a foreign government with which the United States has a mutual defense cooperation agreement;

(2) Any item described in paragraph (f)(1) of this definition that requires only minor modification or modifications of a type customarily available in the commercial marketplace in order to meet the requirements of the procuring department or agency; or

(3) Any item of supply being produced that does not meet the requirements of paragraph (f)(1) or (f)(2) solely because the item is not yet in use.

(g) "Contracting Officer" means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.

(h) Except as otherwise provided in this contract, the term "subcontracts" includes, but is not limited to, purchase orders and changes and modifications to purchase orders under this contract.

(End of clause)

52.203-3 GRATUITIES (APR 1984)

(a) The right of the Contractor to proceed may be terminated by written notice if, after notice and hearing, the agency head or a designee determines that the Contractor, its agent, or another representative--

(1) Offered or gave a gratuity (e.g., an entertainment or gift) to an officer, official, or employee of the Government; and

(2) Intended, by the gratuity, to obtain a contract or favorable treatment under a contract.

(b) The facts supporting this determination may be reviewed by any court having lawful jurisdiction.

(c) If this contract is terminated under paragraph (a) of this clause, the Government is entitled--

(1) To pursue the same remedies as in a breach of the contract; and

(2) In addition to any other damages provided by law, to exemplary damages of not less than 3 nor more than 10 times the cost incurred by the Contractor in giving gratuities to the person concerned, as determined by the agency head or a designee. (This subparagraph (c)(2) is applicable only if this contract uses money appropriated to the Department of Defense.)

(d) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.203-5 COVENANT AGAINST CONTINGENT FEES (APR 1984)

(a) The Contractor warrants that no person or agency has been employed or retained to solicit or obtain this contract upon an agreement or understanding for a contingent fee, except a bona fide employee or agency. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of the contingent fee.

(b) "Bona fide agency," as used in this clause, means an established commercial or selling agency, maintained by a contractor for the purpose of securing business, that neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds itself out as being able to obtain any Government contract or contracts through improper influence.

"Bona fide employee," as used in this clause, means a person, employed by a contractor and subject to the contractor's supervision and control as to time, place, and manner of performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds out as being able to obtain any Government contract or contracts through improper influence.

"Contingent fee," as used in this clause, means any commission, percentage, brokerage, or other fee that is contingent upon the success that a person or concern has in securing a Government contract.

"Improper influence," as used in this clause, means any influence that induces or tends to induce a Government employee or officer to give consideration or to act regarding a Government contract on any basis other than the merits of the matter.

(End of clause)

52.203-6 RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT (JUL 1995)

(a) Except as provided in (b) of this clause, the Contractor shall not enter into any agreement with an actual or prospective subcontractor, nor otherwise act in any manner, which has or may have the effect of restricting sales by such subcontractors directly to the Government of any item or process (including computer software) made or furnished by the subcontractor under this contract or under any follow-on production contract.

(b) The prohibition in (a) of this clause does not preclude the Contractor from asserting rights that are otherwise authorized by law or regulation.

(c) The Contractor agrees to incorporate the substance of this clause, including this paragraph (c), in all subcontracts under this contract which exceed $100,000.

52.203-7 ANTI-KICKBACK PROCEDURES. (JUL 1995)

(a) Definitions.

"Kickback," as used in this clause, means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided, directly or indirectly, to any prime Contractor, prime Contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a subcontract relating to a prime contract.

"Person," as used in this clause, means a corporation, partnership, business association of any kind, trust, joint-stock company, or individual.

"Prime contract," as used in this clause, means a contract or contractual action entered into by the United States for the purpose of obtaining supplies, materials, equipment, or services of any kind.

"Prime Contractor," as used in this clause, means a person who has entered into a prime contract with the United States.

"Prime Contractor employee," as used in this clause, means any officer, partner, employee, or agent of a prime Contractor.

"Subcontract," as used in this clause, means a contract or contractual action entered into by a prime Contractor or subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind under a prime contract.

"Subcontractor," as used in this clause, (1) means any person, other than the prime Contractor, who offers to furnish or furnishes any supplies, materials, equipment, or services of any kind under a prime contract or a subcontract entered into in connection with such prime contract, and (2) includes any person who offers to furnish or furnishes general supplies to the prime Contractor or a higher tier subcontractor.

"Subcontractor employee," as used in this clause, means any officer, partner, employee, or agent of a subcontractor.

(b) The Anti-Kickback Act of 1986 (41 U.S.C. 51-58) (the Act), prohibits any person from -

(1) Providing or attempting to provide or offering to provide any kickback;

(2) Soliciting, accepting, or attempting to accept any kickback; or

(3) Including, directly or indirectly, the amount of any kickback in the contract price charged by a prime Contractor to the United States or in the contract price charged by a subcontractor to a prime Contractor or higher tier subcontractor.

(c)(1) The Contractor shall have in place and follow reasonable procedures designed to prevent and detect possible

violations described in paragraph (b) of this clause in its own operations and direct business relationships.

(2) When the Contractor has reasonable grounds to believe that a violation described in paragraph (b) of this clause may have occurred, the Contractor shall promptly report in writing the possible violation. Such reports shall be made to the inspector general of the contracting agency, the head of the contracting agency if the agency does not have an inspector general, or the Department of Justice.

(3) The Contractor shall cooperate fully with any Federal agency investigating a possible violation described in paragraph (b) of this clause.

(4) The Contracting Officer may (i) offset the amount of the kickback against any monies owed by the United States under the prime contract and/or (ii) direct that the Prime Contractor withhold, from sums owed a subcontractor under the prime contract, the amount of any kickback. The Contracting Officer may order the monies withheld under subdivision (c)(4)(ii) of this clause be paid over to the Government unless the Government has already offset those monies under subdivision (c)(4)(i) of this clause. In either case, the Prime Contractor shall notify the Contracting Officer when the monies are withheld.

(5) The Contractor agrees to incorporate the substance of this clause, including this subparagraph (c)(5) but excepting subparagraph (c)(1), in all subcontracts under this contract which exceed $100,000.

52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (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.

(End of clause)

52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) The Government, at its election, may reduce the price of a fixed-price type contract and the total cost and fee under a cost-type contract by the amount of profit or fee determined as set forth in paragraph (b) of this clause if the head of the contracting activity or designee determines that there was a violation of subsection 27 (a), (b), or (c) of the Office of Federal Procurement Policy Act, as amended (41 U.S.C. 423), as implemented in section 3.104 of the Federal Acquisition Regulation.

(b) The price or fee reduction referred to in paragraph (a) of this clause shall be--

(1) For cost-plus-fixed-fee contracts, the amount of the fee specified in the contract at the time of award;

(2) For cost-plus-incentive-fee contracts, the target fee specified in the contract at the time of award, notwithstanding any minimum fee or "fee floor" specified in the contract;

(3) For cost-plus-award-fee contracts--

(i) The base fee established in the contract at the time of contract award;

(ii) If no base fee is specified in the contract, 30 percent of the amount of each award fee otherwise payable to the Contractor for each award fee evaluation period or at each award fee determination point.

(4) For fixed-price-incentive contracts, the Government may--

(i) Reduce the contract target price and contract target profit both by an amount equal to the initial target profit specified in the contract at the time of contract award; or

(ii) If an immediate adjustment to the contract target price and contract target profit would have a significant adverse impact on the incentive price revision relationship under the contract, or adversely affect the contract financing provisions, the Contracting Officer may defer such adjustment until establishment of the total final price of the contract. The total final price established in accordance with the incentive price revision provisions of the contract shall be reduced by an amount equal to the initial target profit specified in the contract at the time of contract award and such reduced price shall be the total final contract price.

(5) For firm-fixed-price contracts, by 10 percent of the initial contract price or a profit amount determined by the Contracting Officer from records or documents in existence prior to the date of the contract award.

(c) The Government may, at its election, reduce a prime contractor's price or fee in accordance with the procedures of paragraph (b) of this clause for violations of the Act by its subcontractors by an amount not to exceed the amount of profit or fee reflected in the subcontract at the time the subcontract was first definitively priced.

(d) In addition to the remedies in paragraphs (a) and (c) of this clause, the Government may terminate this contract for default. 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 or under this contract.

(End of clause)

52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (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, does 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.

(f) 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 will not be made allowable under any other provision.

(End of clause)

52.204-4 PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER (AUG 2000)

(a) Definitions. As used in this clause--

“Postconsumer material” means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of

the broader category of “recovered material.” For paper and paper products, postconsumer material means “postconsumer fiber” defined by the U.S. Environmental Protection Agency (EPA) as--

(1) Paper, paperboard, and fibrous materials from retail stores, office buildings, homes, and so forth, after they have passed through their end-usage as a consumer item, including: used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards; and used cordage; or

(2) All paper, paperboard, and fibrous materials that enter and are collected from municipal solid waste; but not

(3) Fiber derived from printers' over-runs, converters' scrap, and over-issue publications.

“Printed or copied double-sided” means printing or reproducing a document so that information is on both sides of a sheet of paper.

“Recovered material,” for paper and paper products, is defined by EPA in its Comprehensive Procurement Guideline as “recovered fiber” and means the following materials:

(1) Postconsumer fiber; and

(2) Manufacturing wastes such as--

(i) Dry paper and paperboard waste generated after completion of the papermaking process (that is, those manufacturing operations up to and including the cutting and trimming of the paper machine reel into smaller rolls or rough sheets) including: envelope cuttings, bindery trimmings, and other paper and paperboard waste resulting from printing, cutting, forming, and other converting operations; bag, box, and carton manufacturing wastes; and butt rolls, mill wrappers, and rejected unused stock; and

(ii) Repulped finished paper and paperboard from obsolete inventories of paper and paperboard manufacturers, merchants, wholesalers, dealers, printers, converters, or others.

(b) In accordance with Section 101 of Executive Order 13101 of September 14, 1998, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, the Contractor is encouraged to submit paper documents, such as offers, letters, or reports, that are printed or copied double-sided on recycled paper that meet minimum content standards specified in Section 505 of Executive Order 13101, when not using electronic commerce methods to submit information or data to the Government.

(c) If the Contractor cannot purchase high-speed copier paper, offset paper, forms bond, computer printout paper, carbonless paper, file folders, white wove envelopes, writing and office paper, book paper, cotton fiber paper, and cover stock meeting the 30 percent postconsumer material standard for use in submitting paper documents to the Government, it should use paper containing no less than 20 percent postconsumer material. This lesser standard should be used only when paper meeting the 30 percent postconsumer material standard is not obtainable at a reasonable price or does not meet reasonable performance standards.

(End of clause)

52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (JUL 1995)

(a) The Government suspends or debars Contractors to protect the Government's interests. The Contractor shall not enter into any subcontract in excess of the $25,000 with a Contractor that is debarred, suspended, or proposed for debarment unless there is a compelling reason to do so.

(b) The Contractor shall require each proposed first-tier subcontractor, whose subcontract will exceed $25,000, to disclose to the Contractor, in writing, whether as of the time of award of the subcontract, the subcontractor, or its principles, is or is not debarred, suspended, or proposed for debarment by the Federal Government.

(c) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is debarred, suspended, or proposed for debarment (see FAR 9.404 for information on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs). The notice must include the following:

(1) The name of the subcontractor.

(2) The Contractor's knowledge of the reasons for the subcontractor being on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(3) The compelling reason(s) for doing business with the subcontractor notwithstanding its inclusion on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(4) The systems and procedures the Contractor has established to ensure that it is fully protecting the Government's interests when dealing with such subcontractor in view of the specific basis for the party's debarment, suspension, or proposed debarment.

(End of clause)

52.209-4001 PREAWARD SURVEY

The Government reserves the right to conduct a preaward survey, of any firm under consideration, to confirm any part of the information furnished by the offeror; or to require other evidence of managerial, financial, technical, and other capabilities, the positive establishment of which, is determined by the Government to be necessary for the successful performance of the contract.

52.211-5 MATERIAL REQUIREMENTS (AUG 2000)

(a) Definitions.

As used in this clause--

New means composed of previously unused components, whether manufactured from virgin material, recovered material in the form of raw material, or materials and by-products generated from, and reused within, an original manufacturing process; provided that the supplies meet contract requirements, including but not limited to, performance, reliability, and life expectancy.

Reconditioned means restored to the original normal operating condition by readjustments and material replacement.

Recovered material means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

Remanufactured means factory rebuilt to original specifications.

Virgin material means--

(1) Previously unused raw material, including previously unused copper, aluminum, lead, zinc, iron, other metal or metal ore; or

(2) Any undeveloped resource that is, or with new technology will become, a source of raw materials.

(b) Unless this contract otherwise requires virgin material or supplies composed of or manufactured from virgin material, the Contractor shall provide supplies that are new, reconditioned, or remanufactured, as defined in this clause.

(c) A proposal to provide unused former Government surplus property shall include a complete description of the material, the quantity, the name of the Government agency from which acquired, and the date of acquisition.

(d) A proposal to provide used, reconditioned, or remanufactured supplies shall include a detailed description of such supplies and shall be submitted to the Contracting Officer for approval.

(e) Used, reconditioned, or remanufactured supplies, or unused former Government surplus property, may be used in contract performance if the Contractor has proposed the use of such supplies, and the Contracting Officer has authorized their use.

(End of clause)

52.214-26 AUDIT AND RECORDS--SEALED BIDDING. (OCT 1997)

(a) As used in this clause, records includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form.

(b) Cost or pricing data. If the Contractor has been required to submit cost or pricing data in connection with the pricing of any modification to this contract, the Contracting Officer, or an authorized representative of the Contracting Officer, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data, shall have the right to examine and audit all of the Contractor's records, including computations and projections, related to--

(1) The proposal for the modification;

(2) The discussions conducted on the proposal(s), including those related to negotiating;

(3) Pricing of the modification; or

(4) Performance of the modification.

(c) Comptroller General. In the case of pricing any modification, the Comptroller General of the United States, or an authorized representative, shall have the same rights as specified in paragraph (b) of this clause.

(d) Availability. The Contractor shall make available at its office at all reasonable times the materials described in reproduction, until 3 years after final payment under this contract, or for any other period specified in Subpart 4.7 of

the Federal Acquisition Regulation (FAR). FAR Subpart 4.7, Contractor Records Retention, in effect on the data of this contract, is incorporated by reference in its entirety and made a part of this contract.

(1) If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement.

(2) Records pertaining to appeals under the Disputes clause or to litigation or the settlement of claims arising under or relating to the performance of this contract shall be made available until disposition of such appeals, litigation, or claims.

(e) The Contractor shall insert a clause containing all the provisions of this clause, including this paragraph (e), in all subcontracts expected to exceed the threshold in FAR 15.403-4(a)(1) for submission of cost or pricing data.

(End of clause)

52.214-28 SUBCONTRACTOR COST OR PRICING DATA - MODIFICATIONS - SEALED BIDDING. (OCT 1997)

(a) The requirements of paragraphs (b) and (c) of this clause shall:

(1) become operative only for any modification to this contract involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for submission of cost or pricing data at (FAR) 48 CFR 15.403-4(a)(1); and

(2) be limited to such modifications.

(b) Before awarding any subcontract expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1), on the date of agreement on price or the date of award, whichever is later; or before pricing any subcontract modifications involving aggregate increases and/or decreases in costs, plus applicable profits, expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1), the Contractor shall require the subcontractor to submit cost or pricing data (actually or by specific identification in writing), unless an exception under FAR 15.403-1(b) applies.

(1) Based on adequate price competition;

(2) Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or

(3) Set by law or regulation.

(c) The Contractor shall require the subcontractor to certify in substantially the form prescribed in subsection 15.406-2 of the Federal Acquisition Regulation that, to the best of its knowledge and belief, the data submitted under paragraph (b) above were accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract modification.

(d) The Contractor shall insert the substance of this clause, including this paragraph (d), in each subcontract that, when entered into, exceeds the threshold for submission of cost or pricing data at FAR 15.403-4(a)(1).

(End of clause)

52.214-29 ORDER OF PRECEDENCE--SEALED BIDDING (JAN 1986)

Any inconsistency in this solicitation or contract shall be resolved by giving precedence in the following order: (a) the Schedule (excluding the specifications); (b) representations and other instructions; (c) contract clauses; (d) other documents, exhibits, and attachments; and (e) the specifications.

(End of clause)

52.217-7 OPTION FOR INCREASED QUANTITY--SEPARATELY PRICED LINE ITEM (MAR 1989)

The Government may require the delivery of the numbered line item, identified in the Schedule as an option item, in the quantity and at the price stated in the Schedule. The Contracting Officer may exercise the option by written notice to the Contractor within 30 days prior to contract completion. Delivery of added items shall continue at the same rate that like items are called for under the contract, unless the parties otherwise agree.

(End of clause)

52.219-4 NOTICE OF PRICE EVALUATION PREFERENCE FOR HUBZONE SMALL BUSINESS CONCERNS (JAN 1999)

(a) Definition. HUBZone small business concern, as used in this clause, means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

(b) Evaluation preference. (1) Offers will be evaluated by adding a factor of 10 percent to the price of all offers, except--

(i) Offers from HUBZone small business concerns that have not waived the evaluation preference;

(ii) Otherwise successful offers from small business concerns;

(iii) Otherwise successful offers of eligible products under the Trade Agreements Act when the dollar threshold for application of the Act is exceeded (see 25.402 of the Federal Acquisition Regulation (FAR)); and

(iv) Otherwise successful offers where application of the factor would be inconsistent with a Memorandum of Understanding or other international agreement with a foreign government.

(2) The factor of 10 percent shall be applied on a line item basis or to any group of items on which award may be made. Other evaluation factors described in the solicitation shall be applied before application of the factor.

(3) A concern that is both a HUBZone small business concern and a small disadvantaged business concern will receive the benefit of both the HUBZone small business price evaluation preference and the small disadvantaged business price evaluation adjustment (see FAR clause 52.219-23). Each applicable price evaluation preference or adjustment shall be calculated independently against an offeror's base offer.

These individual preference amounts shall be added together to arrive at the total evaluated price for that offer.

(c) Waiver of evaluation preference. A HUBZone small business concern may elect to waive the evaluation preference, in which case the factor will be added to its offer for evaluation purposes. The agreements in paragraph (d) of this clause do not apply if the offeror has waived the evaluation preference.

___ Offeror elects to waive the evaluation preference.

(d) Agreement. A HUBZone small business concern agrees that in the performance of the contract, in the case of a contract for

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other HUBZone small business concerns;

(2) Supplies (other than procurement from a nonmanufacturer of such supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other HUBZone small business concerns;

(3) General construction, at least 15 percent of the cost of the contract performance incurred for personnel will be will be spent on the concern's employees or the employees of other HUBZone small business concerns; or

(4) Construction by special trade contractors, at least 25 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other HUBZone small business concerns.

(e) A HUBZone joint venture agrees that in the performance of the contract, the applicable percentage specified in paragraph (d) of this clause will be performed by the HUBZone small business participant or participants.

(f) A HUBZone small business concern nonmanufacturer agrees to furnish in performing this contract only end items manufactured or produced by HUBZone small business manufacturer concerns. This paragraph does not apply in connection with construction or service contracts.

(End of clause)

52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (OCT 2000)

(a) It is the policy of the United States that small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns shall have the maximum practicable opportunity to participate in performing contracts let by any Federal agency, including contracts and subcontracts for subsystems, assemblies, components, and related services for major systems. It is further the policy of the United States that its prime contractors establish procedures to ensure the timely payment of amounts due pursuant to the terms of their subcontracts with small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns.

(b) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with efficient contract performance. The Contractor further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the awarding agency of the United States as may be necessary to determine the extent of the Contractor's compliance with this clause.

Definitions. As used in this contract--

HUBZone small business concern means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern means a small business as defined pursuant to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto.

Small disadvantaged business concern means a small business concern that represents, as part of its offer that--

(1) It has received certification as a small disadvantaged business concern consistent with 13 CFR part 124, subpart B;

(2) No material change in disadvantaged ownership and control has occurred since its certification;

(3) Where the concern is owned by one or more individuals, the net worth of each individual upon whom the certification is based does not exceed $750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(4) It is identified, on the date of its representation, as a certified small disadvantaged business in the database maintained by the Small Business Administration (PRO-Net).

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned small business concern means a small business concern--

(1) That 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) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as a small business concern, a veteran-owned small business concern, a service-disabled veteran-owned small business concern, a HUBZone small business concern, a small disadvantaged business concern, or a women-owned small business concern.

(End of clause)

52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN (JAN 2002)--ALTERNATE I (OCT 2001).

(a) This clause does not apply to small business concerns.

(b) Definitions. As used in this clause--

Commercial item means a product or service that satisfies the definition of commercial item in section 2.101 of the Federal Acquisition Regulation.

Commercial plan means a subcontracting plan (including goals) that covers the offeror's fiscal year and that applies to the entire production of commercial items sold by either the entire company or a portion thereof (e.g., division, plant, or product line).

Individual contract plan means a subcontracting plan that covers the entire contract period (including option periods), applies to a specific contract, and has goals that are based on the offeror's planned subcontracting in support of the specific contract, except that indirect costs incurred for common or joint purposes may be allocated on a prorated basis to the contract.

Master plan means a subcontracting plan that contains all the required elements of an individual contract plan, except goals, and may be incorporated into individual contract plans, provided the master plan has been approved.

Subcontract means any agreement (other than one involving an employer-employee relationship) entered into by a Federal Government prime Contractor or subcontractor calling for supplies or services required for performance of the contract or subcontract.

(c) The apparent low bidder, upon request by the Contracting Officer, shall submit a subcontracting plan, where applicable, that separately addresses subcontracting with small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns. If the bidder is submitting an individual contract plan, the plan must separately address subcontracting with small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns, with a separate part for the basic contract and separate parts for each option (if any). The plan shall be included in and made a part of the resultant contract. The subcontracting plan shall be submitted within the time specified by the Contracting Officer. Failure to submit the subcontracting plan shall make the bidder ineligible for the award of a contract.

(d) The offeror's subcontracting plan shall include the following:

(1) Goals, expressed in terms of percentages of total planned subcontracting dollars, for the use of small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns as subcontractors. The offeror shall include all subcontracts that contribute to contract performance, and may include a proportionate share of products and services that are normally allocated as indirect costs.

(2) A statement of--

(i) Total dollars planned to be subcontracted for an individual contract plan; or the offeror's total projected sales, expressed in dollars, and the total value of projected subcontracts to support the sales for a commercial plan;

(ii) Total dollars planned to be subcontracted to small business concerns;

(iii) Total dollars planned to be subcontracted to veteran-owned small business concerns;

(iv) Total dollars planned to be subcontracted to HUBZone small business concerns;

(v) Total dollars planned to be subcontracted to small disadvantaged business concerns; and

(vi) Total dollars planned to be subcontracted to women-owned small business concerns.

(3) A description of the principal types of supplies and services to be subcontracted, and an identification of the types planned for subcontracting to--

(i) Small business concerns;

(ii) Veteran-owned small business concerns;

(iii) HUBZone small business concerns;

(iv) Small disadvantaged business concerns; and

(v) Women-owned small business concerns.

(4) A description of the method used to develop the subcontracting goals in paragraph (d)(1) of this clause.

(5) A description of the method used to identify potential sources for solicitation purposes (e.g., existing company source lists, the Procurement Marketing and Access Network (PRO-Net) of the Small Business Administration (SBA), veterans service organizations, the National Minority Purchasing Council Vendor Information Service, the Research and Information Division of the Minority Business Development Agency in the Department of Commerce, or small, HUBZone, small disadvantaged, and women-owned small business trade associations). A firm may rely on the information contained in PRO-Net as an accurate representation of a concern's size and ownership characteristics for the purposes of maintaining a small, veteran-owned small, HUBZone small, small disadvantaged, and women-owned small business source list. Use of PRO-Net as its source list does not relieve a firm of its responsibilities (e.g., outreach, assistance, counseling, or publicizing subcontracting opportunities) in this clause.

(6) A statement as to whether or not the offeror in included indirect costs in establishing subcontracting goals, and a description of the method used to determine the proportionate share of indirect costs to be incurred with—

(i) Small business concerns;

(ii) Veteran-owned small business concerns;

(iii) HUBZone small business concerns;

(iv) Small disadvantaged business concerns; and

(v) Women-owned small business concerns.

(7) The name of the individual employed by the offeror who will administer the offeror's subcontracting program, and a description of the duties of the individual.

(8) A description of the efforts the offeror will make to assure that small business, veteran-owned small business, HUBZone small business, small disadvantaged business and women-owned small business concerns have an equitable opportunity to compete for subcontracts.

(9) Assurances that the offeror will include the clause of this contract entitled ``Utilization of Small Business Concerns'' in all subcontracts that offer further subcontracting opportunities, and that the offeror will require all subcontractors (except small business concerns) that receive subcontracts in excess of $500,000 ($1,000,000 for construction of any public facility) to adopt a subcontracting plan that complies with the requirements of this clause.

(10) Assurances that the offeror will--

(i) Cooperate in any studies or surveys as may be required;

(ii) Submit periodic reports so that the Government can determine the extent of compliance by the offeror with the subcontracting plan;

(iii) Submit Standard Form (SF) 294, Subcontracting Report for Individual Contracts, and/or SF 295, Summary Subcontract Report, in accordance with paragraph (j) of this clause. The reports shall provide information on subcontract awards to small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, small disadvantaged business concerns, women-owned small business concerns, and Historically Black Colleges and Universities and Minority Institutions. Reporting shall be in accordance with the instructions on the forms or as provided in agency regulations.

(iv) Ensure that its subcontractors agree to submit SF 294 and SF 295.

(11) A description of the types of records that will be maintained concerning procedures that have been adopted to comply with the requirements and goals in the plan, including establishing source lists; and a description of the offeror's efforts to locate small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns and award subcontracts to them. The records shall include at least the following (on a plant-wide or company-wide basis, unless otherwise indicated)

(i) Source lists (e.g., PRO-Net), guides, and other data that identify small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns.

(ii) Organizations contacted in an attempt to locate sources that are small business, veteran-owned small business, HUBZone small business, small disadvantaged business, or women-owned small business concerns.

(iii) Records on each subcontract solicitation resulting in an award of more than $100,000, indicating--

(A) Whether small business concerns were solicited and, if not, why not;

(B) Whether veteran-owned small business concerns were solicited and, if not, why not;

(C) Whether HUBZone small business concerns were solicited and, if not, why not;

(D) Whether small disadvantaged business concerns were solicited and, if not, why not;

(E) Whether women-owned small business concerns were solicited and, if not, why not; and

(F) If applicable, the reason award was not made to a small business concern.

(iv) Records of any outreach efforts to contact--

(A) Trade associations;

(B) Business development organizations;

(C) Conferences and trade fairs to locate small, HUBZone small, small disadvantaged, and women-owned small business sources; and

(D) Veterans service organizations.

(v) Records of internal guidance and encouragement provided to buyers through--

(A) Workshops, seminars, training, etc.; and

(B) Monitoring performance to evaluate compliance with the program's requirements.

(vi) On a contract-by-contract basis, records to support award data submitted by the offeror to the Government, including the name, address, and business size of each subcontractor. Contractors having commercial plans need not comply with this requirement.

(e) In order to effectively implement this plan to the extent consistent with efficient contract performance, the Contractor shall perform the following functions:

(1) Assist small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation by such concerns. Where the Contractor's lists of potential small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business subcontractors are excessively long, reasonable effort shall be made to give all such small business concerns an opportunity to compete over a period of time.

(2) Provide adequate and timely consideration of the potentialities of small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns in all ``make-or-buy'' decisions.

(3) Counsel and discuss subcontracting opportunities with representatives of small business, veteran-owner small business, HUBZone small business, small disadvantaged business, and women-owned small business firms.

(4) Provide notice to subcontractors concerning penalties and remedies for misrepresentations of business status as small, veteran-owner small business, HUBZone small, small disadvantaged, or women-owned small business for the purpose of obtaining a subcontract that is to be included as part or all of a goal contained in the Contractor's subcontracting plan.

(f) A master plan on a plant or division-wide basis that contains all the elements required by paragraph (d) of this clause, except goals, may be incorporated by reference as a part of the subcontracting plan required of the offeror by this clause; provided--
(1) the master plan has been approved, (2) the offeror ensures that the master plan is updated as necessary and provides copies of the approved master plan, including evidence of its approval, to the Contracting Officer, and (3) goals and any deviations from the master plan deemed necessary by the Contracting Officer to satisfy the requirements of this contract are set forth in the individual subcontracting plan.

(g) A commercial plan is the preferred type of subcontracting plan for contractors furnishing commercial items. The commercial plan shall relate to the offeror's planned subcontracting generally, for both commercial and Government business, rather than solely to the Government contract. Commercial plans are also preferred for subcontractors that provide commercial items under a prime contract, whether or not the prime contractor is supplying a commercial item.

(h) Prior compliance of the offeror with other such subcontracting plans under previous contracts will be considered by the Contracting Officer in determining the responsibility of the offeror for award of the contract.

(i) The failure of the Contractor or subcontractor to comply in good faith with (1) the clause of this contract entitled "Utilization Of Small Business Concerns," or (2) an approved plan required by this clause, shall be a material breach of the contract.

(j) The Contractor shall submit the following reports:

(1) Standard Form 294, Subcontracting Report for Individual Contracts. This report shall be submitted to the Contracting Officer semiannually and at contract completion. The report covers subcontract award data related to this contract. This report is not required for commercial plans.

(2) Standard Form 295, Summary Subcontract Report. This report encompasses all of the contracts with the awarding agency. It must be submitted semi-annually for contracts with the Department of Defense and annually for contracts with civilian agencies. If the reporting activity is covered by a commercial plan, the reporting activity must report annually all subcontract awards under that plan. All reports submitted at the close of each fiscal year (both individual and commercial plans) shall include a breakout, in the Contractor's format, of subcontract awards, in whole dollars, to small disadvantaged business concerns by North American Industry Classification System (NAICS) Industry Subsector. For a commercial plan, the Contractor may obtain from each of its subcontractors a predominant NAICS Industry Subsector and report all awards to that subcontractor under its predominant NAICS Industry Subsector.

(End of clause)

52.219-16 LIQUIDATED DAMAGES-SUBCONTRACTING PLAN (JAN 1999)

(a) Failure to make a good faith effort to comply with the subcontracting plan, as used in this clause, means a willful or intentional failure to perform in accordance with the requirements of the subcontracting plan approved under the clause in this contract entitled "Small Business Subcontracting Plan," or willful or intentional action to frustrate the plan.

(b) Performance shall be measured by applying the percentage goals to the total actual subcontracting dollars or, if a commercial plan is involved, to the pro rata share of actual subcontracting dollars attributable to Government contracts covered by the commercial plan. If, at contract completion or, in the case of a commercial plan, at the close of the fiscal year for which the plan is applicable, the Contractor has failed to meet its subcontracting goals and the Contracting Officer decides in accordance with paragraph (c) of this clause that the Contractor failed to make a good faith effort to comply with its subcontracting plan, established in accordance with the clause in this contract entitled “Small Business Subcontracting Plan,” the Contractor shall pay the Government liquidated damages in an amount stated. The amount of probable damages attributable to the Contractor's failure to comply shall be an amount equal to the actual dollar amount by which the Contractor failed to achieve each subcontract goal.

(c) Before the Contracting Officer makes a final decision that the Contractor has failed to make such good faith effort, the Contracting Officer shall give the Contractor written notice specifying the failure and permitting the Contractor to demonstrate what good faith efforts have been made and to discuss the matter. Failure to respond to the notice may be taken as an admission that no valid explanation exists. If, after consideration of all the pertinent data, the Contracting Officer finds that the Contractor failed to make a good faith effort to comply with the subcontracting plan, the Contracting Officer shall issue a final decision to that effect and require that the Contractor pay the Government liquidated damages as provided in paragraph (b) of this clause.

(d) With respect to commercial plans, the Contracting Officer who approved the plan will perform the functions of the Contracting Officer under this clause on behalf of all agencies with contracts covered by the commercial plan.

(e) The Contractor shall have the right of appeal, under the clause in this contract entitled Disputes, from any final decision of the Contracting Officer.

(f) Liquidated damages shall be in addition to any other remedies that the Government may have.

(End of clause)

52.222-3 CONVICT LABOR (AUG 1996)

The Contractor agrees not to employ in the performance of this contract any person undergoing a sentence of

imprisonment which has been imposed by any court of a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or the Trust Territory of the Pacific Islands. This limitation, however, shall not prohibit the employment by the Contractor in the performance of this contract of persons on parole or probation to work at paid employment during the term of their sentence or persons who have been pardoned or who have served their terms. Nor shall it prohibit the employment by the Contractor in the performance of this contract of persons confined for violation of the laws of any of the States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or the Trust Territory of the Pacific Islands who are authorized to work at paid employment in the community under the laws of such jurisdiction, if--

(a)(1) The worker is paid or is in an approved work training program on a voluntary basis;

(2) Representatives of local union central bodies or similar labor union organizations have been consulted;

(3) Such paid employment will not result in the displacement of employed workers, or be applied in skills, crafts, or trades in which there is a surplus of available gainful labor in the locality, or impair existing contracts for services; and

(4) The rates of pay and other conditions of employment will not be less than those paid or provided for work of a similar nature in the locality in which the work is being performed; and

(b) The Attorney General of the United States has certified that the work-release laws or regulations of the jurisdiction involved are in conformity with the requirements of Executive Order 11755, as amended by Executive Orders 12608 and 12943.

(End of clause)

52.222-4 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION. (SEP 2000)

(a) Overtime requirements. No Contractor or subcontractor employing laborers or mechanics (see Federal Acquisition Regulation 22.300) shall require or permit them to work over 40 hours in any workweek unless they are paid at least 1 and 1/2 times the basic rate of pay for each hour worked over 40 hours.

(b) Violation; liability for unpaid wages; liquidated damages. The responsible Contractor and subcontractor are liable for unpaid wages if they violate the terms in paragraph (a) of this clause. In addition, the Contractor and subcontractor are liable for liquidated damages payable to the Government. The Contracting Officer will assess liquidated damages at the rate of $10 per affected employee for each calendar day on which the employer required or permitted the employee to work in excess of the standard workweek of 40 hours without paying overtime wages required by the Contract Work Hours and Safety Standards Act.

(c) Withholding for unpaid wages and liquidated damages. The Contracting Officer will withhold from payments due under the contract sufficient funds required to satisfy any Contractor or subcontractor liabilities for unpaid wages and liquidated damages. If amounts withheld under the contract are insufficient to satisfy Contractor or subcontractor liabilities, the Contracting Officer will withhold payments from other Federal or Federally assisted contracts held by the same Contractor that are subject to the Contract Work Hours and Safety Standards Act.

(d) Payrolls and basic records.

(1) The Contractor and its subcontractors shall maintain payrolls and basic payroll records for all laborers and mechanics working on the contract during the contract and shall make them available to the Government until 3 years after contract completion. The records shall contain the name and address of each employee, social security number, labor classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions

made, and actual wages paid. The records need not duplicate those required for construction work by Department of Labor regulations at 29 CFR 5.5(a)(3) implementing the Davis-Bacon Act.

(2) The Contractor and its subcontractors shall allow authorized representatives of the Contracting Officer or the Department of Labor to inspect, copy, or transcribe records maintained under paragraph (d)(1) of this clause. The Contractor or subcontractor also shall allow authorized representatives of the Contracting Officer or Department of Labor to interview employees in the workplace during working hours.

(e) Subcontracts. The Contractor shall insert the provisions set forth in paragraphs (a) through (d) of this clause in subcontracts exceeding $100,000 and require subcontractors to include these provisions in any lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower-tier subcontractor with the provisions set forth in paragraphs (a) through (d) of this clause.

(End of clause)

52.222-19 CHILD LABOR--COOPERATION WITH AUTHORITIES AND REMEDIES (SEP 2002)

(a) Applicability. This clause does not apply to the extent that the Contractor is supplying end products mined, produced, or manufactured in--

(1) Canada, and the anticipated value of the acquisition is $25,000 or more;

(2) Israel, and the anticipated value of the acquisition is $50,000 or more;

(3) Mexico, and the anticipated value of the acquisition is $56,190 or more; or

(4) Aruba, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hong Kong, Iceland, Ireland, Italy, Japan, Korea, Liechtenstein, Luxembourg, Netherlands, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, or the United Kingdom and the anticipated value of the acquisition is $169,000 or more.

(b) Cooperation with Authorities. To enforce the laws prohibiting the manufacture or importation of products mined, produced, or manufactured by forced or indentured child labor, authorized officials may need to conduct investigations to determine whether forced or indentured child labor was used to mine, produce, or manufacture any product furnished under this contract. If the solicitation includes the provision 52.222-18, Certification Regarding Knowledge of Child Labor for Listed End Products, or the equivalent at 2.212-3(i), the Contractor agrees to cooperate fully with authorized officials of the contracting agency, the Department of the Treasury, or the Department of Justice by providing reasonable access to records, documents, persons, or premises upon reasonable request by the authorized officials.

(c) Violations. The Government may impose remedies set forth in paragraph (d) for the following violations:

(1) The Contractor has submitted a false certification regarding knowledge of the use of forced or indentured child labor for listed end products.

(2) The Contractor has failed to cooperate, if required, in accordance with paragraph (b) of this clause, with an investigation of the use of forced or indentured child labor by an Inspector General, Attorney General, or the Secretary of the Treasury.

(3) The Contractor uses forced or indentured child labor in its mining, production, or manufacturing processes.

(4) The Contractor has furnished under the contract end products or components that have been mined, produced, or manufactured wholly or in part by forced or indentured child labor. (The Government will not pursue remedies at

paragraph (d)(2) or paragraph (d)(3) of this clause unless sufficient evidence indicates that the Contractor knew of the violation.)

(d) Remedies. (1) The Contracting Officer may terminate the contract.

(2) The suspending official may suspend the Contractor in accordance with procedures in FAR Subpart 9.4.

(3) The debarring official may debar the Contractor for a period not to exceed 3 years in accordance with the procedures in FAR Subpart 9.4.

(End of clause)

52.222-20 WALSH-HEALEY PUBLIC CONTRACTS ACT (DEC 1996)

If this contract is for the manufacture or furnishing of materials, supplies, articles or equipment in an amount that exceeds or may exceed $10,000, and is subject to the Walsh-Healey Public Contracts Act, as amended (41 U.S.C. 35-45), the following terms and conditions apply:

(a) All stipulations required by the Act and regulations issued by the Secretary of Labor (41 CFR Chapter 50) are incorporated by reference. These stipulations are subject to all applicable rulings and interpretations of the Secretary of Labor that are now, or may hereafter, be in effect.

(b) All employees whose work relates to this contract shall be paid not less than the minimum wage prescribed by regulations issued by the Secretary of Labor (41 CFR 50-202.2). Learners, student learners, apprentices, and handicapped workers may be employed at less than the prescribed minimum wage (see 41 CFR 50-202.3) to the same extent that such employment is permitted under Section 14 of the Fair Labor Standards Act (41 U.S.C. 40).

(End of clause)

52.222-21 PROHIBITION OF SEGREGATED FACILITIES (FEB 1999)

(a) Segregated facilities, as used in this clause, 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, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(b) The Contractor agrees 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 Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

(End of clause)

52.222-26 EQUAL OPPORTUNITY (APR 2002)

(a) Definition. United States, as used in this clause, means the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.

(b) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of $10,000, the Contractor shall comply with paragraphs (b)(1) through (b)(11) of this clause, except for work performed outside the United States by employees who were not recruited within the United States. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. However, it shall not be a violation of this clause for the Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation, in connection with employment opportunities on or near an Indian reservation, as permitted by 41 CFR 60-1.5.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(5) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(7) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall also file Standard Form 100 (EEO-1), or any successor form, as prescribed in 41 CFR part 60-1. Unless the Contractor has filed within the 12 months preceding the date of contract award, the Contractor shall, within 30 days after contract award, apply to either the regional Office of Federal Contract Compliance Programs (OFCCP) or the local office of the Equal Employment Opportunity Commission for the necessary forms.

(8) The Contractor shall permit access to its premises, during normal business hours, by the contracting agency or the OFCCP for the purpose of conducting on-site compliance evaluations and complaint investigations. The Contractor shall permit the Government to inspect and copy any books, accounts, records (including computerized records), and other material that may be relevant to the matter under investigation and pertinent to compliance with Executive Order 11246, as amended, and rules and regulations that implement the Executive Order.

(9) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the

Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(10) The Contractor shall include the terms and conditions of subparagraphs (b)(1) through (11) of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(11) The Contractor shall take such action with respect to any subcontract or purchase order as the contracting officer may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(c) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR 60-1.1.

(End of clause)

52.222-35 EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS (DEC 2001)

(a) Definitions. As used in this clause--

All employment openings means all positions except executive and top management, those positions that will be filled from within the Contractor's organization, and positions lasting 3 days or less. This term includes full-time employment, temporary employment of more than 3 days duration, and part-time employment.

Executive and top management means any employee--

(1) Whose primary duty consists of the management of the enterprise in which the individual is employed or of a customarily recognized department or subdivision thereof;

(2) Who customarily and regularly directs the work of two or more other employees;

(3) Who has the authority to hire or fire other employees or whose suggestions and recommendations as to the hiring or firing and as to the advancement and promotion or any other change of status of other employees will be given particular weight;

(4) Who customarily and regularly exercises discretionary powers; and

(5) Who does not devote more than 20 percent or, in the case of an employee of a retail or service establishment, who does not devote more than 40 percent of total hours of work in the work week to activities that are not directly and closely related to the performance of the work described in paragraphs (1) through (4) of this definition. This paragraph (5) does not apply in the case of an employee who is in sole charge of an establishment or a physically separated branch establishment, or who owns at least a 20 percent interest in the enterprise in which the individual is employed.

Other eligible veteran means any other veteran who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized.

Positions that will be filled from within the Contractor's organization means employment openings for which the Contractor will give no consideration to persons outside the Contractor's organization (including any affiliates, subsidiaries, and parent companies) and includes any openings the Contractor proposes to fill from regularly established “recall” lists. The exception does not apply to a particular opening once an employer decides to consider applicants outside of its organization.

Qualified special disabled veteran means a special disabled veteran who satisfies the requisite skill, experience, education, and other job-related requirements of the employment position such veteran holds or desires, and who, with or without reasonable accommodation, can perform the essential functions of such position.

Special disabled veteran means--

(1) A veteran who is entitled to compensation (or who but for the receipt of military retired pay would be entitled to compensation) under laws administered by the Department of Veterans Affairs for a disability--

(i) Rated at 30 percent or more; or

(ii) Rated at 10 or 20 percent in the case of a veteran who has been determined under 38 U.S.C. 3106 to have a serious employment handicap (i.e., a significant impairment of the veteran's ability to prepare for, obtain, or retain employment consistent with the veteran's abilities, aptitudes, and interests); or

(2) A person who was discharged or released from active duty because of a service-connected disability.

Veteran of the Vietnam era means a person who--

(1) Served on active duty for a period of more than 180 days and was discharged or released from active duty with other than a dishonorable discharge, if any part of such active duty occurred--

(i) In the Republic of Vietnam between February 28, 1961, and May 7, 1975; or

(ii) Between August 5, 1964, and May 7, 1975, in all other cases; or

(2) Was discharged or released from active duty for a service-connected disability if any part of the active duty was performed--

(i) In the Republic of Vietnam between February 28, 1961, and May 7, 1975; or

(ii) Between August 5, 1964, and May 7, 1975, in all other cases.
(b) General. (1) The Contractor shall not discriminate against the individual because the individual is a special disabled veteran, a veteran of the Vietnam era, or other eligible veteran, regarding any position for which the employee or applicant for employment is qualified. The Contractor shall take affirmative action to employ, advance in employment, and otherwise treat qualified special disabled veterans, veterans of the Vietnam era, and other eligible veterans without discrimination based upon their disability or veterans' status in all employment practices such as--

(i) Recruitment, advertising, and job application procedures;

(ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff and rehiring;

(iii) Rate of pay or any other form of compensation and changes in compensation;

(iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;

(v) Leaves of absence, sick leave, or any other leave;

(vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;

(vii) Selection and financial support for training, including apprenticeship, and on-the-job training under 38 U.S.C. 3687, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(viii) Activities sponsored by the Contractor including social or recreational programs; and

(ix) Any other term, condition, or privilege of employment.

(2) The Contractor shall comply with the rules, regulations, and relevant orders of the Secretary of Labor issued under the Vietnam Era Veterans' Readjustment Assistance Act of 1972 (the Act), as amended (38 U.S.C. 4211 and 4212).

(c) Listing openings. (1) The Contractor shall immediately list all employment openings that exist at the time of the execution of this contract and those which occur during the performance of this contract, including those not generated by this contract, and including those occurring at an establishment of the Contractor other than the one where the contract is being performed, but excluding those of independently operated corporate affiliates, at an appropriate local public employment service office of the State wherein the opening occurs. Listing employment openings with the U.S. Department of Labor's America's Job Bank shall satisfy the requirement to list jobs with the local employment service office.

(2) The Contractor shall make the listing of employment openings with the local employment service office at least concurrently with using any other recruitment source or effort and shall involve the normal obligations of placing a bona fide job order, including accepting referrals of veterans and nonveterans. This listing of employment openings does not require hiring any particular job applicant or hiring from any particular group of job applicants and is not intended to relieve the Contractor from any requirements of Executive orders or regulations concerning nondiscrimination in employment.

(3) Whenever the Contractor becomes contractually bound to the listing terms of this clause, it shall advise the State public employment agency in each State where it has establishments of the name and location of each hiring location in the State. As long as the Contractor is contractually bound to these terms and has so advised the State agency, it need not advise the State agency of subsequent contracts. The Contractor may advise the State agency when it is no longer bound by this contract clause.

(d) Applicability. This clause does not apply to the listing of employment openings that occur and are filled outside the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, American Samoa, Guam, the Virgin Islands of the United States, and Wake Island.

(e) Postings. (1) The Contractor shall post employment notices in conspicuous places that are available to employees and applicants for employment.

(2) The employment notices shall--

(i) State the rights of applicants and employees as well as the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified employees and applicants who are special disabled veterans, veterans of the Vietnam era, and other eligible veterans; and

(ii) Be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance Programs, Department of Labor (Deputy Assistant Secretary of Labor), and provided by or through the Contracting Officer.

(3) The Contractor shall ensure that applicants or employees who are special disabled veterans are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled veteran, or may lower the posted notice so that it can be read by a person in a wheelchair).

(4) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement, or other contract understanding, that the Contractor is bound by the terms of the Act and is committed to take affirmative action to employ, and advance in employment, qualified special disabled veterans, veterans of the Vietnam era, and other eligible veterans.

(f) Noncompliance. If the Contractor does not comply with the requirements of this clause, the Government may take appropriate actions under the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

(g) Subcontracts. The Contractor shall insert the terms of this clause in all subcontracts or purchase orders of $25,000 or more unless exempted by rules, regulations, or orders of the Secretary of Labor. The Contractor shall act as specified by the Deputy Assistant Secretary of Labor to enforce the terms, including action for noncompliance.

(End of clause)

52.222-36 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES (JUN 1998)

(a) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against any employee or applicant because of physical or mental disability. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified individuals with disabilities without discrimination based upon their physical or mental disability in all employment practices such as--

(i) Recruitment, advertising, and job application procedures;

(ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff, and rehiring;

(iii) Rates of pay or any other form of compensation and changes in compensation;

(iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;

(v) Leaves of absence, sick leave, or any other leave;

(vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;

(vii) Selection and financial support for training, including apprenticeships, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(viii) Activities sponsored by the Contractor, including social or recreational programs; and

(ix) Any other term, condition, or privilege of employment.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Rehabilitation Act of 1973 (29 U.S.C. 793) (the Act), as amended.

(b) Postings. (1) The Contractor agrees to post employment notices stating--

(i) The Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified individuals with disabilities; and

(ii) The rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. The Contractor shall ensure that applicants and employees with disabilities are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled individual, or may lower the posted notice so that it might be read by a person in a wheelchair). The notices shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance of the U.S. Department of Labor (Deputy Assistant Secretary) and shall be provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Act and is committed to take affirmative action to employ, and advance in employment, qualified individuals with physical or mental disabilities.

(c) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(d) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of $10,000 unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of clause)

52.222-37 EMPLOYMENT REPORTS ON SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS (DEC 2001)

(a) Unless the Contractor is a State or local government agency, the Contractor shall report at least annually, as required by the Secretary of Labor, on--

(1) The number of disabled veterans and the number of veterans of the Vietnam era in the workforce of the contractor by job category and hiring location; and

(2) The total number of new employees hired during the period covered by the report, and of that total, the number of disabled veterans, and the number of veterans of the Vietnam era.

(b) The above items shall be reported by completing the form entitled "Federal Contractor Veterans' Employment Report VETS-100."

(c) Reports shall be submitted no later than September 30 of each year beginning September 30, 1988.

(d) The employment activity report required by paragraph (a)(2) of this clause shall reflect total hires during the most recent 12-month period as of the ending date selected for the employment profile report required by paragraph (a)(1) of this clause. Contractors may select an ending date: (1) As of the end of any pay period during the period January through March 1st of the year the report is due, or (2) as of December 31, if the contractor has previous written approval from the Equal Employment Opportunity Commission to do so for purposes of submitting the Employer Information Report EEO-1 (Standard Form 100).

(e) The count of veterans reported according to paragraph (a) of this clause shall be based on voluntary disclosure. Each Contractor subject to the reporting requirements at 38 U.S.C. 4212 shall invite all disabled veterans and

veterans of the Vietnam era who wish to benefit under the affirmative action program at 38 U.S.C. 4212 to identify themselves to the Contractor. The invitation shall state that the information is voluntarily provided; that the information will be kept confidential; that disclosure or refusal to provide the information will not subject the applicant or employee to any adverse treatment; and that the information will be used only in accordance with the regulations promulgated under 38 U.S.C. 4212.

(f) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of $10,000 or more unless exempted by rules, regulations, or orders of the Secretary.

(End of clause)

52.222-41 SERVICE CONTRACT ACT OF 1965, AS AMENDED (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 con- tract, the Contractor shall classify any class of service employee which is not listed therein 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) 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 informa-tion 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 determina- tions 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)(2)(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 fur- nished 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 furnish 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 payment of a higher wage to any employee.

(f) 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 4.1b(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 the 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 Payments 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 such 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 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 a 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 Pub. 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 these 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, the amount of credit shall not exceed $1.34 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.

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.

(End of clause)

52.222-42 STATEMENT OF EQUIVALENT RATES FOR FEDERAL HIRES (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 Wage-Fringe Benefits

Electrician, WG-10, $16.45
Millwright, Mechanic, WG-10, $16.45

(End of clause)

52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (JAN 1997)

(a) "Hazardous material", as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material (If none, insert "None")	Identification No.

_____ _____

_____ _____

_____ _____

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to--

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(End of clause)

52.223-5 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (APR 1998)

(a) Executive Order 12856 of August 3, 1993, requires Federal facilities to comply with the provisions of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA)(42 U.S.C. 11001-11050) and the Pollution Prevention Act of 1990 (PPA)(42 U.S.C. 13101-13109).

(b) The Contractor shall provide all information needed by the Federal facility to comply with the emergency planning reporting requirements of Section 302 of EPCRA; the emergency notice requirements of Section 304 of EPCRA; the list of Material Safety Data Sheets required by Section 311 of EPCRA; the emergency and hazardous chemical inventory forms of Section 312 of EPCRA; the toxic chemical release inventory of Section 313 of EPCRA, which includes the reduction and recycling information required by Section 6607 of PPA; and the toxic chemical reduction goals requirements of Section 3-302 of Executive Order 12856.

(End of clause)

52.223-6 DRUG-FREE WORKPLACE (MAY 2001)

(a) Definitions. As used in this clause --

"Controlled substance" means a controlled substance in schedules I through V of section 202 of the Controlled Substances Act (21 U.S.C. 812) and as further defined in regulation at 21 CFR 1308.11 - 1308.15.

"Conviction" means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to deter- mine violations of the Federal or State criminal drug statutes.

"Criminal drug statute" means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, possession, or use of any controlled substance.

"Drug-free workplace" means the site(s) for the performance of work done by the Contractor in connection with a specific contract at which employees of the Contractor are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

"Employee" means an employee of a Contractor directly engaged in the performance of work under a Government contract. "Directly engaged" is defined to include all direct cost employees and any other Contractor employee who has other than a minimal impact or involvement in contract performance.

"Individual" means an offeror/contractor that has no more than one employee including the offeror/contractor.

(b) The Contractor, if other than an individual, shall-- within 30 days after award (unless a longer period is agreed to in writing for contracts of 30 days or more performance duration), or as soon as possible for contracts of less than 30 days performance duration--

(1) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;

(2) Establish an ongoing drug-free awareness program to inform such employees about--

(i) The dangers of drug abuse in the workplace;

(ii) The Contractor's policy of maintaining a drug-free workplace;

(iii) Any available drug counseling, rehabilitation, and employee assistance programs; and

(iv) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(3) Provide all employees engaged in performance of the contract with a copy of the statement required by

subparagraph (b)(1) of this clause;

(4) Notify such employees in writing in the statement required by subparagraph (b)(1) of this clause that, as a condition of continued employment on this contract, the employee will--

(i) Abide by the terms of the statement; and

(ii) Notify the employer in writing of the employee's conviction under a criminal drug statute for a violation occurring in the workplace no later than 5 days after such conviction.

(5) Notify the Contracting Officer in writing within 10 days after receiving notice under subdivision (b)(4)(ii) of this clause, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the position title of the employee;

(6) Within 30 days after receiving notice under subdivision (b)(4)(ii) of this clause of a conviction, take one of the following actions with respect to any employee who is convicted of a drug abuse violation occurring in the workplace:

(i) Taking appropriate personnel action against such employee, up to and including termination; or

(ii) Require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency; and

(7) Make a good faith effort to maintain a drug-free workplace through implementation of subparagraphs (b)(1) though (b)(6) of this clause.

(c) The Contractor, if an individual, agrees by award of the contract or acceptance of a purchase order, not to engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance while performing this contract.

(d) In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraph (b) or (c) of this clause may, pursuant to FAR 23.506, render the Contractor subject to suspension of contract payments, termination of the contract for default, and suspension or debarment.

(End of clause)

52.223-14 TOXIC CHEMICAL RELEASE REPORTING (OCT 2000)

(a) Unless otherwise exempt, the Contractor, as owner or operator of a facility used in the performance of this contract, shall file by July 1 for the prior calendar year an annual Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023(a) and (g)), and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106). The Contractor shall file, for each facility subject to the Form R filing and reporting requirements, the annual Form R throughout the life of the contract.

(b) A Contractor owned or operated facility used in the performance of this contract is exempt from the requirement to file an annual Form R if--

(1) 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);

(2) 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);

(3) The facility does not meet the reporting thresholds of toxic chemicals established under 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);

(4) The facility does not fall within Standard Industrial Classification Code (SIC) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; or

(5) 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.

(c) If the Contractor has certified to an exemption in accordance with one or more of the criteria in paragraph (b) of this clause, and after award of the contract circumstances change so that any of its owned or operated facilities used in the performance of this contract is no longer exempt--

(1) The Contractor shall notify the Contracting Officer; and

(2) The Contractor, as owner or operator of a facility used in the performance of this contract that is no longer exempt, shall (i) submit a Toxic Chemical Release Inventory Form (Form R) on or before July 1 for the prior calendar year during which the facility becomes eligible; and (ii) continue to file the annual Form R for the life of the contract for such facility.

(d) The Contracting Officer may terminate this contract or take other action as appropriate, if the Contractor fails to comply accurately and fully with the EPCRA and PPA toxic chemical release filing and reporting requirements.

(e) Except for acquisitions of commercial items, as defined in FAR Part 2, the Contractor shall--

(1) For competitive subcontracts expected to exceed $100,000 (including all options), include a solicitation provision substantially the same as the provision at FAR 52.223-13, Certification of Toxic Chemical Release Reporting; and

(2) Include in any resultant subcontract exceeding $100,000 (including all options), the substance of this clause, except this paragraph (e).

(End of clause)

52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (JUL 2000)

(a) The Contractor shall not acquire, for use in the performance of this contract, any supplies or services originating from sources within, or that were located in or transported from or through, countries whose products are banned from importation into the United States under regulations of the Office of Foreign Assets Control, Department of the Treasury. Those countries are Cuba, Iran, Iraq, Libya, North Korea, Sudan, the territory of Afghanistan controlled by the Taliban, and Serbia (excluding the territory of Kosovo).

(b) The Contractor shall not acquire for use in the performance of this contract any supplies or services from entities controlled by the government of Iraq.

(c) The Contractor shall insert this clause, including this paragraph (c), in all subcontracts.

(End of clause)

52.226-1 UTILIZATION OF INDIAN ORGANIZATIONS AND INDIAN-OWNED ECONOMIC ENTERPRISES (JUN 2000)

(a) Definitions. As used in this clause:

"Indian" means any person who is a member of any Indian tribe, band, group, pueblo or community that is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs (BIA) in accordance with 25 U.S.C. 1452(c) and any ``Native" as defined in the Alaska Native Claims Settlement Act (43 U.S.C. 1601).

"Indian organization" means the governing body of any Indian tribe or entity established or recognized by the governing body of an Indian tribe for the purposes of 25 U.S.C., chapter 17.

"Indian-owned economic enterprise" means any Indian-owned (as determined by the Secretary of the Interior) commercial, industrial, or business activity established or organized for the purpose of profit, provided that Indian ownership constitutea not less than 51 percent of the enterprise.

"Indian tribe" means any Indian tribe, band, group, pueblo or community, including native villages and native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, that is recognized by the Federal Government as eligible for services from BIA in accordance with 25 U.S.C. 1542(c).

"Interested party" means a prime contractor or an actual or prospective offeror whose direct economic interest would be affected by the award of a subcontract or by the failure to award a subcontract.

(b) The Contractor shall use its best efforts to give Indian organizations and Indian-owned economic enterprises (25 U.S.C. 1544) the maximum practicable opportunity to participate in the subcontracts it awards to the fullest extent consistent with efficient performance of its contract.

(1) The Contracting Officer and the Contractor, acting in good faith, may rely on the representation of an Indian organization or Indian-owned economic enterprise as to its eligibility, unless an interested party challenges its status or the Contracting Officer has independent reason to question that status. In the event of a challenge to the representation of a subcontractor, the Contracting Officer will refer the matter to the U.S. Department of the Interior, Bureau of Indian Affairs (BIA), Attn: Chief, Division of Contracting and Grants Administration, 1849 C Street, NW., MS 2626-MIB, Washington, DC 20240-4000.

The BIA will determine the eligibility and notify the Contracting Officer. No incentive payment will be made within 50 working days of subcontract award or while a challenge is pending. If a subcontractor is determined to be an ineligible participant, no incentive payment will be made under the Indian Incentive Program.

(2) The Contractor may request an adjustment under the Indian Incentive Program to the following:

(i) The estimated cost of a cost-type contract.

(ii) The target cost of a cost-plus-incentive-fee prime contract.

(iii) The target cost and ceiling price of a fixed-price incentive prime contract.

(iv) The price of a firm-fixed-price prime contract.

(3) The amount of the adjustment to the prime contract is 5 percent of the estimated cost, target cost, or firm-fixed-price included in the subcontract initially awarded to the Indian organization or Indian-owned economic enterprise.

(4) The Contractor has the burden of proving the amount claimed and must assert its request for an adjustment prior to completion of contract performance.

(c) The Contracting Officer, subject to the terms and conditions of the contract and the availability of funds, will authorize an incentive payment of 5 percent of the amount paid to the subcontractor. The Contracting Officer will seek funding in accordance with agency procedures.

(End of clause)

52.227-1 AUTHORIZATION AND CONSENT (JUL 1995)

(a) The Government authorizes and consents to all use and manufacture, in performing this contract or any subcontract at any tier, of any invention described in and covered by a United States patent (1) embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract or (2) used in machinery, tools, or methods whose use necessarily results from compliance by the Contractor or a subcontractor with (i) specifications or written provisions forming a part of this contract or (ii) specific written instructions given by the Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a patent of the United States shall be determined solely by the provisions of the indemnity clause, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted.

(b) The Contractor agrees to include, and require inclusion of, this clause, suitably modified to identify the parties, in all subcontracts at any tier for supplies or services (including construction, architect-engineer services, and materials, supplies, models, samples, and design or testing services expected to exceed the simplified acquisition threshold (however, omission of this clause from any subcontract, including those at or below the simplified acquisition threshold, does not affect this authorization and consent.)

(End of clause)

52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (AUG 1996)

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed under this contract, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

(c) The Contractor agrees to include, and require inclusion of, this clause in all subcontracts at any tier for supplies

or services (including construction and architect-engineer subcontracts and those for material, supplies, models, samples, or design or testing services) expected to exceed the simplified acquisition threshold at (FAR) 2.101.to exceed the dollar amount set forth in 13.000 of the Federal Acquisition Regulation (FAR).

(End of clause)

52.228-5 INSURANCE--WORK ON A GOVERNMENT INSTALLATION (JAN 1997)

(a) The Contractor shall, at its own expense, provide and maintain during the entire performance of this contract, at least the kinds and minimum amounts of insurance required in the Schedule or elsewhere in the contract.

(b) Before commencing work under this contract, the Contractor shall notify the Contracting Officer in writing that the required insurance has been obtained. The policies evidencing required insurance shall contain an endorsement to the effect that any cancellation or any material change adversely affecting the Government's interest shall not be effective (1) for such period as the laws of the State in which this contract is to be performed prescribe, or (2) until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer, whichever period is longer.

(c) The Contractor shall insert the substance of this clause, including this paragraph (c), in subcontracts under this contract that require work on a Government installation and shall require subcontractors to provide and maintain the insurance required in the Schedule or elsewhere in the contract. The Contractor shall maintain a copy of all subcontractors' proofs of required insurance, and shall make copies available to the Contracting Officer upon request.

(End of clause)

52.229-3 FEDERAL, STATE, AND LOCAL TAXES (JAN 1991)

(a) "Contract date," as used in this clause, means the date set for bid opening or, if this is a negotiated contract or a modification, the effective date of this contract or modification.

"All applicable Federal, State, and local taxes and duties," as used in this clause, means all taxes and duties, in effect on the contract date, that the taxing authority is imposing and collecting on the transactions or property covered by this contract.

"After-imposed Federal tax," as used in this clause, means any new or increased Federal excise tax or duty, or tax that was exempted or excluded on the contract date but whose exemption was later revoked or reduced during the contract period, on the transactions or property covered by this contract that the Contractor is required to pay or bear as the result of legislative, judicial, or administrative action taking effect after the contract date. It does not include social security tax or other employment taxes.
"After-relieved Federal tax," as used in this clause, means any amount of Federal excise tax or duty, except social security or other employment taxes, that would otherwise have been payable on the transactions or property covered by this contract, but which the Contractor is not required to pay or bear, or for which the Contractor obtains a refund or drawback, as the result of legislative, judicial, or administrative action taking effect after the contract date.

(b) The contract price includes all applicable Federal, State, and local taxes and duties.

(c) The contract price shall be increased by the amount of any after-imposed Federal tax, provided the Contractor warrants in writing that no amount for such newly imposed Federal excise tax or duty or rate increase was included in the contract price, as a contingency reserve or otherwise.

(d) The contract price shall be decreased by the amount of any after-relieved Federal tax.

(e) The contract price shall be decreased by the amount of any Federal excise tax or duty, except social security or other employment taxes, that the Contractor is required to pay or bear, or does not obtain a refund of, through the Contractor's fault, negligence, or failure to follow instructions of the Contracting Officer.

(f) No adjustment shall be made in the contract price under this clause unless the amount of the adjustment exceeds $250.

(g) The Contractor shall promptly notify the Contracting Officer of all matters relating to any Federal excise tax or duty that reasonably may be expected to result in either an increase or decrease in the contract price and shall take appropriate action as the Contracting Officer directs.

(h) The Government shall, without liability, furnish evidence appropriate to establish exemption from any Federal, State, or local tax when the Contractor requests such evidence and a reasonable basis exists to sustain the exemption.

(End of clause)

52.229-5 TAXES--CONTRACTS PERFORMED IN U.S. POSSESSIONS OR PUERTO RICO (APR 1984)

The term "local taxes," as used in the Federal, State, and local taxes clause of this contract, includes taxes imposed by a possession of the United States or by Puerto Rico.

(End of clause)

52.232-1 PAYMENTS (APR 1984)

The Government shall pay the Contractor, upon the submission of proper invoices or vouchers, the prices stipulated in this contract for supplies delivered and accepted or services rendered and accepted, less any deductions provided in this contract. Unless otherwise specified in this contract, payment shall be made on partial deliveries accepted by the Government if--

(a) The amount due on the deliveries warrants it; or

(b) The Contractor requests it and the amount due on the deliveries is at least $1,000 or 50 percent of the total contract price.

(End of clause)

52.232-8 DISCOUNTS FOR PROMPT PAYMENT (FEB 2002)

(a) Discounts for prompt payment will not be considered in the evaluation of offers. However, any offered discount will form a part of the award, and will be taken if payment is made within the discount period indicated in the offer by the offeror. As an alternative to offering a discount for prompt payment in conjunction with the offer, offerors awarded contracts may include discounts for prompt payment on individual invoices.

(b) In connection with any discount offered for prompt payment, time shall be computed from the date of the invoice. If the Contractor has not placed a date on the invoice, the due date shall be calculated from the date the designated billing office receives a proper invoice, provided the agency annotates such invoice with the date of

receipt at the time of receipt. For the purpose of computing the discount earned, payment shall be considered to have been made on the date that appears on the payment check or, for an electronic funds transfer, the specified payment date. When the discount 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.

(End of clause)

52.232-9 LIMITATION ON WITHHOLDING OF PAYMENTS (APR 1984)

If more than one clause or Schedule term of this contract authorizes the temporary withholding of amounts otherwise payable to the Contractor for supplies delivered or services performed, the total of the amounts withheld at any one time shall not exceed the greatest amount that may be withheld under any one clause or Schedule term at that time; provided, that this limitation shall not apply to--

(a) Withholdings pursuant to any clause relating to wages or hours of employees;

(b) Withholdings not specifically provided for by this contract;

(c) The recovery of overpayments; and

(d) Any other withholding for which the Contracting Officer determines that this limitation is inappropriate.

(End of clause)

52.232-11 EXTRAS (APR 1984)

Except as otherwise provided in this contract, no payment for extras shall be made unless such extras and the price therefore have been authorized in writing by the Contracting Officer.

(End of clause)

52.232-15 PROGRESS PAYMENTS NOT INCLUDED (APR 1984)

A progress payments clause is not included in this solicitation, and will not be added to the resulting contract at the time of award. Bids conditioned upon inclusion of a progress payment clause in the resulting contract will be rejected as nonresponsive.

(End of clause)

52.232-17 INTEREST (JUNE 1996)

(a) Except as otherwise provided in this contract under a Price Reduction for Defective Cost or Pricing Data clause or a Cost Accounting Standards clause, all amounts that become payable by the Contractor to the Government under this contract (net of any applicable tax credit under the Internal Revenue Code (26 U.S.C. 1481)) shall bear simple interest from the date due until paid unless paid within 30 days of becoming due. The interest rate shall be the

interest rate established by the Secretary of the Treasury as provided in Section 12 of the Contract Disputes Act of 1978 (Public Law 95-563), which is applicable to the period in which the amount becomes due, as provided in paragraph (b) of this clause, and then at the rate applicable for each six-month period as fixed by the Secretary until the amount is paid. reproduce, prepare derivative works, distribute copies to the public, and (b) Amounts shall be due at the earliest of the following dates:

(1) The date fixed under this contract.

(2) The date of the first written demand for payment consistent with this contract, including any demand resulting from a default termination.

(3) The date the Government transmits to the Contractor a proposed supplemental agreement to confirm completed negotiations establishing the amount of debt.

(4) If this contract provides for revision of prices, the date of written notice to the Contractor stating the amount of refund payable in connection with a pricing proposal or a negotiated pricing agreement not confirmed by contract modification.

(c) The interest charge made under this clause may be reduced under the procedures prescribed in 32.614-2 of the Federal Acquisition Regulation in effect on the date of this contract.

(End of clause)

52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986)

(a) The Contractor, under the Assignment of Claims Act, as amended, 31 U.S.C. 3727, 41 U.S.C. 15 (hereafter referred to as "the Act"), may assign its rights to be paid amounts due or to become due as a result of the performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency. The assignee under such an assignment may thereafter further assign or reassign its right under the original assignment to any type of financing institution described in the preceding sentence.

(b) Any assignment or reassignment authorized under the Act and this clause shall cover all unpaid amounts payable under this contract, and shall not be made to more than one party, except that an assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in the financing of this contract.

(c) The Contractor shall not furnish or disclose to any assignee under this contract any classified document (including this contract) or information related to work under this contract until the Contracting Officer authorizes such action in writing.

(End of clause)

52.232-25 PROMPT PAYMENT (FEB 2002)

Notwithstanding any other payment clause in this contract, the Government will make invoice payments under the terms and conditions specified in this clause. The Government considers payment as being made on the day a check is dated or the date of an electronic funds transfer (EFT). Definitions of pertinent terms are set forth in sections 2.101, 32.001, and 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see paragraph (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 paragraphs (a)(2) and (c) of this clause, the due date for making invoice payments by the designated payment office is the later of
the following two events:

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

(B) The 30th day after Government acceptance of supplies delivered or services performed. For a final invoice, when the payment amount is subject to contract settlement actions, acceptance is deemed to occur 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 is the 30th day after the date of the Contractor's invoice, provided the designated billing office receives a proper invoice 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 paragraphs (a)(3)(i) through (a)(3)(x) of this clause. If the invoice does not comply with these requirements, the designated billing office will return it within 7 days after receipt (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), with the reasons why it is not a proper invoice. The Government will take into account untimely notification when computing any interest penalty owed the Contractor.

(i) Name and address of the Contractor.

(ii) Invoice date and invoice number. (The Contractor should 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, discount for prompt payment 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 notify in the event of a defective invoice.

(viii) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.

(ix) Electronic funds transfer (EFT) banking information.

(A) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

(B) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision (e.g., 52.232-38, Submission of Electronic Funds Transfer Information with Offer), contract clause (e.g., 52.232-33, Payment by Electronic Funds Transfer--Central Contractor Registration, or 52.232-34, Payment by Electronic Funds Transfer--Other Than Central Contractor Registration), or applicable agency procedures.

(C) EFT banking information is not required if the Government waived the requirement to pay by EFT.

(x) Any other information or documentation required by the contract (e.g., evidence of shipment).

(4) Interest penalty. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if payment is not made by the due date and the conditions listed in paragraphs (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, the designated payment office may make payment on the following working day without incurring a late payment interest penalty.

(i) The designated billing office received a proper invoice.

(ii) The Government processed a receiving report or other Government documentation authorizing payment, 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 Government will compute the interest penalty in accordance with the Office of Management and Budget prompt payment regulations at 5 CFR part 1315.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor, Government acceptance is deemed to occur constructively on the 7th day (unless otherwise specified in this contract) after the Contractor delivers the supplies or performs 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. If actual acceptance occurs within the constructive acceptance period, the Government will base the determination of an interest penalty 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 prompt payment regulations at 5 CFR 1315.10(c) do not require the Government to pay interest penalties if payment delays are 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. The Government and the Contractor shall resolve claims involving disputes and any interest that may be payable in accordance with the clause at FAR 52.233-1, Disputes.

(6) Discounts for prompt payment. The designated payment office will pay an interest penalty automatically, without request from the Contractor, if the Government takes a discount for prompt payment improperly. The Government will calculate the interest penalty in accordance with the prompt payment regulations at 5 CFR part 1315.

(7) Additional interest penalty. (i) The designated payment office will pay a penalty amount, calculated in accordance with the prompt payment regulations at 5 CFR part 1315 in addition to the interest penalty amount only if--

(A) The Government owes an interest penalty of $1 or more;

(B) The designated payment office does not pay the interest penalty within 10 days after the date the invoice amount is paid; and

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

(ii)(A) The Contractor shall support written demands for additional penalty payments with the following data. The Government will not request any additional data. The Contractor 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 is due; and

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

(B) If there is no postmark or the postmark is illegible--

(1) The designated payment office that receives the demand will annotate it with the date of receipt, provided the demand is received on or before the 40th day after payment was made; or

(2) If the designated payment office fails to make the required annotation, the Government will determine the demand's validity based on the date the Contractor has placed on the demand, provided such date is no later than the 40th day after payment was made.

(iii) 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 payment. If this contract provides for contract financing, the Government will make contract financing payments in accordance with the applicable contract financing clause.

(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.

(d) Overpayments. If the Contractor becomes aware of a duplicate payment or that the Government has otherwise overpaid on an invoice payment, the Contractor shall immediately notify the Contracting Officer and request instructions for disposition of the overpayment.

(End of clause)

52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER—CENTRAL CONTRACTOR REGISTRATION (MAY 1999)

(a) Method of payment. (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term “EFT” refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) Contractor's EFT information. The Government shall make payment to the Contractor using the EFT information contained in the Central Contractor Registration (CCR) database. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the CCR database.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment. If the Contractor's EFT information in the CCR database is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into the CCR database; and any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Contractor EFT arrangements. If the Contractor has identified multiple payment receiving points (i.e., more than one remittance address and/or EFT information set) in the CCR database, and the Contractor has not notified the Government of the payment receiving point applicable to this contract, the Government shall make payment to the first payment receiving point (EFT information set or remittance address as applicable) listed in the CCR database.

(f) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for--

(i) Making a correct payment;

(ii) Paying any prompt payment penalty due; and

(iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and--

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(g) EFT and prompt payment. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(h) EFT and assignment of claims. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register in the CCR database and shall be paid by EFT in accordance with the terms of this clause. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(i) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(j) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in the CCR database.

(End of Clause)

52.233-1 DISPUTES. (JUL 2002)

(a) This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613).

(b) Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved under this clause.

(c) Claim, as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. However, a written demand or written assertion by the

Contractor seeking the payment of money exceeding $100,000 is not a claim under the Act until certified. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under the Act. The submission may be converted to a claim under the Act, by complying with the submission and certification requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(d)(1) A claim by the Contractor shall be made in writing and, unless otherwise stated in this contract, submitted within 6 years after accrual of the claim to the Contracting Officer for a written decision. A claim by the Government against the Contractor shall be subject to a written decision by the Contracting Officer.

(2)(i) The contractors shall provide the certification specified in subparagraph (d)(2)(iii) of this clause when submitting any claim -

(A) Exceeding $100,000; or

(B) Regardless of the amount claimed, when using -

(1) Arbitration conducted pursuant to 5 U.S.C. 575-580; or

(2) Any other alternative means of dispute resolution (ADR) technique that the agency elects to handle in accordance with the Administrative Dispute Resolution Act (ADRA).

(ii) The certification requirement does not apply to issues in controversy that have not been submitted as all or part of a claim.

(iii) The certification shall state as follows: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable; and that I am duly authorized to certify the claim on behalf of the Contractor.

(3) The certification may be executed by any person duly authorized to bind the Contractor with respect to the claim.

(e) For Contractor claims of $100,000 or less, the Contracting Officer must, if requested in writing by the Contractor, render a decision within 60 days of the request. For Contractor-certified claims over $100,000, the Contracting Officer must, within 60 days, decide the claim or notify the Contractor of the date by which the decision will be made.

(f) The Contracting Officer's decision shall be final unless the Contractor appeals or files a suit as provided in the Act.

(g) If the claim by the Contractor is submitted to the Contracting Officer or a claim by the Government is presented to the Contractor, the parties, by mutual consent, may agree to use alternative disput resolution (ADR). If the Contractor refuses an offer for ADR, the Contractor shall inform the Contracting Officer, in writing, of the Contractor's specific reasons for rejecting the request.

(h) The Government shall pay interest on the amount found due and unpaid from (1) the date the Contracting Officer receives the claim (certified, if required); or (2) the date that payment otherwise would be due, if that date is later, until the date of payment. With regard to claims having defective certifications, as defined in (FAR) 48 CFR 33.201, interest shall be paid from the date that the Contracting Officer initially receives the claim. Simple interest on claims shall be paid at the rate, fixed by the Secretary of the Treasury as provided in the Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.

(i) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request

for relief, claim, appeal, or action arising under the contract, and comply with any decision of the Contracting Officer.

(End of clause)

52.233-3 PROTEST AFTER AWARD (AUG. 1996)

(a) Upon receipt of a notice of protest (as defined in FAR 33.101) or a determination that a protest is likely (see FAR 33.102(d)), the Contracting Officer may, by written order to the Contractor, direct the Contractor to stop performance of the work called for by this contract. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Upon receipt of the final decision in the protest, the Contracting Officer shall either--

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled either before or after a final decision in the protest, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if--

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to an adjustment within 30 days after the end of the period of work stoppage; provided, that if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon a proposal at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(e) The Government's rights to terminate this contract at any time are not affected by action taken under this clause.

(f) If, as the result of the Contractor's intentional or negligent misstatement, misrepresentation, or miscertification, a protest related to this contract is sustained, and the Government pays costs, as provided in FAR 33.102(b)(2) or 33.104(h)(1), the Government may require the Contractor to reimburse the Government the amount of such costs. In addition to any other remedy available, and pursuant to the requirements of Subpart 32.6, the Government may collect this debt by offsetting the amount against any payment due the Contractor under any contract between the Contractor and the Government.

(End of clause)

52.236-7 PERMITS AND RESPONSIBILITIES (NOV 1991)

The Contractor shall, without additional expense to the Government, be responsible for obtaining any necessary licenses and permits, and for complying with any Federal, State, and municipal laws, codes, and regulations applicable to the performance of the work. The Contractor shall also be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

(End of clause)

52.236-9 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984)

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(b) The Contractor shall protect from damage all existing improvements and utilities

(1) at or near the work site, and

(2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

(End of clause)

52.236-13 ACCIDENT PREVENTION (NOV 1991) – ALTERNATE I (NOV 1991)

(a) The Contractor shall provide and maintain work environments and procedures which will

(1) safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;

(2) avoid interruptions of Government operations and delays in project completion dates; and

(3) control costs in the performance of this contract.

(b) For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall-

(1) Provide appropriate safety barricades, signs, and signal lights;

(2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and

(3) Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for the purposes are taken.

(c) If this contract is for construction or dismantling, demolition or removal of improvements with any Department of Defense agency or component, the Contractor shall comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation.

(d) Whenever the Contracting Officer becomes aware of any noncompliance with these requirements or any condition which poses a serious or imminent danger to the health or safety of the public or Government personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. This notice, when delivered to the Contractor or the Contractor's representative at the work site, shall be deemed sufficient notice of the noncompliance and that corrective action is required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

(e) The Contractor shall insert this clause, including this paragraph (e), with appropriate changes in the designation of the parties, in subcontracts.

(f) Before commencing the work, the Contractor shall-

(1) Submit a written proposed plan for implementing this clause. The plan shall include an analysis of the significant hazards to life, limb, and property inherent in contract work performance and a plan for controlling these hazards; and

(2) Meet with representatives of the Contracting Officer to discuss and develop a mutual understanding relative to administration of the overall safety program.

(End of clause)

52.239-4001 Year 2000 Compliance

The contractor shall ensure products provided under this contract, to include hardware, software, firmware, and middleware, whether acting alone or combined as a system, are Year 2000 compliant as defined as follows: Year 2000 compliant means with respect to information technology, that the information technology accurately processes date/time data (including, but not limited to, calculating, comparing, and sequencing) from, into, and between the twentieth and twenty-first centuries, and the years 1999 and 2000 and leap year calculations, to the extent that other information, used in combination with the information technology being acquired, properly exchanges date/time data with it.

52.242-13 BANKRUPTCY (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.

(End of clause)

52.243-1 CHANGES--FIXED-PRICE (APR 1984)

(a) The Contracting Officer may at any time, by written order, and without notice to the sureties, if any, make changes within the general scope of this contract in any one or more of the following:

(1) Drawings, designs, or specifications when the supplies to be furnished are to be specially manufactured for the Government in accordance with the drawings, designs, or specifications.

(2) Method of shipment or packing.

(3) Place of delivery.

(b) If any such change causes an increase or decrease in the cost of, or the time required for, performance of any part of the work under this contract, whether or not changed by the order, the Contracting Officer shall make an equitable adjustment in the contract price, the delivery schedule, or both, and shall modify the contract.

(c) The Contractor must assert its right to an adjustment under this clause within 30 days from the date of receipt of the written order. However, if the Contracting Officer decides that the facts justify it, the Contracting Officer may receive and act upon a proposal submitted before final payment of the contract.

(d) If the Contractor's proposal includes the cost of property made obsolete or excess by the change, the Contracting Officer shall have the right to prescribe the manner of the disposition of the property.

(e) Failure to agree to any adjustment shall be a dispute under the Disputes clause. However, nothing in this clause shall excuse the Contractor from proceeding with the contract as changed.

(End of clause)

52.244-5 COMPETITION IN SUBCONTRACTING (DEC 1996)

(a) The Contractor shall select subcontractors (including suppliers) on a competitive basis to the maximum practical extent consistent with the objectives and requirements of the contract.

(b) If the Contractor is an approved mentor under the Department of Defense Pilot Mentor-Protege Program (Pub. L. 101–510, section 831 as amended), the Contractor may award subcontracts under this contract on a noncompetitive basis to its proteges.

(End of clause)

52.248-1 VALUE ENGINEERING (FEB 2000)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any net acquisition savings realized from accepted VECP's, in accordance with the incentive sharing rates in paragraph (f) below.

(b) Definitions. "Acquisition savings," as used in this clause, means savings resulting from the application of a VECP to contracts awarded by the same contracting office or its successor for essentially the same unit. Acquisition savings include--

(1) Instant contract savings, which are the net cost reductions on this, the instant contract, and which are equal to the instant unit cost reduction multiplied by the number of instant contract units affected by the VECP, less the Contractor's allowable development and implementation costs;

(2) Concurrent contract savings, which are net reductions in the prices of other contracts that are definitized and ongoing at the time the VECP is accepted; and

(3) Future contract savings, which are the product of the future unit cost reduction multiplied by the number of future contract units in the sharing base. On an instant contract, future contract savings include savings on increases in quantities after VECP acceptance that are due to contract modifications, exercise of options, additional orders, and funding of subsequent year requirements on a multiyear contract.

"Collateral costs," as used in this clause, means agency cost of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contracting office" includes any contracting office that the acquisition is transferred to, such as another branch of the agency or another agency's office that is performing a joint acquisition action.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Future unit cost reduction," as used in this clause, means the instant unit cost reduction adjusted as the Contracting Officer considers necessary for projected learning or changes in quantity during the sharing period. It is calculated at the time the VECP is accepted and applies either (1) throughout the sharing period, unless the Contracting Officer decides that recalculation is necessary because conditions are significantly different from those previously anticipated or (2) to the calculation of a lump-sum payment, which cannot later be revised.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistics support. The term does not include the normal administrative costs of processing the VECP or any increase in this contract's cost or price resulting from negative instant contract savings.

"Instant contract," as used in this clause, means this contract, under which the VECP is submitted. It does not include increases in quantities after acceptance of the VECP that are due to contract modifications, exercise of options, or additional orders. If this is a multiyear contract, the term does not include quantities funded after VECP acceptance. If this contract is a fixed-price contract with prospective price redetermination, the term refers to the period for which firm prices have been established.

"Instant unit cost reduction" means the amount of the decrease in unit cost of performance (without deducting any Contractor's development or implementation costs) resulting from using the VECP on this, the instant contract. If

this is a service contract, the instant unit cost reduction is normally equal to the number of hours per line-item task saved by using the VECP on this contract, multiplied by the appropriate contract labor rate.

"Negative instant contract savings" means the increase in the cost or price of this contract when the acceptance of a VECP results in an excess of the Contractor's allowable development and implementation costs over the product of the instant unit cost reduction multiplied by the number of instant contract units affected.

"Net acquisition savings" means total acquisition savings, including instant, concurrent, and future contract savings, less Government costs.

"Sharing base," as used in this clause, means the number of affected end items on contracts of the contracting office accepting the VECP.

Sharing period, as used in this clause, means the period beginning with acceptance of the first unit incorporating the VECP and ending at a calendar date or event determined by the contracting officer for each VECP.

"Unit," as used in this clause, means the item or task to which the Contracting Officer and the Contractor agree the VECP applies.

"Value engineering change proposal (VECP)" means a proposal that--

(1) Requires a change to this, the instant contract, to implement; and

(2) Results in reducing the overall projected cost to the agency without impairing essential functions or characteristics; provided, that it does not involve a change--

(i) In deliverable end item quantities only;

(ii) In research and development (R&D) end items or R&D test quantities that is due solely to results of previous testing under this contract; or

(iii) To the contract type only.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (8) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and the proposed requirement, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, the effect of the change on the end item's performance, and any pertinent objective test data.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) Identification of the unit to which the VECP applies.

(4) A separate, detailed cost estimate for (i) the affected portions of the existing contract requirement and (ii) the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under the Subcontracts paragraph of this clause, below.

(5) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(6) A prediction of any effects the proposed change would have on collateral costs to the agency.

(7) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(8) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Contracting Officer, unless this contract states otherwise. If this contract is administered by other than the contracting office, the Contractor shall submit a copy of the VECP simultaneously to the Contracting Officer and to the Administrative Contracting Officer.

(e) Government action. (1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

(2) If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

(3) Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause and made either before or within a reasonable time after contract performance is completed. Until such a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral decision made solely at the discretion of the Contracting Officer.

(f) Sharing rates. If a VECP is accepted, the Contractor shall share in net acquisition savings according to the percentages shown in the table below. The percentage paid the Contractor depends upon (1) this contract's type (fixed-price, incentive, or cost-reimbursement), (2) the sharing arrangement specified in paragraph (a) above (incentive, program requirement, or a combination as delineated in the Schedule), and (3) the source of the savings (the instant contract, or concurrent and future contracts), as follows:

CONTRACTOR'S SHARE OF NET ACQUISITION SAVINGS

(Figures in percent)

Contract Type	Incentive (Voluntary)		Program Requirement (Mandatory)	
	Instant Contract Rate	Concurrent and Future Contract Rate	Instant Contract Rate	Concurrent and Future Contract Rate
Fixed-price (includes fixed-price-award-fee; excludes other fixed-price incentive contracts)	(1) 50	(1) 50	(1) 25	25
Incentive (fixed-price or cost) (other than	(2)	(1) 50	(1) 50	25

award fee)				
Cost-reimbursement (includes cost-plus-award-fee; excludes other cost-type incentive Contracts)	(3) 25	(3)	15	15

(1) The Contracting Officer may increase the Contractor's sharing rate to as high as 75 percent for each VECP.
(2) Same sharing arrangement as the contract's profit or fee adjustment formula.
(3) The Contracting Officer may increase the Contractor's sharing rate to as high as 50 percent for each VECP.

(g) Calculating net acquisition savings.

(1) Acquisition savings are realized when (i) the cost or price is reduced on the instant contract, (ii) reductions are negotiated in concurrent contracts, (iii) future contracts are awarded, or (iv) agreement is reached on a lump-sum payment for future contract savings (see subparagraph (i)(4) below). Net acquisition savings are first realized, and the Contractor shall be paid a share, when Government costs and any negative instant contract savings have been fully offset against acquisition savings.

(2) Except in incentive contracts, Government costs and any price or cost increases resulting from negative instant contract savings shall be offset against acquisition savings each time such savings are realized until they are fully offset. Then, the Contractor's share is calculated by multiplying net acquisition savings by the appropriate Contractor's percentage sharing rate (see paragraph (f) above). Additional Contractor shares of net acquisition savings shall be paid to the Contractor at the time realized.

(3) If this is an incentive contract, recovery of Government costs on the instant contract shall be deferred and offset against concurrent and future contract savings. The Contractor shall share through the contract incentive structure in savings on the instant contract items affected. Any negative instant contract savings shall be added to the target cost or to the target price and ceiling price, and the amount shall be offset against concurrent and future contract savings.

(4) If the Government does not receive and accept all items on which it paid the Contractor's share, the Contractor shall reimburse the Government for the proportionate share of these payments.

(h) Contract adjustment. The modification accepting the VECP (or a subsequent modification issued as soon as possible after any negotiations are completed) shall--

(1) Reduce the contract price or estimated cost by the amount of instant contract savings, unless this is an incentive contract;

(2) When the amount of instant contract savings is negative, increase the contract price, target price and ceiling price, target cost, or estimated cost by that amount;

(3) Specify the Contractor's dollar share per unit on future contracts, or provide the lump-sum payment;

(4) Specify the amount of any Government costs or negative instant contract savings to be offset in determining net acquisition savings realized from concurrent or future contract savings; and

(5) Provide the Contractor's share of any net acquisition savings under the instant contract in accordance with the following:

(i) Fixed-price contracts--add to contract price.

(ii) Cost-reimbursement contracts--add to contract fee.

(i) Concurrent and future contract savings.

(1) Payments of the Contractor's share of concurrent and future contract savings shall be made by a modification to the instant contract in accordance with subparagraph (h)(5) above. For incentive contracts, shares shall be added as a separate firm-fixed-price line item on the instant contract. The Contractor shall maintain records adequate to identify the first delivered unit for 3 years after final payment under this contract.

(2) The Contracting Officer shall calculate the Contractor's share of concurrent contract savings by (i) subtracting from the reduction in price negotiated on the concurrent contract any Government costs or negative instant contract savings not yet offset and (ii) multiplying the result by the Contractor's sharing rate.

(3) The Contracting Officer shall calculate the Contractor's share of future contract savings by (i) multiplying the future unit cost reduction by the number of future contract units scheduled for delivery during the sharing period, (ii) subtracting any Government costs or negative instant contract savings not yet offset, and (iii) multiplying the result by the Contractor's sharing rate.

(4) When the Government wishes and the Contractor agrees, the Contractor's share of future contract savings may be paid in a single lump sum rather than in a series of payments over time as future contracts are awarded. Under this alternate procedure, the future contract savings may be calculated when the VECP is accepted, on the basis of the Contracting Officer's forecast of the number of units that will be delivered during the sharing period. The Contractor's share shall be included in a modification to this contract (see subparagraph (h)(3) above) and shall not be subject to subsequent adjustment.

(5) Alternate no-cost settlement method. When, in accordance with subsection 48.104-4 of the Federal Acquisition Regulation, the Government and the Contractor mutually agree to use the no-cost settlement method, the following applies:

(i) The Contractor will keep all the savings on the instant contract and on its concurrent contracts only.

(ii) The Government will keep all the savings resulting from concurrent contracts placed on other sources, savings from all future contracts, and all collateral savings.

(j) Collateral savings. If a VECP is accepted, the Contracting Officer will increase the instant contract amount, as specified in paragraph (h)(5) of this clause, by a rate from 20 to 100 percent, as determined by the Contracting Officer, of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings will not exceed the contract's firm-fixed-price, target price, target cost, or estimated cost, at the time the VECP is accepted, or $100,000, whichever is greater. The Contracting Officer will be the sole determiner of the amount of collateral savings.

(k) Relationship to other incentives. Only those benefits of an accepted VECP not rewardable under performance, design-to-cost (production unit cost, operating and support costs, reliability and maintainability), or similar incentives shall be rewarded under this clause. However, the targets of such incentives affected by the VECP shall not be adjusted because of VECP acceptance. If this contract specifies targets but provides no incentive to surpass them, the value engineering sharing shall apply only to the amount of achievement better than target.

(l) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of $100,000 or more and may include one in subcontracts of lesser value. In calculating any adjustment in this contract's price for instant contract savings (or negative instant contract savings), the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs, and any value engineering incentive payments to a subcontractor, clearly resulting from a VECP accepted by the Government under this contract. The Contractor may choose any arrangement for subcontractor value

engineering incentive payments; provided, that the payments shall not reduce the Government's share of concurrent or future contract savings or collateral savings.

(m) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Engineering clause of contract . . . . . , shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations."

If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (SEP 1996)

(a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

(b) After receipt of a Notice of Termination, and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:

(1) Stop work as specified in the notice.

(2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.

(3) Terminate all subcontracts to the extent they relate to the work terminated.

(4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.

(5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.

(6) As directed by the Contracting Officer, transfer title and deliver to the Government (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.

(7) Complete performance of the work not terminated.

(8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.

(9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, any property of the types referred to in subparagraph (b)(6) of this clause; provided, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.

(c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.

(d) After expiration of the plant clearance period as defined in Subpart 45.6 of the Federal Acquisition Regulation, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Contracting Officer may verify the list upon removal of the items, or if stored, within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.

(e) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1-year period. However, if the Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(f) Subject to paragraph (e) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid or remaining to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (g) or paragraph (g) of this clause, exclusive of costs shown in subparagraph (g)(3) of this clause, may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be modified, and the Contractor paid the agreed amount. Paragraph (g) of this clause shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(g) If the Contractor and the Contracting Officer fail to agree on the whole amount to be paid because of the termination of work, the Contracting Officer shall pay the Contractor the amounts determined by the Contracting Officer as follows, but without duplication of any amounts agreed on under paragraph (f) of this clause:

(1) The contract price for completed supplies or services accepted by the Government (or sold or acquired under subparagraph (b)(9) of this clause) not previously paid for, adjusted for any saving of freight and other charges.

(2) The total of--

(i) The costs incurred in the performance of the work terminated, including initial costs and preparatory expense allocable thereto, but excluding any costs attributable to supplies or services paid or to be paid under subparagraph (f)(1) of this clause;

(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (g)(2)(i) of this clause; and

(iii) A sum, as profit on subdivision (g)(2)(i) of this clause, determined by the Contracting Officer under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Contracting Officer shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

(3) The reasonable costs of settlement of the work terminated, including--

(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(h) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (g) of this clause, the fair value, as determined by the Contracting Officer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government or to a buyer.

(i) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of this contract, shall govern all costs claimed, agreed to, or determined under this clause.

(j) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Contracting Officer under paragraph (e), (g), or (l) of this clause, except that if the Contractor failed to submit the termination settlement proposal or request for equitable adjustment within the time provided in paragraph (e) or (l), respectively, and failed to request a time extension, there is no right of appeal.

(k) In arriving at the amount due the Contractor under this clause, there shall be deducted--

(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(2) Any claim which the Government has against the Contractor under this contract; and

(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.

(l) If the termination is partial, the Contractor may file a proposal with the Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Contracting Officer shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Contracting Officer.

(m)(1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is

received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

(n) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

(End of clause)

52.249-8 DEFAULT (FIXED-PRICE SUPPLY AND SERVICE) (APR 1984)

(a)(1) The Government may, subject to paragraphs (c) and (d) of this clause, by written notice of default to the Contractor, terminate this contract in whole or in part if the Contractor fails to--

(i) Deliver the supplies or to perform the services within the time specified in this contract or any extension;

(ii) Make progress, so as to endanger performance of this contract (but see subparagraph (a)(2) of this clause); or

(iii) Perform any of the other provisions of this contract (but see subparagraph (a)(2) below).

(2) The Government's right to terminate this contract under subdivisions (a)(1)(ii) and (1)(iii) of this clause, may be exercised if the Contractor does not cure such failure within 10 days (or more if authorized in writing by the Contracting Officer) after receipt of the notice from the Contracting Officer specifying the failure.

(b) If the Government terminates this contract in whole or in part, it may acquire, under the terms and in the manner the Contracting Officer considers appropriate, supplies or services similar to those terminated, and the Contractor will be liable to the Government for any excess costs for those supplies or services. However, the Contractor shall continue the work not terminated.

(c) Except for defaults of subcontractors at any tier, the Contractor shall not be liable for any excess costs if the failure to perform the contract arises from causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include (1) acts of God or of the public enemy, (2) acts of the Government in either its sovereign or contractual capacity, (3) fires, (4) floods, (5) epidemics, (6) quarantine restrictions, (7) strikes, (8) freight embargoes, and (9) unusually severe weather. In each instance the failure to perform must be beyond the control and without the fault or negligence of the Contractor.

(d) If the failure to perform is caused by the default of a subcontractor at any tier, and if the cause of the default is beyond the control of both the Contractor and subcontractor, and without the fault or negligence of either, the Contractor shall not be liable for any excess costs for failure to perform, unless the subcontracted supplies or services were obtainable from other sources in sufficient time for the Contractor to meet the required delivery schedule.

(e) If this contract is terminated for default, the Government may require the Contractor to transfer title and deliver to the Government, as directed by the Contracting Officer, any (1) completed supplies, and (2) partially completed supplies and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (collectively referred to as "manufacturing materials" in this clause) that the Contractor has specifically produced or acquired for

the terminated portion of this contract. Upon direction of the Contracting Officer, the Contractor shall also protect and preserve property in its possession in which the Government has an interest.

(f) The Government shall pay contract price for completed supplies delivered and accepted. The Contractor and Contracting Officer shall agree on the amount of payment for manufacturing materials delivered and accepted and for the protection and preservation of the property. Failure to agree will be a dispute under the Disputes clause. The Government may withhold from these amounts any sum the Contracting Officer determines to be necessary to protect the Government against loss because of outstanding liens or claims of former lien holders.

(g) If, after termination, it is determined that the Contractor was not in default, or that the default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the Government.

(h) The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES (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.

(c) The use in this solicitation or contract of any FAR (48 CFR 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

52.253-1 COMPUTER GENERATED FORMS (JAN 1991)

(a) Any data required to be submitted on a Standard or Optional Form prescribed by the Federal Acquisition Regulation (FAR) may be submitted on a computer generated version of the form, provided there is no change to the name, content, or sequence of the data elements on the form, and provided the form carries the Standard or Optional Form number and edition date.

(b) Unless prohibited by agency regulations, any data required to be submitted on an agency unique form prescribed by an agency supplement to the FAR may be submitted on a computer generated version of the form provided there is no change to the name, content, or sequence of the data elements on the form and provided the form carries the agency form number and edition date.

(c) If the Contractor submits a computer generated version of a form that is different than the required form, then the rights and obligations of the parties will be determined based on the content of the required form.

(End of clause)

252.203-7001 PROHIBITION ON PERSONS CONVICTED OF FRAUD OR OTHER DEFENSE-CONTRACT-RELATED FELONIES (MAR 1999)

(a) Definitions. As used in this clause—

(1) "Arising out of a contract with the DoD" means any act in connection with—

(i) Attempting to obtain;

(ii) Obtaining, or

(iii) Performing a contract or first-tier subcontract of any agency, department, or component of the Department of Defense (DoD).

(2) "Conviction of fraud or any other felony" means any conviction for fraud or a felony in violation of state or Federal criminal statutes, whether entered on a verdict or plea, including a plea of *nolo contendere*, for which sentence has been imposed.

(3) "Date of conviction" means the date judgment was entered against the individual.

(b) Any individual who is convicted after September 29, 1988, of fraud or any other felony arising out of a contract with the DoD is prohibited from serving--

(1) In a management or supervisory capacity on any DoD contract or first-tier subcontract;

(2) On the board of directors of any DoD contractor or first-tier subcontractor;

(3) As a consultant, agent, or representative for any DoD contractor or first-tier subcontractor; or

(4) In any other capacity with the authority to influence, advise, or control the decisions of any DoD contractor or subcontractor with regard to any DoD contract or first-tier subcontract.

(c) Unless waived, the prohibition in paragraph (b) of this clause applies for not less than 5 years from the date of conviction.

(d) 10 U.S.C. 2408 provides that a defense contractor or first-tier subcontractor shall be subject to a criminal penalty of not more than $500,000 if convicted of knowingly—

(1) Employing a person under a prohibition specified in paragraph (b) of this clause; or

(2) Allowing such a person to serve on the board of directors of the contractor or first-tier subcontractor.

(e) In addition to the criminal penalties contained in 10 U.S.C. 2408, the Government may consider other available remedies, such as—

(1) Suspension or debarment;

(2) Cancellation of the contract at no cost to the Government; or

(3) Termination of the contract for default.

(f) The Contractor may submit written requests for waiver of the prohibition in paragraph (b) of this clause to the Contracting Officer. Requests shall clearly identify—

(1) The person involved;

(2) The nature of the conviction and resultant sentence or punishment imposed;

(3) The reasons for the requested waiver; and

(4) An explanation of why a waiver is in the interest of national security.

(g) The Contractor agrees to include the substance of this clause, appropriately modified to reflect the identity and relationship of the parties, in all first-tier subcontracts exceeding the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation, except those for commercial items or components.

(h) Pursuant to 10 U.S.C. 2408(c), defense contractors and subcontractors may obtain information as to whether a particular person has been convicted of fraud or any other felony arising out of a contract with the DoD by contacting The Office of Justice Programs, The Denial of Federal Benefits Office, U.S. Department of Justice, telephone (202) 616-3507.

(End of clause)

252.203-7002 DISPLAY OF DOD HOTLINE POSTER (DEC 1991)

(a) The Contractor shall display prominently in common work areas within business segments performing work under Department of Defense (DoD) contracts, DoD Hotline Posters prepared by the DoD Office of the Inspector General.

(b) DoD Hotline Posters may be obtained from the DoD Inspector General, ATTN: Defense Hotline, 400 Army Navy Drive, Washington, DC 22202-2884.

(d) The Contractor need not comply with paragraph (a) of this clause if it has established a mechanism, such as a hotline, by which employees may report suspected instances of improper conduct, and instructions that encourage employees to make such reports.

(End of clause)

252.204-7000 DISCLOSURE OF INFORMATION (DEC 1991)

(a) The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract, unless--

(1) The Contracting Officer has given prior written approval; or

(2) The information is otherwise in the public domain before the date of release.

(b) Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release.

(c) The Contractor agrees to include a similar requirement in each subcontract under this contract. Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.

(End of clause)

252.204-7003 CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT (APR 1992)

The Contractor's procedures for protecting against unauthorized disclosure of information shall not require Department of Defense employees or members of the Armed Forces to relinquish control of their work products, whether classified or not, to the contractor.

(End of clause)

252.204-7004 REQUIRED CENTRAL CONTRACTOR REGISTRATION (NOV 2001)

(a) Definitions.

As used in this clause--

(1) Central Contractor Registration (CCR) database means the primary DoD repository for contractor information required for the conduct of business with DoD.

(2) Data Universal Numbering System (DUNS) number means the 9-digit number assigned by Dun and Bradstreet Information Services to identify unique business entities.

(3) Data Universal Numbering System +4 (DUNS+4) number means the DUNS number assigned by Dun and Bradstreet plus a 4-digit suffix that may be assigned by a parent (controlling) business concern. This 4-digit suffix may be assigned at the discretion of the parent business concern for such purposes as identifying subunits or affiliates of the parent business concern.

(4) Registered in the CCR database means that all mandatory information, including the DUNS number or the DUNS+4 number, if applicable, and the corresponding Commercial and Government Entity (CAGE) code, is in the CCR database; the DUNS number and the CAGE code have been validated; and all edits have been successfully completed.

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee must be registered in the CCR database prior to award, during performance, and through final payment of any contract resulting from this solicitation, except for awards to foreign vendors for work to be performed outside the United States.

(2) The offeror shall provide its DUNS or, if applicable, its DUNS+4 number with its offer, which will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(3) Lack of registration in the CCR database will make an offeror ineligible for award.

(4) DoD has established a goal of registering an applicant in the CCR database within 48 hours after receipt of a complete and accurate application via the Internet. However, registration of an applicant submitting an application through a method other than the Internet may take up to 30 days. Therefore, offerors that are not registered should consider applying for registration immediately upon receipt of this solicitation.

(c) The Contractor is responsible for the accuracy and completeness of the data within the CCR, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the Contractor is required to confirm on an annual basis that its information in the CCR database is accurate and complete.

(d) Offerors and contractors may obtain information on registration and annual confirmation requirements by calling 1-888-227-2423, or via the Internet at http://www.ccr.gov.

(End of clause)

252.205-7000 PROVISION OF INFORMATION TO COOPERATIVE AGREEMENT HOLDERS (DEC 1991)

(a) Definition.

"Cooperative agreement holder" means a State or local government; a private, nonprofit organization; a tribal organization (as defined in section 4(c) of the Indian Self-Determination and Education Assistance Act (Pub. L. 93-268; 25 U.S.C. 450 (c))); or an economic enterprise (as defined in section 3(e) of the Indian Financing Act of 1974 (Pub. L. 93-362; 25 U.S.C. 1452(e))) whether such economic enterprise is organized for profit or nonprofit purposes; which has an agreement with the Defense Logistics Agency to furnish procurement technical assistance to business entities.

(b) The Contractor shall provide cooperative agreement holders, upon their request, with a list of those appropriate employees or offices responsible for entering into subcontracts under defense contracts. The list shall include the business address, telephone number, and area of responsibility of each employee or office.

(c) The Contractor need not provide the listing to a particular cooperative agreement holder more frequently than once a year.

(End of clause)

252.209-7000 ACQUISITION FROM SUBCONTRACTORS SUBJECT TO ONSITE INSPECTION UNDER THE INTERMEDIATE-RANGE NUCLEAR FORCES (INF) TREATY (NOV 1995)

(a) The Contractor shall not deny consideration for a subcontract award under this contract to a potential subcontractor subject to on-site inspection under the INF Treaty, or a similar treaty, solely or in part because of the actual or potential presence of Soviet inspectors at the subcontractor's facility, unless the decision is approved by the Contracting Officer.

(b) The Contractor shall incorporate this clause, including this paragraph (b), in all solicitations and contracts exceeding the simplified acquisition threshold in part 13 of the Federal Acquisition Regulation, except those for commercial items.

(End of clause)

252.209-7004 SUBCONTRACTING WITH FIRMS THAT ARE OWNED OR CONTROLLED BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) Unless the Government determines that there is a compelling reason to do so, the Contractor shall not enter into any subcontract in excess of $25,000 with a firm, or subsidiary of a firm, that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country.

(b) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country. The notice must include the name of the proposed

subcontractor notwithstanding its inclusion on the List of Parties Excluded From Federal Procurement and Nonprocurement Programs.

(End of clause)

252.223-7001 HAZARD WARNING LABELS (DEC 1991)

(a) "Hazardous material," as used in this clause, is defined in the Hazardous Material Identification and Material Safety Data clause of this contract.

(b) The Contractor shall label the item package (unit container) of any hazardous material to be delivered under this contract in accordance with the Hazard Communication Standard (29 CFR 1910.1200 et seq). The Standard requires that the hazard warning label conform to the requirements of the standard unless the material is otherwise subject to the labeling requirements of one of the following statutes:

(1) Federal Insecticide, Fungicide and Rodenticide Act;

(2) Federal Food, Drug and Cosmetics Act;

(3) Consumer Product Safety Act;

(4) Federal Hazardous Substances Act; or

(5) Federal Alcohol Administration Act.

(c) The Offeror shall list which hazardous material listed in the Hazardous Material Identification and Material Safety Data clause of this contract will be labeled in accordance with one of the Acts in paragraphs (b)(1) through (5) of this clause instead of the Hazard Communication Standard. Any hazardous material not listed will be interpreted to mean that a label is required in accordance with the Hazard Communication Standard.

MATERIAL (If None, Insert "None.")	ACT
_____	_____
_____	_____

(d) The apparently successful Offeror agrees to submit, before award, a copy of the hazard warning label for all hazardous materials not listed in paragraph (c) of this clause. The Offeror shall submit the label with the Material Safety Data Sheet being furnished under the Hazardous Material Identification and Material Safety Data clause of this contract.

(e) The Contractor shall also comply with MIL-STD-129, Marking for Shipment and Storage (including revisions adopted during the term of this contract).

(End of clause)

252.223-7004 DRUG-FREE WORK FORCE (SEP 1988)

(a) Definitions.

(1) "Employee in a sensitive position," as used in this clause, means an employee who has been granted access to classified information; or employees in other positions that the Contractor determines involve national security; health or safety, or functions other than the foregoing requiring a high degree of trust and confidence.

(2) "Illegal drugs," as used in this clause, means controlled substances included in Schedules I and II, as defined by section 802(6) of title 21 of the United States Code, the possession of which is unlawful under chapter 13 of that Title. The term "illegal drugs" does not mean the use of a controlled substance pursuant to a valid prescription or other uses authorized by law.

(b) The Contractor agrees to institute and maintain a program for achieving the objective of a drug-free work force. While this clause defines criteria for such a program, contractors are encouraged to implement alternative approaches comparable to the criteria in paragraph (c) that are designed to achieve the objectives of this clause.

(c) Contractor programs shall include the following, or appropriate alternatives:

(1) Employee assistance programs emphasizing high level direction, education, counseling, rehabilitation, and coordination with available community resources;

(2) Supervisory training to assist in identifying and addressing illegal drug use by Contractor employees;

(3) Provision for self-referrals as well as supervisory referrals to treatment with maximum respect for individual confidentiality consistent with safety and security issues;

(4) Provision for identifying illegal drug users, including testing on a controlled and carefully monitored basis. Employee drug testing programs shall be established taking account of the following:

(i) The Contractor shall establish a program that provides for testing for the use of illegal drugs by employees in sensitive positions. The extent of and criteria for such testing shall be determined by the Contractor based on considerations that include the nature of the work being performed under the contract, the employee's duties, and efficient use of Contractor resources, and the risks to health, safety, or national security that could result from the failure of an employee adequately to discharge his or her position.

(ii) In addition, the Contractor may establish a program for employee drug testing--

(A) When there is a reasonable suspicion that an employee uses illegal drugs; or

(B) When an employees has been involved in an accident or unsafe practice;

(C) As part of or as a follow-up to counseling or rehabilitation for illegal drug use;

(D) As part of a voluntary employee drug testing program.

(iii) The Contractor may establish a program to test applicants for employment for illegal drug use.

(iv) For the purpose of administering this clause, testing for illegal drugs may be limited to those substances for which testing is prescribed by section 2..1 of subpart B of the "Mandatory Guidelines for Federal Workplace Drug Testing Programs" (53 FR 11980 (April 11, 1988), issued by the Department of Health and Human Services.

(d) Contractors shall adopt appropriate personnel procedures to deal with employees who are found to be using drugs illegally. Contractors shall not allow any employee to remain on duty or perform in a sensitive position who is found to use illegal drugs until such times as the Contractor, in accordance with procedures established by the Contractor, determines that the employee may perform in such a position.

(e) The provisions of this clause pertaining to drug testing program shall not apply to the extent that are inconsistent with state or local law, or with an existing collective bargaining agreement; provided that with respect to the latter, the Contractor agrees those issues that are in conflict will be a subject of negotiation at the next collective bargaining session.

(End of clause)

252.223-7006 PROHIBITION ON STORAGE AND DISPOSAL OF TOXIC AND HAZARDOUS MATERIALS (APR 1993)

(a) "Definitions".

As used in this clause --

(1) "Storage" means a non-transitory, semi-permanent or permanent holding, placement, or leaving of material. It does not include a temporary accumulation of a limited quantity of a material used in or a waste generated or resulting from authorized activities, such as servicing, maintenance, or repair of Department of Defense (DoD) items, equipment, or facilities.

(2) "Toxic or hazardous materials" means:

(i) Materials referred to in section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C. 9601(14)) and materials designated under section 102 of CERCLA (42 U.S.C. 9602) (40 CFR part 302);

(ii) Materials that are of an explosive, flammable, or pyrotechnic nature; or

(iii) Materials otherwise identified by the Secretary of Defense as specified in DoD regulations.

(b) In accordance with 10 U.S.C. 2692, the Contractor is prohibited from storing or disposing of non-DoD-owned toxic or hazardous materials on a DoD installation, except to the extent authorized by a statutory exception to 10 U.S.C. 2692 or as authorized by the Secretary of Defense or his designee.

(End of clause)

252.225-7001 BUY AMERICAN ACT AND BALANCE OF PAYMENTS PROGRAM (MAR 1998)

(a) Definitions.

As used in this clause--

(1) Components means those articles, materials, and supplies directly incorporated into end products.

(2) Domestic end product means--

(i) An unmanufactured end product that has been mined or produced in the United States; or

(ii) An end product manufactured in the United States if the cost of its qualifying country components and its components that are mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. The cost of components shall include transportation costs to the place of incorporation into the end product and U.S. duty (whether or not a duty-free entry certificate may be issued). A component shall be considered to have been mined, produced, or manufactured in the United States (regardless of its source in fact) if the end product in which it is incorporated is manufactured in the United States and the component is of a class or kind--

(A) Determined to be not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality; or

(B) That the Secretary concerned determines would be inconsistent with the public interest to apply the restrictions of the Buy American Act.

(3) End product means those articles, materials, and supplies to be acquired for public use under the contract. For this contract, the end products are the line items to be delivered to the Government (including supplies to be acquired by the Government for public use in connection with service contracts, but excluding installation and other services to be performed after delivery).

(4) Nonqualifying country end product means an end product that is neither a domestic end product nor a qualifying country end product.

(5) Qualifying country means any country set forth in subsection 225.872-1 of the Defense Federal Acquisition Regulation Supplement.

(6) Qualifying country component means an item mined, produced, or manufactured in a qualifying country.

(7) Qualifying country end product means--

(i) An unmanufactured end product mined or produced in a qualifying country; or

(ii) An end product manufactured in a qualifying country if the cost of the components mined, produced, or manufactured in the qualifying country and its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components.

(b) This clause implements the Buy American Act (41 U.S.C. Section 10a-d) in a manner that will encourage a favorable international balance of payments by providing a preference to domestic end products over other end products, except for end products which are qualifying country end products.

(c) The Contractor agrees that it will deliver only domestic end products unless, in its offer, it specified delivery of other end products in the Buy American Act--Balance of Payments Program Certificate provision of the solicitation. An offer certifying that a qualifying country end product will be supplied requires the Contractor to deliver a qualifying country end product or a domestic end product.

(d) The offered price of qualifying country end products should not include custom fees or duty. The offered price of nonqualifying country end products, and products manufactured in the United States that contain nonqualifying country components, must include all applicable duty. The award price will not include duty for end products or components that are to be accorded duty-free entry. Generally, when the Buy American Act is applicable, each nonqualifying country offer is adjusted for the purpose of evaluation by adding 50 percent of the offer, inclusive of duty.

252.225-7002 QUALIFYING COUNTRY SOURCES AS SUBCONTRACTORS (DEC 1991)

Subject to the restrictions in section 225.872 of the Defense FAR Supplement, the Contractor shall not preclude qualifying country sources and U.S. sources from competing for subcontracts under this contract.

(End of clause)

252.225-7003 INFORMATION FOR DUTY-FREE ENTRY EVALUATION (MAR 1998)

(e) Does the offeror propose to furnish—

(1) A domestic end product with nonqualifying country components for which the offeror requests duty-free entry; or

(2) A foreign end product consisting of end items, components, or material of foreign origin other than those for which duty-free entry is to be accorded pursuant to the Duty-Free Entry--Qualifying Country Supplies (End Products and Components) clause or, if applicable, the Duty-Free Entry--Eligible End Products clause of this solicitation?

Yes ( ) No ( )

(c) If the answer in paragraph (a) is yes, answer the following questions:

(1) Are such foreign supplies now in the United States?

Yes ( ) No ( )

(2) Has the duty on such foreign supplies been paid?

Yes ( ) No ( )

(3) If the answer to paragraph (b)(2) is no, what amount is included in the offer to cover such duty?$_____

(d) If the duty has not been paid, the Government may elect to make award on a duty-free basis. If so, the offered price will be reduced in the contract award by the amount specified in paragraph (b)(3). The Offeror agrees to identify, at the request of the Contracting Officer, the foreign supplies which are subject to duty-free entry.

(End of proviswion)

252.225-7012 PREFERENCE FOR CERTAIN DOMESTIC COMMODITIES (APR 2002)

(a) Definitions. As used in this clause--

(1) Component means any item supplied to the Government as part of an end product or of another component.

(2) End product means supplies delivered under a line item of this contract.

(b) The Contractor shall deliver under this contract only such of the following items, either as end products or components, that have been grown, reprocessed, reused, or produced in the United States, its possessions, or Puerto Rico:

(1) Food.

(2) Clothing.

(3) Tents, tarpaulins, or covers.

(4) Cotton and other natural fiber products.

(5) Woven silk or woven silk blends.

(6) Spun silk yarn for cartridge cloth.

(7) Synthetic fabric, and coated synthetic fabric, including all textile fibers and yarns that are for use in such fabrics.

(8) Canvas products.

(9) Wool (whether in the form of fiber or yarn or contained in fabrics, materials, or manufactured articles).

(10) Any item of individual equipment (Federal Supply Class 8465) manufactured from or containing fibers, yarns, fabrics, or materials listed in this paragraph (b).

(c) This clause does not apply--

(1) To items listed in section 25.104(a) of the Federal Acquisition Regulation (FAR), or other items for which the Government has determined that a satisfactory quality and sufficient quantity cannot be acquired as and when needed at U.S. market prices;

(2) To end products incidentally incorporating cotton, other natural fibers, or wool, for which the estimated value of the cotton, other natural fibers, or wool--

(i) Is not more than 10 percent of the total price of the end product; and (ii) Does not exceed the simplified acquisition threshold in FAR part 2;

(3) To foods that have been manufactured or processed in the United States, its possessions, or Puerto Rico, regardless of where the foods (and any component if applicable) were grown or produced;

(4) To chemical warfare protective clothing produced in the countries listed in subsection 225.872-1 of the Defense FAR Supplement; or

(5) To fibers and yarns that are for use in synthetic fabric or coated synthetic fabric (but does apply to the synthetic or coated synthetic fabric itself), if--

(i) The fabric is to be used as a component of an end product that is not a textile product. Examples of textile products, made in whole or in part of fabric, include--

(A) Draperies, floor coverings, furnishings, and bedding (Federal Supply Group 72, Household and Commercial Furnishings and Appliances);

(B) Items made in whole or in part of fabric in Federal Supply Group 83, Textile/leather/furs/apparel/findings/ tents/flags, or Federal Supply Group 84, Clothing, Individual Equipment and Insignia;

(C) Upholstered seats (whether for household, office, or other use); and

(D) Parachutes (Federal Supply Class 1670); or

(ii) The fibers and yarns are para-aramid fibers and yarns manufactured in the Netherlands.

(End of clause)

252.225-7016 RESTRICTION ON ACQUISITION OF BALL AND ROLLER BEARINGS (AUG 1998)

(a) Definitions.

As used in this clause--

(1) “Bearing components” means the bearing element, retainer, inner race, or outer race.

(2) “Miniature and instrument ball bearings” means all rolling contact ball bearings with a basic outside diameter (exclusive of flange diameters) of 30 millimeters or less, regardless of material, tolerance, performance, or quality characteristics.

(b) The Contractor agrees that, except as provided in paragraph (c) of this clause, all ball and roller bearings and ball and roller bearing components (including miniature and instrument ball bearings) delivered under this contract, either as end items or components of end items, shall be wholly manufactured in the United States or Canada. Unless otherwise specified, raw materials, such as performed bar, tube, or rod stock and lubricants, need not be mined or produced in the United States or Canada.

(c) (1) The restriction in paragraph (b) of this clause does not apply to the extent that—

(i) The end items or components containing ball or roller bearings are commercial items; or

(ii) The ball or roller bearings are commercial items manufactured in the United Kingdom.

(2) The commercial item exception in paragraph (c)(1) of this clause does not include items designed or developed under a Government contract or contracts where the end item is bearings and bearing components.

(d) The restriction in paragraph (b) of this clause may be waived upon request from the Contractor in accordance with subsection 225.7019-3 of the Defense Federal Acquisition Regulation Supplement. If the restriction is waived for miniature and instrument ball bearings, the Contractor agrees to acquire a like quantity and type of domestic manufacture for nongovernmental use.

(e) The Contractor agrees to retain records showing compliance with this restriction until 3 years after final payment and to make records available upon request of the Contracting Office.

(f) The Contractor agrees to insert this clause, including this paragraph (f), in every subcontract and purchase order issued in performance of this contract, unless items acquired are--

(1) Commercial items other than ball or roller bearings; or

(2) Items that do not contain ball or roller bearings.

(End of clause)

252.225-7026 REPORTING OF CONTRACT PERFORMANCE OUTSIDE THE UNITED STATES (JUN 2000)

(a) Reporting criteria.

Reporting under this clause is required for--

(1) Offers exceeding $10 million, if the Offeror is aware at the time the offer is submitted that it or its first-tier subcontractor intends to perform any part of the contract that exceeds $500,000 outside the United States and Canada, if that part could be performed inside the United States or Canada;

(2) Contracts exceeding $10 million, when any part that exceeds $500,000 could be performed inside the United States or Canada, but will be performed outside the United States and Canada. If the information was submitted with the offer, it need not be resubmitted unless it changes; and

(3) Contracts exceeding $500,000, when any part that exceeds the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation will be performed outside the United States, unless a foreign place of performance is--

(i) The principal place of performance; and

(ii) Indicated by the Offeror's entry in the Place of Performance provision of the solicitation.

(b) Submission of reports.

(1) The Offeror shall submit reports required by paragraph (a)(1) of this clause with its offer.

(2) The Contractor shall submit reports required by paragraph (a)(2) of this clause to the Contracting Officer as soon as the information is known, with a copy to the addressee in paragraph (b)(3) of this clause. With respect to performance by a first-tier subcontractor, this information shall be reported, to the maximum extent practicable, at least 30 days before award of the subcontract.

(3) The Contractor shall submit reports required by paragraph (a)(3) of this clause within 10 days of the end of each Government quarter to—Deputy Director of Defense Procurement (Foreign Contracting) OUSD(AT&L)DP(FC) Washington, DC 20301-3060

(4) The Offeror/Contractor shall submit reports on DD Form 2139, Report of Contract Performance Outside the United States. Computer-generated reports are acceptable, provided the report contains all information required by DD Form 2139. Copies of DD Form 2139 may be obtained from the Contracting Officer.

(c) Flowdown requirements. (1) The Contractor shall include a clause substantially the same as this one in all first-tier subcontracts exceeding $500,000, except subcontracts for commercial items, construction, ores, natural gases, utilities, petroleum products and crudes, timber (logs), or subsistence.

(f) The Contractor shall provide the prime contract number to subcontractors for reporting purposes.

(d) Information required.

(1) Information to be reported on the part of this contract performed outside the United States (or outside the United States and Canada for reports required by paragraphs (a)(1) and (a)(2) of this clause) includes that for--

(i) Subcontracts;

(ii) Purchases; and

(iii) Intracompany transfers when transfers originate in a foreign location.

(End of clause)

252.225-7031 SECONDARY ARAB BOYCOTT OF ISRAEL (JUN 1992)

(a) Definitions. As used in this clause--

(1) "Foreign person" means any person other than a United States person as defined in Section 16(2) of the Export Administration Act of 1979 (50 U.S.C. App. Sec 2415).

(2) "United States person" is defined in Section 16(2) of the Export Administration Act of 1979 and means any United States resident or national (other than an individual resident outside the United States and employed by other than a United States person), any domestic concern (including any permanent domestic establishment of any foreign concern), and any foreign subsidiary or affiliate (including any permanent foreign establishment) of any domestic concern which is controlled in fact by such domestic concerns, as determined under regulations of the President.

(b) Certification. By submitting this offer, the Offeror, if a foreign person, company or entity, certifies that it--

(1) Does not comply with the Secondary Arab Boycott of Israel; and

(2) Is not taking or knowingly agreeing to take any action, with respect to the Secondary Boycott of Israel by Arab countries, which 50 U.S.C. App. Sec 2407(a) prohibits a United States person from taking.

(End of clause)

252.226-7001 UTILIZATION OF INDIAN ORGANIZATIONS AND INDIAN-OWNED ECONOMIC ENTERPRISES-DOD CONTRACTS (SEP 2001)

(a) Definitions. As used in this clause--

“Indian” means any person who is a member of any Indian tribe, band, group, pueblo, or community that is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs (BIA) in accordance with 25 U.S.C. 1452(c) and any “Native” as defined in the Alaska Native Claims Settlement Act (43 U.S.C. 1601).

“Indian organization” means the governing body of any Indian tribe or entity established or recognized by the governing body of an Indian tribe for the purposes of 25 U.S.C. Chapter 17.

“Indian-owned economic enterprise” means any Indian-owned (as determined by the Secretary of the Interior) commercial, industrial, or business activity established or organized for the purpose of profit, provided that Indian ownership constitutes not less than 51 percent of the enterprise.

“Indian tribe” means any Indian tribe, band, group, pueblo, or community, including native villages and native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, that is recognized by the Federal Government as eligible for services from BIA in accordance with 25 U.S.C. 1452 (c).

“Interested party” means a contractor or an actual or prospective offeror whose direct economic interest would be affected by the award of a subcontract or by the failure to award a subcontract.

(b) The Contract shall use its best efforts to give Indian organizations and Indian-owned economic enterprises the maximum practicable opportunity to participate in the subcontracts it awards, to the fullest extent consistent with efficient performance of the contract.

(c) The Contracting Officer and the Contractor, acting in good faith, may rely on the representation of an Indian organization or Indian-owned economic enterprise as to its eligibility, unless and interested party challenges its status or the Contracting Officer has independent reason to question that status.

(d) In the event of a challenge to the representation of a subcontractor, the Contracting Officer will refer the matter to the U.S. Department of the Interior, Bureau of Indian Affairs, Attn: Chief, Division of Contracting and Grants Administration, 1849 C Street NW, MS-2626-MIB, Washington, DC 20240-4000. The BIA will determine the eligibility and will notify the Contracting Officer. No incentive payment will be made--

(1) Within 59 working days of subcontract award;

(2) While a challenge is pending; or

(3) If a subcontractor is determined to be an ineligible participant.

(e)(1) The Contractor, on its own behalf or on behalf of a subcontractor at any tier, may request an adjustment under the Indian Incentive Program to the following:

(i) The estimated cost of cost-type contract.

(ii) The target cost of a cost-plus-incentive-fee contract.

(iii) The target cost and ceiling price of a fixed-price incentive contract.

(iv) The price of a firm-fixed-price contract.

(2) The amount of the adjustment that may be made to the contract is 5 percent of the estimated cost, target cost, or firm-fixed price included in the subcontract initially awarded to the Indian organization or Indian-owned economic enterprise.

(3) The Contractor has the burden of proving the amount claimed and must assert its request for an adjustment prior to completion of contract performance.

(4) The Contracting Officer, subject to the terms and conditions of the contract and the availability of funds, will authorize an incentive payment of 5 percent of the amount paid to the subcontractor.

(5) If the Contractor requests and receives an adjustment on behalf of a subcontractor, the Contractor is obligated to pay the subcontractor the adjustment.

(f) The Contractor shall insert the substance of this clause, including this paragraph (f), in all subcontracts that--

(1) Are for other than commercial items; and

(2) Are expected to exceed the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation.

(End of clause)

252.227-7013 RIGHTS IN TECHNICAL DATA--NONCOMMERCIAL ITEMS. (NOV 1995)

(a) Definitions. As used in this clause:

(1) Computer data base means a collection of data recorded in a form capable of being processed by a computer. The term does not include computer software.

(2) Computer program means a set of instructions, rules, or routines recorded in a form that is capable of causing a computer to perform a specific operation or series of operations.

(3) Computer software means computer programs, source code, source code listings, object code listings, design details, algorithms, processes, flow charts, formulae and related material that would enable the software to be reproduced, recreated, or recompiled. Computer software does not include computer data bases or computer software documentation.

(4) Computer software documentation means owner's manuals, user's manuals, installation instructions, operating instructions, and other similar items, regardless of storage medium, that explain the capabilities of the computer software or provide instructions for using the software.

(5) Detailed manufacturing or process data means technical data that describe the steps, sequences, and conditions of manufacturing, processing or assembly used by the manufacturer to produce an item or component or to perform a process.

(6) Developed means that an item, component, or process exists and is workable. Thus, the item or component must have been constructed or the process practiced. Workability is generally established when the item, component, or process has been analyzed or tested sufficiently to demonstrate to reasonable people skilled in the applicable art that there is a high probability that it will operate as intended. Whether, how much, and what type of analysis or testing is required to establish workability depends on the nature of the item, component, or process, and the state of the art. To be considered "developed," the item, component, or process need not be at the stage where it could be offered for sale or sold on the commercial market, nor must the item, component, or process be actually reduced to practice within the meaning of Title 35 of the United States Code.

(7) Developed exclusively at private expense means development was accomplished entirely with costs charged to indirect cost pools, costs not allocated to a government contract, or any combination thereof.

(i) Private expense determinations should be made at the lowest practicable level.

(ii) Under fixed-price contracts, when total costs are greater than the firm-fixed-price or ceiling price of the contract, the additional development costs necessary to complete development shall not be considered when determining whether development was at government, private, or mixed expense.

(8) Developed exclusively with government funds means development was not accomplished exclusively or partially at private expense.

(9) Developed with mixed funding means development was accomplished partially with costs charged to indirect cost pools and/or costs not allocated to a government contract, and partially with costs charged directly to a government contract.

(10) Form, fit, and function data means technical data that describes the required overall physical, functional, and performance characteristics (along with the qualification requirements, if applicable) of an item, component, or process to the extent necessary to permit identification of physically and functionally interchangeable items.

(11) Government purpose means any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations, or sales or transfers by the United States Government to foreign governments or international organizations. Government purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose technical data for commercial purposes or authorize others to do so.

(12) Government purpose rights means the rights to--

(i) Use, modify, reproduce, release, perform, display, or disclose technical data within the Government without restriction; and

(ii) Release or disclose technical data outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose that data for United States government purposes.

(13) Limited rights means the rights to use, modify, reproduce, release, perform, display, or disclose technical data, in whole or in part, within the Government. The Government may not, without the written permission of the party asserting limited rights, release or disclose the technical data outside the Government, use the technical data for manufacture, or authorize the technical data to be used by another party, except that the Government may reproduce, release or disclose such data or authorize the use or reproduction of the data by persons outside the Government if reproduction, release, disclosure, or use is--

(i) Necessary for emergency repair and overhaul; or

(ii) A release or disclosure of technical data (other than detailed manufacturing or process data) to, or use of such data by, a foreign government that is in the interest of the Government and is required for evaluational or informational purposes;

(iii) Subject to a prohibition on the further reproduction, release, disclosure, or use of the technical data; and

(iv) The contractor or subcontractor asserting the restriction is notified of such reproduction, release, disclosure, or use.

(14) Technical data means recorded information, regardless of the form or method of the recording, of a scientific or technical nature (including computer software documentation). The term does not include computer software or data incidental to contract administration, such as financial and/or management information.

(15) Unlimited rights means rights to use, modify, reproduce, perform, display, release, or disclose technical data in whole or in part, in any manner, and for any purpose whatsoever, and to have or authorize others to do so.

(b) Rights in technical data. The Contractor grants or shall obtain for the Government the following royalty free, world-wide, nonexclusive, irrevocable license rights in technical data other than computer software documentation (see the Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation clause of this contract for rights in computer software documentation):

(1) Unlimited rights.

The Government shall have unlimited rights in technical data that are--

(i) Data pertaining to an item, component, or process which has been or will be developed exclusively with Government funds;

(ii) Studies, analyses, test data, or similar data produced for this contract, when the study, analysis, test, or similar work was specified as an element of performance;

(iii) Created exclusively with Government funds in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes;

(iv) Form, fit, and function data;

(v) Necessary for installation, operation, maintenance, or training purposes (other than detailed manufacturing or process data);

(vi) Corrections or changes to technical data furnished to the Contractor by the Government;

(vii) Otherwise publicly available or have been released or disclosed by the Contractor or subcontractor without restrictions on further use, release or disclosure, other than a release or disclosure resulting from the sale, transfer, or other assignment of interest in the technical data to another party or the sale or transfer of some or all of a business entity or its assets to another party;

(viii) Data in which the Government has obtained unlimited rights under another Government contract or as a result of negotiations; or

(ix) Data furnished to the Government, under this or any other Government contract or subcontract thereunder, with--

(A) Government purpose license rights or limited rights and the restrictive condition(s) has/have expired; or

(B) Government purpose rights and the Contractor's exclusive right to use such data for commercial purposes has expired.

(2) Government purpose rights.

(i) The Government shall have government purpose rights for a five-year period, or such other period as may be negotiated, in technical data--

(A) That pertain to items, components, or processes developed with mixed funding except when the Government is entitled to unlimited rights in such data as provided in paragraphs (b)(ii) and (b)(iv) through (b)(ix) of this clause; or

(B) Created with mixed funding in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes.

(ii) The five-year period, or such other period as may have been negotiated, shall commence upon execution of the contract, subcontract, letter contract (or similar contractual instrument), contract modification, or option exercise that required development of the items, components, or processes or creation of the data described in paragraph (b)(2)(i)(B) of this clause. Upon expiration of the five-year or other negotiated period, the Government shall have unlimited rights in the technical data.

(iii) The Government shall not release or disclose technical data in which it has government purpose rights unless-

(A) Prior to release or disclosure, the intended recipient is subject to the non-disclosure agreement at 227.7103-7 of the Defense Federal Acquisition Regulation Supplement (DFARS); or

(B) The recipient is a Government contractor receiving access to the data for performance of a Government contract that contains the clause at DFARS 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends.

(iv) The Contractor has the exclusive right, including the right to license others, to use technical data in which the Government has obtained government purpose rights under this contract for any commercial purpose during the time period specified in the government purpose rights legend prescribed in paragraph (f)(2) of this clause.

(3) Limited rights.

(i) Except as provided in paragraphs (b)(1)(ii) and (b)(1)(iv) through (b)(1)(ix) of this clause, the Government shall have limited rights in technical data--

(A) Pertaining to items, components, or processes developed exclusively at private expense and marked with the limited rights legend prescribed in paragraph (f) of this clause; or

(B) Created exclusively at private expense in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes.

(ii) The Government shall require a recipient of limited rights data for emergency repair or overhaul to destroy the data and all copies in its possession promptly following completion of the emergency repair/overhaul and to notify the Contractor that the data have been destroyed.

(iii) The Contractor, its subcontractors, and suppliers are not required to provide the Government additional rights to use, modify, reproduce, release, perform, display, or disclose technical data furnished to the Government with limited rights. However, if the Government desires to obtain additional rights in technical data in which it has limited rights, the Contractor agrees to promptly enter into negotiations with the Contracting Officer to determine whether there are acceptable terms for transferring such rights. All technical data in which the Contractor has granted the Government additional rights shall be listed or described in a license agreement made part of the contract. The license shall enumerate the additional rights granted the Government in such data.

(4) Specifically negotiated license rights.

The standard license rights granted to the Government under paragraphs (b)(1) through (b)(3) of this clause, including the period during which the Government shall have government purpose rights in technical data, may be modified by mutual agreement to provide such rights as the parties consider appropriate but shall not provide the Government lesser rights than are enumerated in paragraph (a)(13) of this clause. Any rights so negotiated shall be identified in a license agreement made part of this contract.

(5) Prior government rights.

Technical data that will be delivered, furnished, or otherwise provided to the Government under this contract, in which the Government has previously obtained rights shall be delivered, furnished, or provided with the pre-existing rights, unless--

(i) The parties have agreed otherwise; or

(ii) Any restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose the data have expired or no longer apply.

(6) Release from liability.

The Contractor agrees to release the Government from liability for any release or disclosure of technical data made in accordance with paragraph (a)(13) or (b)(2)(iii) of this clause, in accordance with the terms of a license negotiated under paragraph (b)(4) of this clause, or by others to whom the recipient has released or disclosed the data and to seek relief solely from the party who has improperly used, modified, reproduced, released, performed, displayed, or disclosed Contractor data marked with restrictive legends.

(c) Contractor rights in technical data. All rights not granted to the Government are retained by the Contractor.

(d) Third party copyrighted data. The Contractor shall not, without the written approval of the Contracting Officer, incorporate any copyrighted data in the technical data to be delivered under this contract unless the Contractor is the copyright owner or has obtained for the Government the license rights necessary to perfect a license or licenses in the deliverable data of the appropriate scope set forth in paragraph (b) of this clause, and has affixed a statement of the license or licenses obtained on behalf of the Government and other persons to the data transmittal document.

(e) Identification and delivery of data to be furnished with restrictions on use, release, or disclosure. (1) This paragraph does not apply to restrictions based solely on copyright.

(2) Except as provided in paragraph (e)(3) of this clause, technical data that the Contractor asserts should be furnished to the Government with restrictions on use, release, or disclosure are identified in an attachment to this contract (the Attachment). The Contractor shall not deliver any data with restrictive markings unless the data are listed on the Attachment.

(3) In addition to the assertions made in the Attachment, other assertions may be identified after award when based on new information or inadvertent omissions unless the inadvertent omissions would have materially affected the source selection decision. Such identification and assertion shall be submitted to the Contracting Officer as soon as practicable prior to the scheduled date for delivery of the data, in the following format, and signed by an official authorized to contractually obligate the Contractor: Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data.

The Contractor asserts for itself, or the persons identified below, that the Government's rights to use, release, or disclose the following technical data should be restricted--

Technical data to be Furnished With Restrictions \1/	Basis for Assertion \2/	Asserted Rights Category \3/	Name of Person Asserting Restrictions \4/
(LIST)	(LIST)	(LIST)	(LIST)

\1/ If the assertion is applicable to items, components or processes developed at private expense, identify both the data and each such items, component, or process.

\2/ Generally, the development of an item, component, or process at private expense, either exclusively or partially, is the only basis for asserting restrictions on the Government's rights to use, release, or disclose technical data pertaining to such items, components, or processes. Indicate whether development was exclusively or partially at private expense. If development was not at private expense, enter the specific reason for asserting that the Government's rights should be restricted.

\3/ Enter asserted rights category (e.g., government purpose license rights from a prior contract, rights in SBIR data generated under another contract, limited or government purpose rights under this or a prior contract, or specifically negotiated licenses).

\4/ Corporation, individual, or other person, as appropriate.
Date _____

Printed Name and Title _____

_____

Signature _____

(End of identification and assertion)

(4) When requested by the Contracting Officer, the Contractor shall provide sufficient information to enable the Contracting Officer to evaluate the Contractor's assertions. The Contracting Officer reserves the right to add the Contractor's assertions to the Attachment and validate any listed assertion, at a later date, in accordance with the procedures of the Validation of Restrictive Markings on Technical Data clause of this contract.

(f) Marking requirements. The Contractor, and its subcontractors or suppliers, may only assert restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose technical data to be delivered under this contract by marking the deliverable data subject to restriction. Except as provided in paragraph (f)(5) of this clause, only the following legends are authorized under this contract: the government purpose rights legend at paragraph (f)(2) of this clause; the limited rights legend at paragraph (f)(3) of this clause; or the special license rights legend at paragraph (f)(4) of this clause; and/or a notice of copyright as prescribed under 17 U.S.C. 401 or 402.

(1) General marking instructions. The Contractor, or its subcontractors or suppliers, shall conspicuously and legibly mark the appropriate legend on all technical data that qualify for such markings. The authorized legends shall be placed on the transmittal document or storage container and, for printed material, each page of the printed material containing technical data for which restrictions are asserted. When only portions of a page of printed material are subject to the asserted restrictions, such portions shall be identified by circling, underscoring, with a note, or other appropriate identifier. Technical data transmitted directly from one computer or computer terminal to another shall contain a notice of asserted restrictions. Reproductions of technical data or any portions thereof subject to asserted restrictions shall also reproduce the asserted restrictions.

(2) Government purpose rights markings. Data delivered or otherwise furnished to the Government purpose rights shall be marked as follows:

Government Purpose Rights

Contract No. _____

Contractor Name _____

Contractor Address _____

_____

Expiration Date _____

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these technical data are restricted by paragraph (b)(2) of the Rights in Technical Data--Noncommercial Items clause contained in the above identified contract. No restrictions apply after the expiration date shown above. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(3) Limited rights markings. Data delivered or otherwise furnished to the Government with limited rights shall be marked with the following legend:

Limited Rights

Contract No. _____

Contractor Name _____

Contractor Address _____

_____

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these technical data are restricted by paragraph (b)(3) of the Rights in Technical Data--Noncommercial Items clause contained in the above

identified contract. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings. Any person, other than the Government, who has been provided access to such data must promptly notify the above named Contractor.

(End of legend)

(4) Special license rights markings. (i) Data in which the Government's rights stem from a specifically negotiated license shall be marked with the following legend:

Special License Rights

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these data are restricted by Contract No. _____ (Insert contract number) _____, License No. _____ (Insert license identifier) _____. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(ii) For purposes of this clause, special licenses do not include government purpose license rights acquired under a prior contract (see paragraph (b)(5) of this clause).

(5) Pre-existing data markings. If the terms of a prior contract or license permitted the Contractor to restrict the Government's rights to use, modify, reproduce, release, perform, display, or disclose technical data deliverable under this contract, and those restrictions are still applicable, the Contractor may mark such data with the appropriate restrictive legend for which the data qualified under the prior contract or license. The marking procedures in paragraph (f)(1) of this clause shall be followed.

(g) Contractor procedures and records. Throughout performance of this contract, the Contractor and its subcontractors or suppliersthat will deliver technical data with other than unlimited rights, shall--

(1) Have, maintain, and follow written procedures sufficient to assure that restrictive markings are used only when authorized by the terms of this clause; and

(2) Maintain records sufficient to justify the validity of any restrictive markings on technical data delivered under this contract.

(h) Removal of unjustified and nonconforming markings. (1) Unjustified technical data markings. The rights and obligations of the parties regarding the validation of restrictive markings on technical data furnished or to be furnished under this contract are contained in the Validation of Restrictive Markings on Technical Data clause of this contract. Notwithstanding any provision of this contract concerning inspection and acceptance, the Government may ignore or, at the Contractor's expense, correct or strike a marking if, in accordance with the procedures in the Validation of Restrictive Markings on Technical Data clause of this contract, a restrictive marking is determined to be unjustified.

(2) Nonconforming technical data markings. A nonconforming marking is a marking placed on technical data delivered or otherwise furnished to the Government under this contract that is not in the format authorized by this contract. Correction of nonconforming markings is not subject to the validation of Restrictive Markings on Technical Data clause of this contract. If the Contracting Officer notifies the Contractor of a nonconforming marking and the Contractor fails to remove or correct such marking within sixty (60) days, the Government may ignore or, at the Contractor's expense, remove or correct any nonconforming marking.

(i) Relation to patents. Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government under any patent.

(j) Limitation on charges for rights in technical data. (1) The Contractor shall not charge to this contract any cost, including, but not limited to, license fees, royalties, or similar charges, for rights in technical data to be delivered under this contract when--

(i) The Government has acquired, by any means, the same or greater rights in the data; or

(ii) The data are available to the public without restrictions.

(2) The limitation in paragraph (j)(1) of this clause--

(i) Includes costs charged by a subcontractor or supplier, at any tier, or costs incurred by the Contractor to acquire rights in subcontractor or supplier technical data, if the subcontractor or supplier has been paid for such rights under any other Government contract or under a license conveying the rights to the Government; and

(ii) Does not include the reasonable costs of reproducing, handling, or mailing the documents or other media in which the technical data will be delivered.

(k) Applicability to subcontractors or suppliers. (1) The Contractor shall ensure that the rights afforded its subcontractors and suppliers under 10 U.S.C. 2320, 10 U.S.C. 2321, and the identification, assertion, and delivery processes of paragraph (e) of this clause are recognized and protected.

(2) Whenever any technical data for noncommercial items is to be obtained from a subcontractor or supplier for delivery to the Government under this contract, the Contractor shall use this same clause in the subcontract or other contractual instrument, and require its subcontractors or suppliers to do so, without alteration, except to identify the parties. No other clause shall be used to enlarge or diminish the Government's, the Contractor's, or a higher-tier subcontractor's or supplier's rights in a subcontractor's or supplier's technical data.

(3) Technical data required to be delivered by a subcontractor or supplier shall normally be delivered to the next higher-tier contractor, subcontractor, or supplier. However, when there is a requirement in the prime contract for data which may be submitted with other than unlimited rights by a subcontractor or supplier, then said subcontractor or supplier may fulfill its requirement by submitting such data directly to the Government, rather than through a higher-tier contractor, subcontractor, or supplier.

(4) The Contractor and higher-tier subcontractors or suppliers shall not use their power to award contracts as economic leverage to obtain rights in technical data from their subcontractors or suppliers. (5) In no event shall the Contractor use its obligation to recognize and protect subcontractor or supplier rights in technical data as an excuse for failing to satisfy its contractual obligations to the Government.

(End of clause)

252.227-7016 RIGHTS IN BID OR PROPOSAL INFORMATION (JUN 1995)

(a) Definitions.

(1) For contracts that require the delivery of technical data, the terms "technical data" and "computer software" are defined in the Rights in Technical Data--Noncommercial Item clause of this contract or, if this is a contract awarded under the Small Business Innovative Research Program, the Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause of this contract.

(2) For contracts that do not require the delivery of technical data, the term "computer software" is defined in the Rights in Noncommercial Computer and Noncommercial Computer Software Documentation clause of this contract

or, if this is a contract awarded under the Small Business Innovative Research Program, the Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause of this contract.

(b) Government rights to contract award. By submission of its offer, the Offeror agrees that the Government--

(1) May reproduce the bid or proposal, or any portions thereof, to the extent necessary to evaluate the offer.

(2) Except as provided in paragraph (d) of this clause, shall use information contained in the bid or proposal only for evaluational purposes and shall not disclose, directly or indirectly, such information to any person including potential evaluators, unless that person has been authorized by the head of the agency, his or her designee, or the Contracting Officer to receive such information.

(c) Government rights subsequent to contract award--The Contractor agrees--

(1) Except as provided in paragraphs (c)((2), (d), and (e) of this clause, the Government shall have the rights to use, modify, reproduce, release, perform, display, or disclose information contained in the Contractor's bid or proposal within the Government. The Government shall not release, perform, display, or disclose such information outside the Government without the Contractor's written permission.

(2) The Government's right to use, modify, reproduce, release, perform, display, or disclose information that is technical data or computer software required to be delivered under this contract are determined by the Rights in Technical Data--Noncommercial Items, Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation, or Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause(s) of this contract.

(d) Government-furnished information. The Government's rights with respect to technical data or computer software contained in the Contractor's bid or proposal that were provided to the Contractor by the Government are subject only to restrictions on use, modification, reproduction, release, performance, display, or disclosure, if any, imposed by the developer or licensor of such data or software.

(e) Information available without restrictions. The Government's rights to use, modify, reproduce, release, perform, display, or, disclose information contained in a bid or proposal, including technical data or computer software, and to permit others to do so, shall not be restricted in any manner if such information has been released or disclosed to the Government or to other persons without restrictions other than a release or disclosure resulting from the sale, transfer, or other assignment of interest in the information to another party or the sale or transfer of some or all of a business entity or its assets to another party.

(f) Flowdown. Contractor shall include this clause in all subcontracts or similar contractual instruments and require its subcontractors or suppliers to do so without alteration, except to identify the parties.

(End of clause)

252.227-7030 TECHNICAL DATA--WITHHOLDING OF PAYMENT (MAR 2000)

(a) If technical data specified to be delivered under this contract, is not delivered within the time specified by this contract or is deficient upon delivery (including having restrictive markings not identified in the list described in the clause at 252.227-7013(e)(2) or 252.227-7018(e)(2) of this contract), the Contracting Officer may until such data is accepted by the Government, withhold payment to the Contractor of ten percent (10%) of the total contract price or amount unless a lesser withholding is specified in the contract. Payments shall not be withheld nor any other action taken pursuant to this paragraph when the Contractor's failure to make timely delivery or to deliver such data without deficiencies arises out of causes beyond the control and without the fault or negligence of the Contractor.

(b) The withholding of any amount or subsequent payment to the Contractor shall not be construed as a waiver of any rights accruing to the Government under this contract.

(End of clause)

252.227-7033 RIGHTS IN SHOP DRAWINGS (APR 1966)

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower-tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.

252.227-7036 DECLARATION OF TECHNICAL DATA CONFORMITY (JAN 1997)

All technical data delivered under this contract shall be accompanied by the following written declaration:

The Contractor, _____, hereby declares that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. _____ is complete, accurate, and complies with all requirements of the contract.

Date _____

Name and Title of Authorized Official _____

(End of clause)

252.227-7037 VALIDATION OF RESTRICTIVE MARKINGS ON TECHNICAL DATA. (SEP 199)

(a) Definitions. The terms used in this clause are defined in the Rights in Technical Data--Noncommercial Items clause of this contract.

(b) Contracts for commercial items--presumption of development at private expense. Under a contract for a commercial item, component, or process, the Department of Defense shall presume that a Contractor's asserted use or release restrictions are justified on the basis that the item, component, or process was developed exclusively at private expense. The Department shall not challenge such assertions unless information the Department provides demonstrates that the item, component, or process was not developed exclusively at private expense.

(c) Justification. The Contractor or subcontractor at any tier is responsible for maintaining records sufficient to justify the validity of its markings that impose restrictions on the Government and others to use, duplicate, or disclose technical data delivered or required to be delivered under the contract or subcontract. Except under contracts for commercial items, the Contractor or subcontractor shall be prepared to furnish to the Contracting Officer a written justification for such restrictive markings in response to a challenge under paragraph (e) of this clause.

(d) Prechallenge request for information. (1) The Contracting Officer may request the Contractor or subcontractor to furnish a written explanation for any restriction asserted by the Contractor or subcontractor on the right of the United States or others to use technical data. If, upon review of the explanation submitted, the Contracting Officer

remains unable to ascertain the basis of the restrictive marking, the Contracting Officer may further request the Contractor or subcontractor to furnish additional information in the records of, or otherwise in the possession of or reasonably available to, the Contractor or subcontractor to justify the validity of any restrictive marking on technical data delivered or to be delivered under the contract or subcontract (e.g., a statement of facts accompanied with supporting documentation). The Contractor or subcontractor shall submit such written data as requested by the Contracting Officer within the time required or such longer period as may be mutually agreed.

(2) If the Contracting Officer, after reviewing the written data furnished pursuant to paragraph (d)(1) of this clause, or any other available information pertaining to the validity of a restrictive marking, determines that reasonable grounds exist to question the current validity of the marking and that continued adherence to the marking would make impracticable the subsequent competitive acquisition of the item, component, or process to which the technical data relates, the Contracting Officer shall follow the procedures in paragraph (e) of this clause.

(3) If the Contractor or subcontractor fails to respond to the Contracting Officer's request for information under paragraph (d)(1) of this clause, and the Contracting Officer determines that continued adherence to the marking would make impracticable the subsequent competitive acquisition of the item, component, or process to which the technical data relates, the Contracting Officer may challenge the validity of the marking as described in paragraph (e) of this clause.

(e) Challenge.

(1) Notwithstanding any provision of this contract concerning inspection and acceptance, if the Contracting Officer determines that a challenge to the restrictive marking is warranted, the Contracting Officer shall send a written challenge notice to the Contractor or subcontractor asserting the restrictive markings. Such challenge shall--

(i) State the specific grounds for challenging the asserted restriction;

(ii) Require a response within sixty (60) days justifying and providing sufficient evidence as to the current validity of the asserted restriction;

(iii) State that a DoD Contracting Officer's final decision, issued pursuant to paragraph (g) of this clause, sustaining the validity of a restrictive marking identical to the asserted restriction, within the three-year period preceding the challenge, shall serve as justification for the asserted restriction if the validated restriction was asserted by the same Contractor or subcontractor (or any licensee of such Contractor or subcontractor) to which such notice is being provided; and

(iv) State that failure to respond to the challenge notice may result in issuance of a final decision pursuant to paragraph (f) of this clause.

(2) The Contracting Officer shall extend the time for response as appropriate if the Contractor or subcontractor submits a written request showing the need for additional time to prepare a response.

(3) The Contractor's or subcontractor's written response shall be considered a claim within the meaning of the Contract Disputes Act of 1978 (41 U.S.C. 601, et seq.), and shall be certified in the form prescribed at 33.207 of the Federal Acquisition Regulation, regardless of dollar amount.

(4) A Contractor or subcontractor receiving challenges to the same restrictive markings from more than one Contracting Officer shall notify each Contracting Officer of the existence of more than one challenge. The notice shall also state which Contracting Officer initiated the first in time unanswered challenge. The Contracting Officer initiating the first in time unanswered challenge after consultation with the Contractor or subcontractor and the other Contracting Officers, shall formulate and distribute a schedule for responding to each of the challenge notices to all interested parties. The schedule shall afford the Contractor or subcontractor an opportunity to respond to each challenge notice. All parties will be bound by this schedule.

(f) Final decision when Contractor or subcontractor fails to respond. Upon a failure of a Contractor or subcontractor to submit any response to the challenge notice, other than a failure to respond under a contract for commercial items, the Contracting Officer will issue a final decision to the Contractor or subcontractor in accordance with the Disputes clause of this contract pertaining to the validity of the asserted restriction. This final decision shall be issued as soon as possible after the expiration of the time period of paragraph (e)(1)(ii) or (e)(2) of this clause. Following issuance of the final decision, the Contracting Officer will comply with the procedures in paragraphs (g)(2) (ii) through (iv) of this clause.

(g) Final decision when Contractor or subcontractor responds.

(1) if the Contracting Officer determines that the Contractor or subcontractor has justified the validity of the restrictive marking, the Contracting Officer shall issue a final decision to the Contractor or subcontractor sustaining the validity of the restrictive marking, and stating that the Government will continue to be bound by the restrictive marking. This final decision shall be issued within sixty (60) days after receipt of the Contractor's or subcontractor's response to the challenge notice, or within such longer period that the Contracting Officer has notified the Contractor or subcontractor that the Government will require. The notification of a longer period for issuance of a final decision will be made within sixty (60) days after receipt of the response to the challenge notice.

(2)(i) If the Contracting Officer determines that the validity of the restrictive marking is not justified, the Contracting Officer shall issue a final decision to the Contractor or subcontractor in accordance with the Disputes clause of this contract. Notwithstanding paragraph (e) of the Disputes clause, the final decision shall be issued within sixty (60) days after receipt of the Contractor's or subcontractor's response to the challenge notice, or within such longer period that the Contracting Officer has notified the Contractor or subcontractor of the longer period that the Government will require. The notification of a longer period for issuance of a final decision will be made within sixty (60) days after receipt of the response to the challenge notice.

(ii) The Government agrees that it will continue to be bound by the restrictive marking of a period of ninety (90) days from the issuance of the Contracting Officer's final decision under paragraph (g)(2)(i) of this clause. The Contractor or subcontractor agrees that, if it intends to file suit in the United States Claims Court it will provide a notice of intent to file suit to the Contracting Officer within ninety (90) days from the issuance of the Contracting Officer's final decision under paragraph (g)(2)(i) of this clause. If the Contractor or subcontractor fails to appeal, file suit, or provide a notice of intent to file suit to the Contracting Officer within the ninety (90)-day period, the Government may cancel or ignore the restrictive markings, and the failure of the Contractor or subcontractor to take the required action constitutes agreement with such Government action.

(iii) The Government agrees that it will continue to be bound by the restrictive marking where a notice of intent to file suit in the United States Claims Court is provided to the Contracting Officer within ninety (90) days from the issuance of the final decision under paragraph (g)(2)(i) of this clause. The Government will no longer be bound, and the Contractor or subcontractor agrees that the Government may strike or ignore the restrictive markings, if the Contractor or subcontractor fails to file its suit within one (1) year after issuance of the final decision. Notwithstanding the foregoing, where the head of an agency determines, on a nondelegable basis, that urgent or compelling circumstances will not permit waiting for the filing of a suit in the United States Claims Court, the Contractor or subcontractor agrees that the agency may, following notice to the Contractor or subcontractor, authorize release or disclosure of the technical data. Such agency determination may be made at any time after issuance of the final decision and will not affect the Contractor's or subcontractor's right to damages against the United States where its restrictive markings are ultimately upheld or to pursue other relief, if any, as may be provided by law.

(iv) The Government agrees that it will be bound by the restrictive marking where an appeal or suit is filed pursuant to the Contract Disputes Act until final disposition by an agency Board of Contract Appeals or the United States Claims Court. Notwithstanding the foregoing, where the head of an agency determines, on a nondelegable basis, following notice to the Contractor that urgent or compelling circumstances will not permit awaiting the decision by such Board of Contract Appeals or the United States Claims Court, the Contractor or subcontractor agrees that the agency may authorize release or disclosure of the technical data. Such agency determination may be made at any

time after issuance of the final decision and will not affect the Contractor's or subcontractor's right to damages against the United States where its restrictive markings are ultimately upheld or to pursue other relief, if any, as may be provided by law.

(h) Final disposition of appeal or suit. (1) If the Contractor or subcontractor appeals or files suit and if, upon final disposition of the appeal or suit, the Contracting Officer's decision is sustained--

(i) The restrictive marking on the technical data shall be cancelled, corrected or ignored; and

(ii) If the restrictive marking is found not to be substantially justified, the Contractor or subcontractor, as appropriate, shall be liable to the Government for payment of the cost to the Government of reviewing the restrictive marking and the fees and other expenses (as defined in 28 U.S.C. 2412(d)(2)(A)) incurred by the Government in challenging the marking, unless special circumstances would make such payment unjust.

(2) If the Contractor or subcontractor appeals or files suit and if, upon final disposition of the appeal or suit, the Contracting Officer's decision is not sustained--

(i) The Government shall continue to be bound by the restrictive marking; and

(ii) The Government shall be liable to the Contractor or subcontractor for payment of fees and other expenses (as defined in 28 U.S.C. 2412(d)(2)(A)) incurred by the Contractor or subcontractor in defending the marking, if the challenge by the Government is found not to have been made in good faith.

(i) Duration of right to challenge. The Government may review the validity of any restriction on technical data, delivered or to be delivered under a contract, asserted by the Contractor or subcontractor. During the period within three (3) years of final payment on a contract or within three (3) years of delivery of the technical data to the Government, whichever is later, the Contracting Officer may review and make a written determination to challenge the restriction. The Government may, however, challenge a restriction on the release, disclosure or use of technical data at any time if such technical data--

(1) Is publicly available;

(2) Has been furnished to the United States without restriction; or

(3) Has been otherwise made available without restriction. Only the Contracting Officer's final decision resolving a formal challenge by sustaining the validity of a restrictive marking constitutes "validation" as addressed in 10 U.S.C. 2321.

(j) Decision not to challenge. A decision by the Government, or a determination by the Contracting Officer, to not challenge the restrictive marking or asserted restriction shall not constitute "validation."

(k) Privity of contract. The Contractor or subcontractor agrees that the Contracting Officer may transact matters under this clause directly with subcontractors at any tier that assert restrictive markings. However, this clause neither creates nor implies privity of contract between the Government and subcontractors.

(l) Flowdown. The Contractor or subcontractor agrees to insert this clause in contractual instruments with its subcontractors or suppliers at any tier requiring the delivery of technical data, except contractual instruments for commercial items or commercial components.

(End of clause)

252.243-7001 PRICING OF CONTRACT MODIFICATIONS (DEC 1991)

When costs are a factor in any price adjustment under this contract, the contract cost principles and procedures in FAR part 31 and DFARS part 231, in effect on the date of this contract, apply.

252.243-7002 REQUESTS FOR EQUITABLE ADJUSTMENT (MAR 1998)

(a) The amount of any request for equitable adjustment to contract terms shall accurately reflect the contract adjustment for which the Contractor believes the Government is liable. The request shall include only costs for performing the change, and shall not include any costs that already have been reimbursed or that have been separately claimed. All indirect costs included in the request shall be properly allocable to the change in accordance with applicable acquisition regulations.

(b) In accordance with 10 U.S.C. 2410(a), any request for equitable adjustment to contract terms that exceeds the simplified acquisition threshold shall bear, at the time of submission, the following certificate executed by an individual authorized to certify the request on behalf of the Contractor:

I certify that the request is made in good faith, and that the supporting data are accurate and complete to the best of my knowledge and belief.

(Official's Name)

(Title)

(c) The certification in paragraph (b) of this clause requires full disclosure of all relevant facts, including--

(1) Cost or pricing data if required in accordance with subsection 15.403-4 of the Federal Acquisition Regulation (FAR); and

(2) Information other than cost or pricing data, in accordance with subsection 15.403-3 of the FAR, including actual cost data and data to support any estimated costs, even if cost or pricing data are not required.

(d) The certification requirement in paragraph (b) of this clause does not apply to----

(1) Requests for routine contract payments; for example, requests for payment for accepted supplies and services, routine vouchers under a cost-reimbursement type contract, or progress payment invoices; or

(2) Final adjustment under an incentive provision of the contract.

252.247-7023 TRANSPORTATION OF SUPPLIES BY SEA (MAY 2002)

(a) Definitions. As used in this clause --

(1) "Components" means articles, materials, and supplies incorporated directly into end products at any level of manufacture, fabrication, or assembly by the Contractor or any subcontractor.

(2) "Department of Defense" (DoD) means the Army, Navy, Air Force, Marine Corps, and defense agencies.

(3) "Foreign flag vessel" means any vessel that is not a U.S.-flag vessel.

(4) "Ocean transportation" means any transportation aboard a ship, vessel, boat, barge, or ferry through international waters.

(5) "Subcontractor" means a supplier, materialman, distributor, or vendor at any level below the prime contractor whose contractual obligation to perform results from, or is conditioned upon, award of the prime contract and who is performing any part of the work or other requirement of the prime contract.

(6) "Supplies" means all property, except land and interests in land, that is clearly identifiable for eventual use by or owned by the DoD at the time of transportation by sea.

(i) An item is clearly identifiable for eventual use by the DoD if, for example, the contract documentation contains a reference to a DoD contract number or a military destination.

(ii) "Supplies" includes (but is not limited to) public works; buildings and facilities; ships; floating equipment and vessels of every character, type, and description, with parts, subassemblies, accessories, and equipment; machine tools; material; equipment; stores of all kinds; end items; construction materials; and components of the foregoing.

(7) "U.S.-flag vessel" means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b)(1) The Contractor shall use U.S.-flag vessels when transporting any supplies by sea under this contract.

(2) A subcontractor transporting supplies by sea under this contract shall use U.S.-flag vessels if--

(i) This contract is a construction contract; or

(ii) The supplies being transported are--

(A) Noncommercial items; or

(B) Commercial items that--

(1) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it contracts for f.o.b. destination shipment);

(2) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(3) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(c) The Contractor and its subcontractors may request that the Contracting Officer authorize shipment in foreign-flag vessels, or designate available U.S.-flag vessels, if the Contractor or a subcontractor believes that --

(1) U.S.-flag vessels are not available for timely shipment;

(2) The freight charges are inordinately excessive or unreasonable; or

(3) Freight charges are higher than charges to private persons for transportation of like goods.

(d) The Contractor must submit any request for use of other than U.S.-flag vessels in writing to the Contracting Officer at least 45 days prior to the sailing date necessary to meet its delivery schedules. The Contracting Officer will process requests submitted after such date(s) as expeditiously as possible, but the Contracting Officer's failure to grant approvals to meet the shipper's sailing date will not of itself constitute a compensable delay under this or any other clause of this contract. Requests shall contain at a minimum --

(1) Type, weight, and cube of cargo;

(2) Required shipping date;

(3) Special handling and discharge requirements;

(4) Loading and discharge points;

(5) Name of shipper and consignee;

(6) Prime contract number; and

(7) A documented description of efforts made to secure U.S.-flag vessels, including points of contact (with names and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.

(e) The Contractor shall, within 30 days after each shipment covered by this clause, provide the Contracting Officer and the Maritime Administration, Office of Cargo Preference, U.S. Department of Transportation, 400 Seventh Street SW., Washington, DC 20590, one copy of the rated on board vessel operating carrier's ocean bill of lading, which shall contain the following information:

(1) Prime contract number;

(2) Name of vessel;

(3) Vessel flag of registry;

(4) Date of loading;

(5) Port of loading;

(6) Port of final discharge;

(7) Description of commodity;

(8) Gross weight in pounds and cubic feet if available;

(9) Total ocean freight in U.S. dollars; and

(10) Name of the steamship company.

(f) The Contractor shall provide with its final invoice under this contract a representation that to the best of its knowledge and belief--

(1) No ocean transportation was used in the performance of this contract;

(2) Ocean transportation was used and only U.S.-flag vessels were used for all ocean shipments under the contract;

(3) Ocean transportation was used, and the Contractor had the written consent of the Contracting Officer for all non-U.S.-flag ocean transportation; or

(4) Ocean transportation was used and some or all of the shipments were made on non-U.S.-flag vessels without the written consent of the Contracting Officer. The Contractor shall describe these shipments in the following format:

ITEM DESCRIPTION	CONTRACT LINE ITEMS	QUANTITY

TOTAL_____

(g) If the final invoice does not include the required representation, the Government will reject and return it to the Contractor as an improper invoice for the purposes of the Prompt Payment clause of this contract. In the event there has been unauthorized use of non-U.S.-flag vessels in the performance of this contract, the Contracting Officer is entitled to equitably adjust the contract, based on the unauthorized use.

(h) In the award of subcontracts for the types of supplies described in paragraph (b)(2) of this clause, the Contractor shall flow down the requirements of this clause as follows:

(1) The Contractor shall insert the substance of this clause, including this paragraph (h), in subcontracts that exceed the simplified acquisition threshold in part 2 of the Federal Acquisition Regulation.

(2) The Contractor shall insert the substance of paragraphs (a) through (e) of this clause, and this paragraph (h), in subcontracts that are at or below the simplified acquisition threshold in part 2 of the Federal Acquisition Regulation.

(End of clause)

SECTION J
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LIST OF ATTACHMENTS

(The Contractor may obtain a copy of the Attachments and Exhibits from the following website: http://ebs.sas.usace.army.mil or http://134.164.142

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ATTACHMENT 2 – PROJECT AREA, LOCATION AND VICINITY MAPS FOR HARTWELL DAM PROJECT AND RICHARD B. RUSSELL DAM & LAKE

HARTWELL
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File No. HWP-5.5-6-0/1, Unit 1-4 Generator and Turbine Controls
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Woodward Governor Company
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Drawing No. RRP-5.3-0-0/1, Location and Vicinity Map, Sheet No. 1
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ATTACHMENT 3 – TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE (ENG FORM 4025-R) TO INCLUDE INSTRUCTIONS FOR COMPLETING THE ENG FORM 4025-R

EXHIBIT A – ADDRESS AND CODE

EXHIBIT B – THE CONTRACT DATA REQUIREMENTS LIST (DD FORM 1423) TO INCLUDE INSTRUCTIONS FOR COMPLETING THE DD FORM 1423 FOR HARTWELL UNITS 1-5 AND RICHARD B. RUSSELL UNITS 1-8

EXHIBIT A

ADDRESS AND CODE

1. Where the following office symbols are shown in Block 14 the material shall be addressed as shown:

Symbol	Address
(1) CENWP-HDC-A	Department of the Army Portland District, U.S. Army Corps of Engineers ATTN: CENWP-HDC-A P.O. Box 2946 Portland, OR 97208-2946 P.O.C. Ron Cleys (503) 808-4231
(2) CESAS-CD-RR	Department of the Army Savannah District, Corps of Engineers ATTN: CESAS-CD-RR 2167 Engineers Dr. Elberton, GA 30635

2. The codes used are defined as follows:

Code	Block	Definition
(1) OTIME	10	One time.
(2) XX	7	Inspection and acceptance requirements specified elsewhere in contract.
(3) A	8	Requires specific approval.
(4) ONE/R	10	One time plus revisions.
(5) DAC	12	Days after receipt of contract.
(6) DAR	13	Days after receipt of drawings APPROVED AS NOTED or RETURNED FOR CORRECTION.
(7) DBD	13	Days before delivery.
(8) ASREQ	10,11,12	As required.
(9) MTHLY	10	Monthly.
(10) O	11	Submit on last day of the month.

EXHIBIT B

CONTRACT DATA REQUIREMENTS LIST (DD FORM 1423)
FOR
HARTWELL UNITS 1-5
AND
RICHARD B. RUSSELL UNIT 1-8

NOTE: THE CONTRACT DATA REQUIREMENTS LIST (DD FORM 1423) TO INCLUDE INSTRUCTIONS FOR COMPLETING THE DD FORM 1423 FOR HARTWELL UNITS 1-5 AND RICHARD B. RUSSELL UNITS 1-8 ARE ATTACHED AS A PDF FILE TO THIS SOLICITATION UNDER WEBSITE: http://ebs.sas.usace.army.mil or http://134.164.142

Section K - Representations, Certifications and Other Statements of Offerors

CLAUSES INCORPORATED BY FULL TEXT

52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

(a) The offeror certifies that --

(g) 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 –

(e) Those prices,

(h) The intention to submit an offer, or

(iii) The methods of 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 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) of this provision; 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) of this provison _____ (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) of this provision.

(c) If the offeror deletes or modifies subparagraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of clause)

52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (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 subcontract awards at any tier and require that all recipients of subcontract awards in excess of $100,000 shall certify and disclose accordingly.

(h) 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, shall be subject to a civil penalty of not less than $10,000, and not more than $100,000, for each such failure.

(End of provision)

52.204-3 TAXPAYER IDENTIFICATION (OCT 1998)

(a) Definitions.

“Common parent,” as used in this 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.

“Taxpayer Identification Number (TIN),” as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(b) All offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal Acquisition Regulation (FAR) 4.904, 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) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(d) Taxpayer Identification Number (TIN).

___ TIN:._____

___ TIN has been applied for.

___ TIN is not required because:

___ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

___ Offeror is an agency or instrumentality of a foreign government;

___ Offeror is an agency or instrumentality of the Federal Government.

(e) Type of organization.

___ Sole proprietorship;

___ Partnership;

___ Corporate entity (not tax-exempt);

___ Corporate entity (tax-exempt);

___ Government entity (Federal, State, or local);

___ Foreign government;

___ International organization per 26 CFR 1.6049-4;

___ Other _____

(f) Common parent.

___ Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.

___ Name and TIN of common parent:

Name _____

TIN _____

(End of provision)

52.204-5 WOMEN-OWNED BUSINESS (OTHER THAN SMALL BUSINESS) (MAY 1999)

(a) Definition. Women-owned business concern, as used in this provision, means a concern that 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 its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) Representation. [Complete only if the offeror is a women-owned business concern and has not represented itself as a small business concern in paragraph (b)(1) of FAR 52.219-1, Small Business Program Representations, of this solicitation.] The offeror represents that it ( ) is a women-owned business concern.

(End of provision)

52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (DEC 2001)

(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.

(End of provision)

52.214-16 MINIMUM BID ACCEPTANCE PERIOD (APR 1984)

(a) "Acceptance period," as used in this provision, means the number of calendar days available to the Government for awarding a contract from the date specified in this solicitation for receipt of bids.

(b) This provision supersedes any language pertaining to the acceptance period that may appear elsewhere in this solicitation.

(c) The Government requires a minimum acceptance period of 60 calendar days.

(d) In the space provided immediately below, bidders may specify a longer acceptance period than the Government's minimum requirement.

The bidder allows the following acceptance period: _____ calendar days.

(e) A bid allowing less than the Government's minimum acceptance period will be rejected.

(f) The bidder agrees to execute all that it has undertaken to do, in compliance with its bid, if that bid is accepted in writing within (1) the acceptance period stated in paragraph (c) above or (2) any longer acceptance period stated in paragraph (d) above.

(End of clause)

52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (APR 2002) - ALTERNATE I (APR 2002)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 333611.

(2) The small business size standard is 1,000 employees.

(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, ( ) is not a small business concern.

(2) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, that it ( ) is, ( ) is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a women-owned small business concern.

(4) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a veteran-owned small business concern.

(5) (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (b)(4) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a service-disabled veteran-owned small business concern.

(6) [Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.] The offeror represents, as part of its offer, that--

(i) It ( ) is, ( ) is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It ( ) is, ( ) is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. (The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture:_____.) Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(7) (Complete if offeror represented itself as disadvantaged in paragraph (b)(2) of this provision.) The offeror shall check the category in which its ownership falls:

____ Black American.

____ Hispanic American.

____ Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).

____ Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).

____ Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).

____ Individual/concern, other than one of the preceding.

(c) Definitions. As used in this provision--

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern," 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 the size standard in paragraph (a) of this provision.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern," means a small business concern --

(1) That 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; or

(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, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 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 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.

(End of provision)

52.219-2 EQUAL LOW BIDS. (OCT 1995)

(a) This provision applies to small business concerns only.

(b) The bidder's status as a labor surplus area (LSA) concern may affect entitlement to award in case of tie bids. If the bidder wishes to be considered for this priority, the bidder must identify, in the following space, the LSA in which the costs to be incurred on account of manufacturing or production (by the bidder or the first-tier subcontractors) amount to more than 50 percent of the contract price.

_____

_____

(c) Failure to identify the labor surplus area as specified in paragraph (b) of this provision will preclude the bidder from receiving priority consideration. If the bidder is awarded a contract as a result of receiving priority consideration under this provision and would not have otherwise received award, the bidder shall perform the contract or cause the contract to be performed in accordance with the obligations of an LSA concern.

52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)

The offeror represents that --

(a) ( ) It has, ( ) has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;

(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.

(End of provision)

52.222-25 AFFIRMATIVE ACTION COMPLIANCE (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) [ ] has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(End of provision)

52.222-38 COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING REQUIREMENTS (DEC 2001)

By submission of its offer, the offeror represents that, if it is subject to the reporting requirements of 38 U.S.C. 4212(d) (i.e., if it has any contract containing Federal Acquisition Regulation clause 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans), it has submitted the most recent VETS-100 Report required by that clause.

(End of provision)

52.223-13 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (OCT 2000)

(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 section 313 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) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; 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.

(End of clause)

52.226-2 HISTORICALLY BLACK COLLEGE OR UNIVERSITY AND MINORITY INSTITUTION REPRESENTATION (MAY 2001)

(a) Definitions. As used in this provision--

Historically black college or university means an institution determined by the Secretary of Education to meet the requirements of 34 CFR 608.2. For the Department of Defense, the National Aeronautics and Space Administration, and the Coast Guard, the term also includes any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

Minority institution means an institution of higher education meeting the requirements of Section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1067k, including a Hispanic-serving institution of higher education, as defined in Section 316(b)(1) of the Act (20 U.S.C. 1101a)).

(b) Representation. The offeror represents that it--

( ) is ( ) is not a historically black college or university;

( ) is ( ) is not a minority institution.

(End of provision)

252.209-7001 DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) "Definitions."

As used in this provision --

(a) "Government of a terrorist country" includes the state and the government of a terrorist country, as well as any political subdivision, agency, or instrumentality thereof.

(2) "Terrorist country" means a country determined by the Secretary of State, under section 6(j)(1)(A) of the Export Administration Act of 1979 (50 U.S.C. App. 2405(j)(i)(A)), to be a country the government of which has repeatedly provided support for such acts of international terrorism. As of the date of this provision, terrorist countries include: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

(3) "Significant interest" means --

(i) Ownership of or beneficial interest in 5 percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding 5 percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;

(ii) Holding a management position in the firm, such as a director or officer;

(iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;

(iv) Ownership of 10 percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or

(v) Holding 50 percent or more of the indebtness of a firm.

(b) "Prohibition on award."

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary or, in the case of a subsidiary, the firm that owns the subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) "Disclosure."

If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the Offeror shall disclosure such interest in an attachment to its offer. If the Offeror is a subsidiary, it shall also disclose any significant interest the government of a terrorist country has in any firm that owns or controls the subsidiary. The disclosure shall include --

(1) Identification of each government holding a significant interest; and

(2) A description of the significant interest held by each government.

(End of provision)

252.225-7000 BUY AMERICAN ACT--BALANCE OF PAYMENTS PROGRAM CERTIFICATE (SEP 1999)

(a) Definitions. Domestic end product, qualifying country, qualifying country end product, and qualifying country end product have the meanings given in the Buy American Act and Balance of Payments Program clause of this solicitation.

(b) Evaluation. Offers will be evaluated by giving preference to domestic end products and qualifying country end products over nonqualifying country end products.

(c) Certifications. (1) The Offeror certifies that--

(i) Each end product, except those listed in paragraphs (c) (2) or (3) of this provision, is a domestic end product; and

(ii) Components of unknown origin are considered to have been mined, produced, or manufactured outside the United States or a qualifying country.

(2) The Offeror certifies that the following end products are qualifying country end products:

Qualifying Country End Products

Line Item Number	Country of Origin
_____	_____

(List only qualifying country end products.)

(3) The Offeror certifies that the following end products are nonqualifying country end products:

Nonqualifying Country End Products

Line Item Number	Country of Origin (If known)
_____	_____

(End of provision)

252.225-7003 INFORMATION FOR DUTY-FREE ENTRY EVALUATION (MAR 1998)

(i) Does the offeror propose to furnish—

(1) A domestic end product with nonqualifying country components for which the offeror requests duty-free entry; or

(2) A foreign end product consisting of end items, components, or material of foreign origin other than those for which duty-free entry is to be accorded pursuant to the Duty-Free Entry--Qualifying Country Supplies (End Products and Components) clause or, if applicable, the Duty-Free Entry--Eligible End Products clause of this solicitation?

Yes ( ) No ( )

(c) If the answer in paragraph (a) is yes, answer the following questions:

(1) Are such foreign supplies now in the United States?

Yes ( ) No ( )

(2) Has the duty on such foreign supplies been paid?

Yes ( ) No ( )

(3) If the answer to paragraph (b)(2) is no, what amount is included in the offer to cover such duty?$_____

(d) If the duty has not been paid, the Government may elect to make award on a duty-free basis. If so, the offered price will be reduced in the contract award by the amount specified in paragraph (b)(3). The Offeror agrees to identify, at the request of the Contracting Officer, the foreign supplies which are subject to duty-free entry.

(End of proviswion)

252.225-7017 PROHIBITION ON AWARD TO COMPANIES OWNED BY THE PEOPLE'S REPUBLIC OF CHINA (FEB 2000)

(a) Definition. "People's Republic of China," as used in this provision, means the government of the People's Republic of China, including its political subdivisions, agencies, and instrumentalities.

(b) Prohibition on award. Section 8120 of the Department of Defense Appropriations Act for fiscal year 1999 (Pub. L. 105-262), as amended by Section 144 of Title I, Division C, of the Omnibus Consolidated and Emergency Supplemental Appropriations Act, 1999 (Pub. L. 105-277), prohibits the award of a contract under this solicitation to any company in which the Director of Defense Procurement (Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics)) has determined that the People's Republic of China or the People's Liberation Army of the People's Republic of China owns more than 50 percent interest.

(c) Representation. By submission of an offer, the offeror represents that the People's Republic of China or the People's Liberation Army of the People's Republic of China does not own more than 50 percent interest in the offeror.

(End of provision)

252.225-7031 SECONDARY ARAB BOYCOTT OF ISRAEL (JUN 1992)

(a) Definitions. As used in this clause--

(1) "Foreign person" means any person other than a United States person as defined in Section 16(2) of the Export Administration Act of 1979 (50 U.S.C. App. Sec 2415).

(2) "United States person" is defined in Section 16(2) of the Export Administration Act of 1979 and means any United States resident or national (other than an individual resident outside the United States and employed by other than a United States person), any domestic concern (including any permanent domestic establishment of any foreign concern), and any foreign subsidiary or affiliate (including any permanent foreign establishment) of any domestic concern which is controlled in fact by such domestic concerns, as determined under regulations of the President.

(b) Certification. By submitting this offer, the Offeror, if a foreign person, company or entity, certifies that it--

(1) Does not comply with the Secondary Arab Boycott of Israel; and

(2) Is not taking or knowingly agreeing to take any action, with respect to the Secondary Boycott of Israel by Arab countries, which 50 U.S.C. App. Sec 2407(a) prohibits a United States person from taking.

(End of clause)

252.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it:

____ (1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

____ (2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

Section L - Instructions, Conditions and Notices to Bidders

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52.204-6 DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (JUN 99)

(a) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation "DUNS" followed by the DUNS number that identifies the offeror's name and address exactly as stated in the offer.

(b) 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, if located within the United States, 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.

(c) 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.customerservice@dnb.com. If an offeror is unable to locate a local service center, it may send an e-mail to Dun and Bradstreet at globalinfo@mail.dnb.com.

(End of provision)

52.214-3 AMENDMENTS TO INVITATIONS FOR BIDS (DEC 1989)

(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

(b) Bidders 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 a bid, (3) by letter or telegram, or (4) by facsimile, if facsimile bids are authorized in the solicitation. The Government must receive the acknowledgment by the time and at the place specified for receipt of bids.

(End of provision)

52.214-4 FALSE STATEMENTS IN BIDS (APR 1984)

Bidders must provide full, accurate, and complete information as required by this solicitation and its attachments.

The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

(End of provision)

52.214-5 SUBMISSION OF BIDS (MAR 1997)

(a) Bids and bid modifications shall be submitted in sealed envelopes or packages (unless submitted by electronic means) (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 bidder.

(b) Bidders using commercial carrier services shall ensure that the bid 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 bids will not be considered unless authorized by the solicitation; however, bids may be modified or withdrawn by written or telegraphic notice.

(d) Facsimile bids, modifications, or withdrawals, will not be considered unless authorized by the solicitation.

(e) Bids submitted by electronic commerce shall be considered only if the electronic commerce method was specifically stipulated or permitted by the solicitation.

(End of provision)

52.214-6 EXPLANATION TO PROSPECTIVE BIDDERS (APR 1984)

Any prospective bidder 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 bidders before the submission of their bids. Oral explanations or instructions given before the award of a contract will not be binding. Any information given a prospective bidder concerning a solicitation will be furnished promptly to all other prospective bidders as an amendment to the solicitation, if that information is necessary in submitting bids or if the lack of it would be prejudicial to other prospective bidders.

(End of provision)

52.214-7 LATE SUBMISSIONS, MODIFICATIONS, AND WITHDRAWALS OF BIDS (NOV 1999)

(a) Bidders are responsible for submitting bids, and any modifications or withdrawals, so as to reach the Government office designated in the invitation for bids (IFB) by the time specified in the IFB. If no time is specified in the IFB, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that bids are due.

(b)(1) Any bid, modification, or withdrawal received at the Government office designated in the IFB after the exact time specified for receipt of bids is “late” and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late bid would not unduly delay the acquisition; and--

(i) If it was transmitted through an electronic commerce method authorized by the IFB, it 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 bids; or

(ii) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of bids and was under the Government's control prior to the time set for receipt of bids.

(2) However, a late modification of an otherwise successful bid that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(c) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the bid wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(d) If an emergency or unanticipated event interrupts normal Government processes so that bids cannot be received at the Government office designated for receipt of bids by the exact time specified in the IFB and urgent Government requirements preclude amendment of the IFB, the time specified for receipt of bids 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.

(e) Bids may be withdrawn by written notice received at any time before the exact time set for receipt of bids. If the IFB authorizes facsimile bids, bids may be withdrawn via facsimile received at any time before the exact time set for receipt of bids, subject to the conditions specified in the provision at 52.214-31, Facsimile Bids. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for receipt of bids, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid.

(End of provision)

52.214-9 FAILURE TO SUBMIT BID. (JUL 1995)

Recipients of this solicitation not responding with a bid should not return this solicitation, unless it specifies otherwise. Instead, they should advise the issuing office by letter, postcard, or established electronic commerce methods, whether they want to receive future solicitations for similar requirements.

(End of provision)

52.214-10 CONTRACT AWARD--SEALED BIDDING (JUL 1990)

(a) The Government will evaluate bids in response to this solicitation without discussions and will award a contract to the responsible bidder whose bid, conforming to the solicitation, will be most advantageous to the Government considering only price and the price-related factors specified elsewhere in the solicitation.

(b) The Government may (1) reject any or all bids, (2) accept other than the lowest bid, and (3) waive informalities or minor irregularities in bids received.

(c) The Government may accept any item or group of items of a bid, unless the bidder qualifies the bid by specific limitations. Unless otherwise provided in the Schedule, bids 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 prices offered, unless the bidder specifies otherwise in the bid.

(d) A written award or acceptance of a bid mailed or otherwise furnished to the successful bidder within the time for acceptance specified in the bid shall result in a binding contract without further action by either party.

(e) The Government may reject a bid as nonresponsive if the prices bid are materially unbalanced between line

items or subline items. A bid 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 bid will result in the lowest overall cost to the Government even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

(End of provision)

52.214-12 PREPARATION OF BIDS (APR 1984)

(a) Bidders are expected to examine the drawings, specifications, Schedule, and all instructions. Failure to do so will be at the bidder's risk.

(b) Each bidder shall furnish the information required by the solicitation. The bidder shall sign the bid 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 bid. Bids 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, bidders shall (1) show the unit price, including, unless otherwise specified, packaging, packing, and preservation and (2) enter the extended price for the quantity of each item offered in the "Amount" column of the Schedule. In case of discrepancy between a unit price and an extended price, the unit price will be presumed to be correct, subject, however, to correction to the same extent and in the same manner as any other mistake.

(d) Bids for supplies or services other than those specified will not be considered unless authorized by the solicitation.

(e) Bidders must state a definite time for delivery of supplies or for performance of services, unless otherwise specified in the solicitation.

(f) Time, if stated as a number of days, will include Saturdays, Sundays, and holidays.

(End of provision)

52.214-15 PERIOD FOR ACCEPTANCE OF BIDS (APR 1984)

In compliance with the solicitation, the bidder agrees, if this bid is accepted within 60 calendar days (60 calendar days unless a different period is inserted by the bidder) from the date specified in the solicitation for receipt of bids, to furnish any or all items upon which prices are bid at the price set opposite each item, delivered at the designated point(s), within the time specified in the Schedule.

(End of clause)

52.214-21 DESCRIPTIVE LITERATURE (APR 2002)

(a) Descriptive literature, as used in this provision, means information furnished by a bidder, such as cuts, illustrations, drawings, and brochures, that shows a product's characteristics or construction or explains its operation. The term includes only that information required to evaluate the acceptability of the product and excludes other information for operating or maintaining the product.

(b) Descriptive literature is required to establish, for the purpose of evaluation and award, details of the product offered that are specified elsewhere in the solicitation and pertain to significant elements such as--

(1) Design;

(2) Materials;

(3) Components;

(4) Performance characteristics; and

(5) Methods of manufacture, assembly, construction, or operation.

(c) Descriptive literature, required elsewhere in this solicitation, shall be--

(1) Identified to show the item(s) of the offer to which it applies; and

(2) Received by the time specified in this solicitation.

(d) If the bidder fails to submit descriptive literature on time, the Government will reject the bid, except that late descriptive literature sent by mail may be considered under the Late Submissions, Modifications, and Withdrawals of Bids provision of this solicitation.

(e) If the descriptive literature fails to show that the product offered conforms to the requirements of the solicitation, the Government will reject the bid.

(End of provision)

52.214-34 SUBMISSION OF OFFERS IN THE ENGLISH LANGUAGE (APR 1991)

Offers submitted in response to this solicitation shall be in the English language. Offers received in other than English shall be rejected.

(End of provision)

52.214-35 SUBMISSION OF OFFERS IN U.S. CURRENCY (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.

(End of provision)

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a firm fixed price contract resulting from this solicitation.

(End of clause)

52.232-38 SUBMISSION OF ELECTRONIC FUNDS TRANSFER INFORMATION WITH OFFER (MAY 1999)

The offeror shall provide, with its offer, the following information that is required to make payment by electronic funds transfer (EFT) under any contract that results from this solicitation. This submission satisfies the requirement to provide EFT information under paragraphs (b)(1) and (j) of the clause at 52.232-34, Payment by Electronic Funds Transfer--Other than Central Contractor Registration.

(1) The solicitation number (or other procurement identification number).

(2) The offeror's name and remittance address, as stated in the offer.

(3) The signature (manual or electronic, as appropriate), title, and telephone number of the offeror's official authorized to provide this information.

(4) The name, address, and 9-digit Routing Transit Number of the offeror's financial agent.

(5) The offeror's account number and the type of account (checking, savings, or lockbox).

(6) If applicable, the Fedwire Transfer System telegraphic abbreviation of the offeror's financial agent.

(7) If applicable, the offeror shall also provide the name, address, telegraphic abbreviation, and 9-digit Routing Transit Number of the correspondent financial institution receiving the wire transfer payment if the offeror's financial agent is not directly on-line to the Fedwire and, therefore, not the receiver of the wire transfer payment.

(End of provision)

52.233-2 SERVICE OF PROTEST (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

The Contracting Officer
U.S. Army Corps of Engineers
ATTN: CESAS-CT-P
100 West Oglethorpe Avenue
Savannah, GA 31402

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

52.237-1 SITE VISIT (APR 1984)

(a) Offerors or quoters are urged and expected to inspect the site where services are to be performed and to satisfy themselves regarding all general and local conditions that may affect the cost of contract performance, to the extent that the information is reasonably obtainable. In no event shall failure to inspect the site constitute grounds for a claim after contract award.

(End of clause)

52.247-6 FINANCIAL STATEMENT (APR 1984)

The offeror shall, upon request, promptly furnish the Government with a current certified statement of the offeror's financial condition and such data as the Government may request with respect to the offeror's operations. The Government will use this information to determine the offeror's financial responsibility and ability to perform under the contract. Failure of an offeror to comply with a request for information will subject the offer to possible rejection on responsibility grounds.

(End of provision)

PRE-BID SITE VISIT

A pre-bid site visit will be conducted at the Hartwell Project Manager Office on Thursday, April 24, 2003 beginning at 9:00 a.m. and at the Richard B. Russell Powerplant on Thursday, April 24, 2003 beginning at 1:00 p.m. Point of Contact for pre-bid site information is Steve Brown (706) 856-0397. All interested bidders are urged to attend. The site visit addresses for Hartwell and Richard B. Russell are as follows:

Hartwell Project Manager Office
6961 Anderson Hwy
Hartwell, Georgia

Date: April 24, 2003
Time: 9:00 a.m

Richard B. Russell
2169 Engineer Drive
Elberton, Georgia

Date: April 24, 2003
Time: 1:00 p.m.

Name of individual from each company that will attend the site visit should reach the above point of contact no latar than 21 April 2003.

Section M - Evaluation Factors for Award

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52.217-5 EVALUATION OF OPTIONS (JUL 1990)

(a) Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

(b) The Government may reject an offer as nonresponsive if it is materially unbalanced as to prices for the basic requirement and the option quantities. An offer is unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated for other work.

(End of provision)