

2. AMENDMENT/MODIFICATION NO. 005	3. EFFECTIVE DATE January 13, 1999	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
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6. ISSUED BY Bureau of Reclamation Lower Colorado Region P.O. Box 61470 Boulder City NV 89006-1470	CODE LC-3113	7. ADMINISTERED BY (If other than Item 6)	CODE
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8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and ZIP code)	(✓)	9A. AMENDMENT OF SOLICITATION NO. 99-SQ-30-12510
	✓	9B. DATED (SEE ITEM 11) November 24, 1998
		10A. MODIFICATION OF CONTRACT/ORDER NO.
		10B. DATED (SEE ITEM 13)

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers [X] is extended, [] is not extended.

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

12. ACCOUNTING AND APPROPRIATION DATA (if required)

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

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

E. **IMPORTANT:** Contractor [] is not [] is required to sign and return _____ copies to the issuing office.

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

Project Title: Armature Winding, Core and Reconditioned Exciter for Generator at Davis Powerplant, Parker-Davis Project, Arizona

Purpose of Amendment: The purpose of this amendment is to (1) extend the date for receipt of proposals; (2) make changes to the solicitation/specifications; and (3) provide answers to questions submitted by potential offerors.

Receipt of Offers: The date for receipt of offers is hereby extended from January 19, 1999, to January 26, 1999, The time and place of receipt remain 3 p.m. local time at the Bureau of Reclamation, Lower Colorado Regional Office, Annex Building, Room AA-123, Nevada Hwy. and Park Street, Boulder City, Nevada.

Acknowledgment: See block 11 above regarding how to acknowledge this amendment. The acknowledgment must be received at the place designated for receipt of offers (see block 9 of the "Solicitation/Contract/Order for Commercial Items," Standard Form 1449).

(Continued on the following pages)

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

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

Description of the Changes:

1. The answers are hereby provided to questions submitted by potential offerors during and after the site visit.
2. Several changes have been made to the solicitations/specifications as a result of the questions and answers. Refer to the listing below for the specific pages which were revised.

Instructions:

Remove

Replace with Revised

N/A

Questions and Answers
(1 page)

Pages 1 thru 2 (SF 1449)

Pages 1 thru 2 (SF 1449)

Pages 3 thru 6

Pages 3 thru 6

Page 9

Page 9

Pages 20 thru 21

Pages 20 thru 21

Pages 60 thru 61

Pages 60 thru 61

Questions and Answers

1. Paragraph 2.02.c, page 48 - The revised language indicates the Contractor will be charged an hourly rate for use of the Government-operated cranes. Is this rate applicable only after the hatch covers on the machine have been removed, or does it include covers on the time necessary to open the hatches to provide access to the machine? If it does apply to hatch removal, how long does it typically take to remove the hatches? Is there any possibility the Government would consider allowing qualified Contractor personnel to operate the cranes?
 - A. We assume the hatch covers refer to the dome over the unit protecting the generator room from the outdoors, and not the deck plates on the machine. When the machine is turned over to the Contractor, depending on the circumstances and timing, the dome may or may not be off. It will be the Contractor's responsibility to pay at the hourly crane operator rate listed for any removal and installation of the dome during the contract. Since the plant is normally unmanned after daytime working hours, if the contractor is not present in the plant the dome will have to be installed. Likewise any inclement weather conditions (rain, cold, dust, etc.) detrimental to the Contractor's activities will require dome installation and subsequent loss of crane usage. It takes approximately a half hour to install or remove the dome. Removal requires the assistance of a laborer to install the rigging on the crane hook in conjunction with crane operation. Installation requires the assistance of two laborers to properly align the dome in conjunction with crane operation. The Contractor will need to provide these personnel at the Contractor's expense. Crane operation will be by Reclamation personnel only.
2. Paragraph 3.06.b, page 59 and Bid Schedule Items 10C & 22C - the revised language allows the Contractor to determine if the reused core requires centering and, if so, to submit a procedure and cost proposal to the Contracting Officer under the Changes clause. If this is Reclamation's intention, what costs should be entered in the Bid Schedule for CLINS 10C and 22C?
 - A. The cost to be entered for CLINS 10C and 22C are the costs for setting up instrumentation, taking measurements and analyzing data to determine if the stator is round and if its center is concentric with the turbine bearing center.
3. With regard to the referenced solicitation, and specifically specification para. 3.06.c. bottom of page 60, we recommend deletion of the requirement that "The Contractor shall accurately measure and record the dimensions of each slot before and after the application of the semiconducting compound in the slots.....".
 - A. Change has been made to section 3.06.c. on page 60 of the specifications.

SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS

1. REQUISITION NUMBER

PAGE 1 OF 95 PAGES

OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30

99316000047

2. CONTRACT NO.

3. AWARD/EFFECTIVE DATE

4. ORDER NUMBER

5. SOLICITATION NUMBER

6. SOLICITATION ISSUE DATE

99-SQ-30-12510

11/24/98

7. FOR SOLICITATION INFORMATION CALL:

a. NAME

Beverly K. Nelson
(e-mail: bnelson@lc.usbr.gov)

b. TELEPHONE NUMBER (No collect calls)

(702) 293-8524

8. OFFER DUE DATE/ LOCAL TIME

1/26/99 @
3:00 PM

9. ISSUED BY

CODE LC-3113

10. THIS ACQUISITION IS

UNRESTRICTED

SET ASIDE % FOR

SMALL BUSINESS

SMALL DISADV. BUSINESS

8(a)

SIC: 3621

SIZE STANDARD: 1,000 employees

11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED

SEE SCHEDULE

13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)

13b. RATING

14. METHOD OF SOLICITATION

RFQ

IFB

RFP

12. DISCOUNT TERMS

15. DELIVER TO

CODE

Davis Dam, Arizona

16. ADMINISTERED BY

CODE LC-3113

Bureau of Reclamation
Lower Colorado Regional Office
P.O. Box 61470
Boulder City NV 89006-1470

17a. CONTRACTOR/ OFFEROR

CODE

FACILITY CODE

18a. PAYMENT WILL BE MADE BY

CODE D-7734

U.S. Department of the Interior
Bureau of Reclamation
Reclamation Service Center
P.O. Box 25508
Denver CO 80225-0508

TELEPHONE NO.

17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER

18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a UNLESS BLOCK BELOW IS CHECKED SEE ADDENDUM

19. ITEM NO.

20. SCHEDULE OF SUPPLIES/SERVICES

21. QUANTITY

22. UNIT

23. UNIT PRICE

24. AMOUNT

SEE PARAGRAPH 4. CONTINUATION OF
BLOCKS 19 THROUGH 24

(Attach Additional Sheets as Necessary)

25. ACCOUNTING AND APPROPRIATION DATA

26. TOTAL AWARD AMOUNT (For Govt. Use Only)

27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4. FAR 52.212-3 AND 52.212-5 ARE ATTACHED. ADDENDA ARE ARE NOT ATTACHED.

27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA ARE ARE NOT ATTACHED.

28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 1 COPIES TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED HEREIN.

29. AWARD OF CONTRACT: REFERENCE OFFER DATED YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ITEMS:

30a. SIGNATURE OF OFFEROR/CONTRACTOR

31a. UNITED STATES OF AMERICA (SIGNATURE OF CONTRACTING OFFICER)

30b. NAME AND TITLE OF SIGNER (TYPE OR PRINT)

30c. DATE SIGNED

31b. NAME OF CONTRACTING OFFICER (TYPE OR PRINT)

31c. DATE SIGNED

32a. QUANTITY IN COLUMN 21 HAS BEEN

RECEIVED INSPECTED ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED

33. SHIP NUMBER

34. VOUCHER NUMBER

35. AMOUNT VERIFIED CORRECT FOR

PARTIAL FINAL

36. PAYMENT

COMPLETE PARTIAL FINAL

37. CHECK NUMBER

32b. SIGNATURE OF AUTHORIZED GOVT. REPRESENTATIVE

32c. DATE

38. S/R ACCOUNT NUMBER

39. S/R VOUCHER NUMBER

40. PAID BY

41a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT

41b. SIGNATURE AND TITLE OF CERTIFYING OFFICER

41c. DATE

42a. RECEIVED BY (Print)

42b. RECEIVED AT (Location)

42c. DATE REC'D (YY/MM/DD)

42d. TOTAL CONTAINERS

Public reporting burden for this collection of information is estimated to average 45 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the FAR Secretariat (VRS), Office of Federal Acquisition Policy, GSA, Washington, DC 20405

OMB No.: 9000-0136
Expires: 09/30/98

CONTINUATION OF BLOCKS FROM SF 1449

1. BLOCK 16: GOVERNMENT ADMINISTRATION PERSONNEL

The contracting office representative responsible for overall administration of this contract is:

Beverly K. Nelson (Mail Code: LC-3113), Contract Specialist
Bureau of Reclamation
P.O. Box 61470
Boulder City, Nevada 89006-1470
Phone No.: (702) 293-8524
Fax No.: (702) 293-8499
E-mail address: bnelson@lc.usbr.gov

2. BLOCK 17a: CONTRACTOR'S ADMINISTRATION PERSONNEL

Offerors are requested to designate a person who will be in charge of overall administration of this contract.

Name: _____
Title: _____
Address: _____
City/State/Zip: _____
Telephone No.: (____) - _____
Fax No.: (____) - _____
E-mail address: _____

3. Continuation of Block 18B: SUBMISSION OF INVOICES.

(a) The COR has been designated authority to approve invoices for payments under the contract. To ensure timely processing of payments under the contract, the designated billing office for such payments is: Mr. Jack Delp (LCD-2000), Bureau of Reclamation, Lower Colorado Dams Facilities Office, P.O. Box 60400, Boulder City NV 89006-0400.

(b) Final payment under the contract will be approved by the Contracting Officer. The final invoice will be approved pursuant to the Prompt Payment clause in the contract after all contract settlement actions are complete. To ensure timely processing, the designated billing office for the final invoice is Ms. Beverly Nelson (LC-3113), Bureau of Reclamation, Lower Colorado Region, P.O. Box 61470, Boulder City NV 89006.

4. CONTINUATION OF BLOCK 19 THROUGH 24 OF SF-1449

(A) The Requirements.

(1) The Contractor shall furnish the items identified in this Section, in accordance with the terms, conditions, and specifications contained in the contract.

(2) Not all the items included in the Schedule will be required to be performed under this contract. Those items indicated by A, B, C, etc. are dependent upon the results of certain testing. For evaluation purposes, the Government will evaluate the total price based on the worst case scenario.

(3) An offeror proposing prices on only one schedule or a part of a schedule or schedules will not be considered for award.

(B) The Schedule of Supplies/Services:

Base Schedule

19. Item No.	20. Schedule of Supplies/Services	21. Quantity	22. Unit	23. Unit Price	24. Amount
1A	Furnish performance and payment bonds installation of generator stator core (\$_____)*		For the lump sum of	-----	
1B	Furnish performance and payment bonds for installation of armature windings (\$_____)*		For the lump sum of	-----	
4C	Furnish performance and payment bonds for reconditioning exciter system (\$_____)*		For the lump sum of	-----	
2	Furnishing and factory testing new armature winding rated 48,000 kilovolt amperes, 1.0 power factor, 13,800 volts, for an existing 94.7-revolutions-per-minute, 3-phase, 60-Hertz, vertical-shaft, synchronous hydro generator, complete in accordance with this solicitation, including delivery of materials and equipment to the installation site.		For the lump sum of	-----	
3	Removing and preparing for disposal of the existing winding from the generator being rewind.		For the lump sum of	-----	
4	Installing new winding furnished under item 2, including field tests.		For the lump sum of	-----	
5	Recondition exciter, install new copper and insulation (armature windings, commutator and field insulation), and factory test, including field tests, complete in accordance with this solicitation, including delivery of materials and equipment to the installation site.		For the lump sum of	-----	
6	Test existing insulation from the exciter armature windings, commutator and field insulation for asbestos.		For the lump sum of	-----	
7A	Remove and prepare for disposal the insulation and copper (armature windings, commutator and field insulation) from the reconditioned exciter (if it does not contain asbestos).		For the lump sum of	-----	

19. Item No.	20. Schedule of Supplies/Services	21. Quantity	22. Unit	23. Unit Price	24. Amount
7B	Remove and prepare for disposal the insulation and copper (armature windings, commutator and field insulation) from the reconditioned exciter (if it does contain asbestos).	For the lump sum of		-----	
8	Manufacturing and factory testing new generator stator core, complete in accordance with this solicitation, including delivery of materials and equipment to the installation site.	For the lump sum of		-----	
9	Testing existing generator stator core.	For the lump sum of		-----	
10A	If the existing generator stator core tests negative, remove and dispose of existing stator core, install and test new generator stator core.	For the lump sum of		-----	
10B	If the existing generator stator core tests positive, blast clean, perform minor repairs, retorque studs, replace nuts and clean the existing generator stator core.	For the lump sum of		-----	
10C	If the existing generator stator core tests positive, the contractor shall determine if the core must be centered and/or made circular and submit a proposed method of repair to the Contracting Officer.	For the lump sum of		-----	
11	Furnish drawings, data and documentation.	For the lump sum of		-----	
12	Spare Parts: A total of 20 coils shall be furnished. The spare coils, including end connectors and all associated jumpers, slot filler materials, tapes and wedges shall be packaged in moisture-tight containers or covered with moisture-tight wrappings. The contractor shall supply enough wedges and slot filler materials to rewedge a minimum 25% of the generator slots.	For the lump sum of		-----	
13	New generator stator core: Furnish 2,000 punchings (sheets of stator steel).	For the lump sum of		-----	
	Subtotal for Base Schedule				
14	Dispose of and provide salvage credit for armature windings and generator stator core, if applicable, from the existing generator.	For the lump sum of		-----	
	Total for Base Schedule				

Offeror shall enter total costs the Performance and Payment Bonds will be based upon for the base schedule only.

Option Schedule

19. Item No.	20. Schedule of Supplies/Services	21. Quantity	22. Unit	23. Unit Price	24. Amount
15A	Furnish performance and payment bonds for installation of armature windings (\$_____)*	For the lump sum of		-----	
15B	Furnish performance and payment bonds for reconditioning exciter system (\$_____)*	For the lump sum of			
16	Furnishing and factory testing new armature winding rated 48,000 kilovolt amperes, 1.0 power factor, 13,800 volts, for an existing 94.7-revolutions-per-minute, 3-phase, 60-Hertz, vertical-shaft, synchronous hydro generator, complete in accordance with this solicitation, including delivery of materials and equipment to the installation site.	For the lump sum of		-----	
17	Removing and preparing for disposal of the existing winding from the generator being rewind.	For the lump sum of		-----	
18	Installing new winding furnished under item 16, including field tests.	For the lump sum of		-----	
19	Recondition exciter, install new copper and insulation (armature windings, commutator and field insulation), and factory test, including field tests, complete in accordance with this solicitation, including delivery of materials and equipment to the installation site.	For the lump sum of		-----	
20A	Remove and prepare for disposal the insulation and copper (armature windings, commutator and field insulation) from the reconditioned exciter (if it does not contain asbestos).	For the lump sum of		-----	
20B	Remove and prepare for disposal the insulation and copper (armature windings, commutator and field insulation) from the reconditioned exciter (if it does contain asbestos).	For the lump sum of		-----	
21	Testing existing generator stator core.	For the lump sum of		-----	
22A	If the existing generator stator core tests negative, remove and dispose of existing stator core, install and test Government-furnished generator stator core.	For the lump sum of		-----	
22B	If the existing generator stator core tests positive, blast clean, perform minor repairs, retorque studs, replace nuts and clean the existing generator stator core.	For the lump sum of		-----	

(C) WARRANTED CHARACTERISTICS (Applies to all units)

(a) Armature Winding. The offeror warrants that the losses for the generator, after installation of the new armature winding, will not exceed the value stated below (also see paragraph 1.02, General Description and Operating Conditions of Powerplant):

Description	Warranted Characteristic
The armature winding I ² R at 13,800 volts, 60 Hertz, 1.0 power factor, and 48,000 kilovolt-ampere output, at a winding temperature of 95°C, will not exceed (see the "Failure to Meet Performance Warranties" clause and "Evaluation-Commercial Items" provision).	_____ kilowatts

NOTE: Offers failing to indicate this loss value, as well as offers warranting a value in excess of 300 kilowatts, will not be considered for award.

~~§ (b) Reconditioned Exciter. The offeror warrants that the losses for the reconditioned exciter, after installation of this exciter, will not exceed the value stated below (also see paragraph 1.02, General Description and Operating Conditions of Powerplant):~~

~~§~~

Description	Warranted Characteristic
The reconditioned exciter I²R at a generator output of 13,800 volts, 60 Hertz, 1.0 power factor, and 48,000 kilovolt-ampere output, at a winding temperature of 95°C, will not exceed (see the "Failure to Meet Performance Warranties" clause and "Evaluation-Commercial Items" provision).	_____ kilowatts

~~§~~

(b) Generator Stator Core. The offeror warrants that the losses for the new generator stator core, after installation of the new generator stator core, will not exceed the value stated below (also see paragraph 1.02, General Description and Operating Conditions of Powerplant):

Description	Warranted Characteristic
The total new generator stator core at 13,800 volts, 60 Hertz, 1.0 power factor, and 48,000 kilovolt-ampere output, will not exceed (see the "Failure to Meet Performance Warranties" clause and "Evaluation-Commercial Items" provision).	_____ kilowatts

NOTE: Offers failing to indicate this loss value, as well as offers warranting a value in excess of 414 kilowatts, will not be considered for award.

(2) The RSHS manual as referenced in subparagraph (b) above can be ordered from: The Government Printing Office, Superintendent of Documents, North Capitol and H St. N.W., MS-SSMC - Room 566, Washington, D.C. 20401 (Stock item GPO-024-003-00178-3). The Contractor may also obtain the RSHS manual from the Lower Colorado Regional Contracting Office for \$29 each.

(d) The Contractor shall submit a written proposed safety program in the form and time intervals prescribed in section 2 of the RSHS manual and amendments or revisions thereto in effect on the date of the solicitation.

(e) In addition to any other provisions in the contract, the Contractor shall comply with all safety and material data submittal requirements contained in the RSHS manual and revisions thereto.

(f) The Contractor shall maintain an accurate record of, and shall report to the Contracting Officer (or authorized representative) in the manner prescribed by the Contracting Officer, all cases of death, occupational diseases, or traumatic injury to employees or the public involved, and property damage in excess of \$2,500 occurring during performance of work under this contract.

(g) The rights and remedies of the Government provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

(h) In the event there is a conflict between the requirements contained in any of the safety documents referenced herein, the more stringent requirements shall prevail.

(J) WBR 1452.246-81 FAILURE TO MEET PERFORMANCE WARRANTIES --BUREAU OF RECLAMATION (SEP 1995) ALTERNATE I (SEP 1995)

(a) In addition to any other warranties in this contract, this clause is applicable when end items furnished by the Contractor do not meet Reclamation-conducted performance warranties listed in the Supplies or Services and Prices section of the Schedule. Reclamation will conduct factory tests, field tests, or operations under service conditions as specified in this contract in accordance with Parts 1 through 6, Statement of Work, and the Schedule.

(b) The Contracting Officer will notify the Contractor, within a reasonable time after discovery that the item does not meet warranty requirements under the "Warranty Characteristics" paragraph in the Supplies or Services and Prices section of the Schedule. The Contractor will be given an opportunity to repair or replace defective equipment at the Contractor's expense.

(c) If the contractor does not repair or replace defective equipment, the Government may elect to accept equipment which does not pass factory test, field test, or operation under service conditions, and which does not meet the requirements of performance warranties, and the Government shall be entitled to an equitable reduction in the contract price for such equipment. Because of the impossibility of determining the actual loss to the Government due to such failure to meet warranties, the Government will adjust the contract price in accordance with the liquid damages in paragraph (d). All adjustments made in accordance with paragraph (d) of this clause shall be cumulative with no credit given for

equipment which exceeds performance warranties. If the adjustments result in a reduction in the contract price which exceeds the amount due the Contractor, the Contractor shall promptly refund to the Government the excess amount and the Contractor and the its sureties shall be liable for that amount. This Adjustment shall be final and conclusive for both the Contractor and the Government, and neither party can use this adjustment as a basis for a claim against the other party.

(d) (1) The contract line item price for each generator armature winding shall be reduced \$1,300 for each kilowatt that the actual armature winding I²R losses, as determined from field tests performed by the Contractor in accordance with the specification paragraph entitled "Field Tests" (rather than any previous tests performed by the Government), exceed the warranted losses at 13,800 volts, rated frequency, rated power factor, and rated kilovolt-ampere output.

(2) The contract line item price for each generator armature winding shall be further reduced by \$15,700 for each 1/100 of 1 percent that the actual kilowatt capacity is below the required capacity specified under the "Rating" subparagraph of the specification paragraph entitled "Type and Rating," and within the specified temperature limits.

§ **(3) The contract line item price for each generator core will be reduced \$1,300 for**
 § **each kilowatt that the actual core losses, as determined from field tests performed**
 § **by the Contractor in accordance with the specification paragraph entitled “Field**
 § **Tests” (rather than any previous tests performed by the Government), exceed the**
 § **warranted losses at working flux density and rated frequency.**

(K) 52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA
(JAN 1997) ALTERNATE I (JUL 1995)

(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 of 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.

c. Installation of armature winding. - The Contractor shall install and connect the new armature winding complete throughout, shall connect the armature winding main leads to the generator voltage isolated-bus structure, and shall connect the armature winding for normal operation. Connections throughout the armature winding, except for bolted connections at the main and neutral leads, shall be brazed. Connections shall be brazed using a brazing filler metal having a melting temperature of approximately 800°F (427°C), and meeting the requirements of the latest edition of the American Welding Society Standards, AWS A2.0 and A5.8-1992. The brazing procedure shall ensure complete and thorough distribution of the brazing filler metal throughout the joints of the connections. Appropriate heat sinks shall be used on insulated conductors near the areas being brazed to prevent insulation damage from excessive heat. The heat sinks shall not use water soaked materials in direct contact with these insulated bodies. Burned insulation or loss of bond between the insulation and the conductor will result in rejection and replacement of affected coils at the Contractor's expense. The coil interconnections shall be insulated with mica tape and impregnated with solventless epoxy or polyester resin. No permanent bends shall be made in any part of the winding after insulation has been applied to that part. All work shall be performed under the technical direction of an installation supervisor to be furnished by the Contractor. The installation supervisor shall be technically qualified to supervise the installation, preparation and testing of the armature coils and generator stator core and to perform the field tests. The installation supervisor shall be present at the work site during the entire installation period, shall arrange for a representative to be present at all shifts, and shall report immediately, in writing to the Contracting Officer, any work not in accordance with the manufacturer's recommendation or any special conditions which may result in an unsatisfactory job. The supervisor shall make a daily log of the accomplished work. Detailed installation procedures shall be submitted by the Contractor as directed in Table C.3 (List of Submittals) and shall be approved by the Contracting Officer before the work is performed, as specified in subparagraph 1.04.a.(9) (Drawings, Data, and Representative to be furnished by the Contractor).

The slot position of each coil shall be recorded and submitted when the rewind work is completed.

The Contractor shall install at least one RTD in each parallel circuit of each phase in the slot with coils of the same phase in front and back of the slot.

The Contractor shall furnish and use new slot wedges, slot fillers, and blocking and lashing materials. Additional installation and material requirements are specified in paragraph 3.05 (Armature Winding).

If the surge rings (where end turns are lashed to) are suitable for reuse, the Contractor shall reinsulate the top and bottom surge rings with new insulating materials; otherwise the Contractor shall furnish and install new top and bottom surge rings which are adequately insulated. The surge rings (existing or new) shall be grounded by the Contractor.

§ The Contractor shall ~~accurately measure and record the dimensions of each slot before~~
§ ~~and after the application of the semiconducting compound in the slots and~~ provide suitable wedges and fillers to provide uniform tightness of the installed armature winding coils. To check the adequacy of grounding of the coils in the slot, the Contractor shall measure and

record the resistance between each coil side (top and bottom) and ground. The measurement method shall include the use of a 6-inch by ½-inch-wide woven copper strap or an approved alternate method. The maximum allowable resistance shall be determined by the Contractor and shall be subject to the approval of the Contracting Officer. During and after installation of the new armature winding, but prior to reassembly of the generator, the Contractor shall dry out or cure the windings as necessary and conduct resistance measurements and the dielectric tests as described in paragraph 6.03 (Field Tests).

After the installation is complete, the Contractor shall paint the exposed portion of the generator stator core and the wedges, except the wedges used to measure spring deflection; the exposed portion of the coils above and below the generator stator core, series and pole jumpers, leads to the circuit ring buses, and the circuit ring buses with "Buff Epoxy Enamel Insulating Varnish" (beige color) combined with a catalyst. The total applied dry thickness shall not be less than 5 mils, nor exceed 15 mils. After the paint is dry, the Contractor shall locate slot 1 and shall number it and every tenth slot with a nontracking, temperature-resistant paint on the right and left generator stator core packets at the upper and lower ends of the slot.

Reclamation will then reassemble the generator unit.

3.07 INDICATING AND PROTECTIVE DEVICES

The Contractor shall furnish, install and test a minimum of 12 standard 10-ohm-resistance temperature-detector coils (to interface with existing monitoring equipment). At least one in each parallel circuit per phase, shall be provided in the armature winding, located to indicate, as closely as possible, the highest temperature obtained in operation. The temperature detection devices shall be provided with 3 leads.

The sensing element shall be encapsulated in a flexible heat-cured compound throughout the entire slot portion and for a short distance past the end of the slot. The leads shall be encapsulated in the same material or protected with acrylic resin-coated fiberglass sleeving. The copper detectors shall have a temperature coefficient of resistance of between 0.003830 and 0.003890 at a reference temperature of 25°C and are covered by paragraph 4.5 of IEEE No. 119. [Also see subparagraph 6.02 d. (Factory Tests), for required accuracy tests on the temperature detectors]. The resistance element shall be approximately 20 inches in length.

The Contractor shall furnish and install the necessary wiring between the existing terminal board and the individual temperature detectors. The wiring shall comprise a 3-conductor cable. The cable shall be shielded and the shield shall be terminated (not grounded) at the terminal board end. The cable shall have a suitable outer jacket offering adequate protection against chemical, thermal, and mechanical damage potential in the powerplant environment and shall be 5/16 inch in diameter or less. The conductors shall be stranded, tinned, copper with an insulation system capable of operating at a temperature of at least 125°C.

The portion of the resistance-temperature-detector assembly located within the slot shall be coated with a semiconducting paint prior to installation.