

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGE 1 3
2. AMENDMENT/MODIFICATION NO. Three (3)	3. EFFECTIVE DATE 6/24/85	4. REQUISITION/PURCHASE REQ. NO. OIE-84-156 dtd 6/4/85 and 6/24/85	5. PROJECT NO. (If applicable)	
6. ISSUED BY U.S. Nuclear Regulatory Commission Division of Contracts Washington, DC 20555	CODE	7. ADMINISTERED BY (If other than Item 6)	CODE	

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) Pentek, Inc. 1026 Fourth Avenue Coraopolis, PA 15108	9A. AMENDMENT OF SOLICITATION NO. 9B. DATED (SEE ITEM 11) 10A. MODIFICATION OF CONTRACT/ORDER NO. NRC-05-84-156 10B. DATED (SEE ITEM 13) 4/25/84
CODE	FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

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

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
(a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR 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)

B&R No. 30-19-02-06 FIN B8721 Obligated: \$124,000.00

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

<input checked="" type="checkbox"/>	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.
<input type="checkbox"/>	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).
<input type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
<input checked="" type="checkbox"/>	Mutual Agreement and Article VIII of the Contract
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)

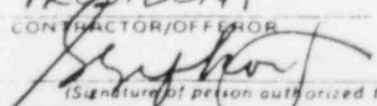
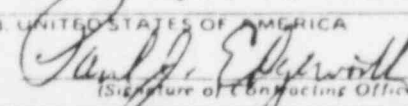
E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return _____ copies to the issuing office.

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

SEE ATTACHED SHEETS.

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NRC-05-84-156 PDR

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) SHELDON LEFKOWITZ PRESIDENT	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Paul J. Edgeworth, Contracting Officer
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED 8-14-85
16B. UNITED STATES OF AMERICA  (Signature of Contracting Officer)	16C. DATE SIGNED 8/28/85

- A. Article I - Statement of Work, paragraph D, Description of Work, is revised to include the additional work required by the NRC which resulted in a cost growth in the amount of \$7962.00. This amount, together with the reimbursable cost and fixed fee ceiling authorized by contract modification no. one (dated March 25, 1985) establishes the following contract ceiling for work required under the contract from its effective date through June 24, 1985:

Reimbursable Cost -	\$290,560.00
Fixed Fee -	\$290,560.00
TOTAL	\$290,560.00

It is understood that the additional cost of \$7962.00 represents the full obligation of the Government for the cost growth experienced, with no increase in the amount of fixed fee previously established by the contract.

- B. Pursuant to Article VIII, Option for Increased Scope of Work the NRC hereby exercises its option for performance of additional work described in the contractor's proposal dated June 20, 1985, and the attached Statement of Work, for the total estimated cost of \$124,847.00.
- C. Article II - Period of Performance, is revised to read:
- The performance of work described in Article I and the attached Statement of Work shall commence on April 25, 1984 and continue through December 31, 1985.
- D. Article III - Consideration and Payment, paragraph A is changed to read:
- A. Estimated Cost, Fixed Fee and Obligation
1. It is estimated that the total cost to the Government for full performance of this contract will be \$415,407.00, of which the sum of ~~\$290,560.00~~ represents the estimated reimbursable costs, and of which ~~\$290,560.00~~ represents the fixed fee.
 2. Total funds currently available for payment and allotted to this contract are \$406,598.00, of which ~~\$290,560.00~~ represents the estimated reimbursable costs, and of which ~~\$290,560.00~~ represents the fixed fee.
 3. It is estimated that the amount currently allotted will cover performance of the optional statement of work through October 30, 1985.

E. In summary, this modification accomplishes the following:

1. Authorizes funding of the contract cost growth which totals \$7962.00.
2. Exercises the contract option for additional work estimated at the total cost and fixed fee of \$124,847.00.
3. Extends the contract performance period through December 31, 1985.
4. Increases the total estimated cost of the contract by \$132,809.00 from \$282,598.00 to \$415,407.00, and the amount of obligated funds by \$124,000.00 from \$282,598.00.

Statement of Work for Exercise of Option for Increased Scope of Work

The contractor shall develop the inspection procedures that are applicable during the start-up testing phase of the Reactor Inspection Program. These procedures have been drafted in basic form and the contractor shall fully develop these inspection procedures. The effort shall be performed in accordance with the statement of work identified in the Basic Contract as modified below:

Task III:

Add the following general and specific inspection procedures as Task III. These procedures are applicable during the start up testing phase of the Reactor Inspection Program. The contractor shall develop the following inspection procedures. These procedures exist in basic form only and are required to be extensively developed. The attached Schedule B Typical Inspection Plan is attached for review.

General

Inspection

Procedure

<u>Number</u>	<u>Inspection Procedure Title</u>
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General

35501	QA for Startup Test Program
72300	Startup Test Procedure Review*
72301	Startup Test Results Evaluation*

70302	Startup Test Witnessing and Observation*
72400	Overall Startup Test Program
72500	Initial Fuel Loading Procedure Review
72524	Initial Fuel Loading Procedure Review
81000	Security and Safeguards**
83521	Radiation Protection - Startup
84521	Radwaste - Startup
90501	Reportable Matters - Test Program
93700	Inspector Dispatched to Site - Test

Pressurized Water Reactor (PWR)

72564	Precritical Test Procedure Review (Protective Trip Circuit, Group B, and Rod Drop Measurement, Group A)
72566	Precritical Test Procedure Review (RCS Leak Test, Group A, and Pressurizer Effectiveness, Group B)
72570	Initial Criticality Procedure Review (Group A and B)
72572	Low Power Test Procedure Review (Moderator Temperature Coefficient Measurement and Boron Reactivity Worth, Group B, and Rod Worth and Pseudo Rod Ejection, Group A)
72576	Power Ascension Test Procedure Review (Natural Circulation, Group A, and Power Reactivity Coefficient Measurement, Group B)

72578	Power Ascension Test Procedure Review (Evaluation of Core Performance) (Group A and B)
72580	Power Ascension Test Procedure Review (Turbine Trip, Group B, and Generator Trip, Group A)
72582	Power Ascension Test Procedure Review: Loss of Offsite Power (Group A and B)
72583	Power Ascension Test Procedure Review: Shutdown from Outside the Control Room (Group B)
72584	Power Ascension Procedure Review (Evaluation of Flux Asymmetry of Pseudo Rod Ejection Test) (Group A)
72592	Initial Criticality Witnessing
72596	Precritical Data Review
72600	Power Level Plateau Data Review (25%)
72608	Power Level Plateau Data Review (50%)
72616	Power Level Plateau Data Review (75%)
72624	Power Level Plateau Data Review (100%)

Boiling Water Reactor (BWR)

72502	Initial Criticality Procedure Review (Group A and B)
72504	Heatup Phase Procedures Review
72508	Power Ascension Procedure Review: HPCI System (Group A)
72509	Power Ascension Procedure Review: Control and Drive Systems (Group A and B)
72510	Power Ascension Procedure Review (Relief Valves, Group A, and MSIVs, Group B)
72512	Startup Test Procedure Review (RCIC and Recirculation Pump) (Group B)
72514	Startup Test Procedure Review (Turbine Trip, Group A, and Generator Trip, Group B)
72516	Startup Test Procedure Review: Shutdown from Outside the Control Room (Group A)
72517	Startup Test Procedure Review: Loss of Offsite Power (Group A and B)
72518	Startup Test Procedure Review (Core Performance) (Group A and B)
72526	Initial Criticality Witnessing
72532	Power Level Plateau Data Review and Evaluation

Section D:

These procedures shall be developed in accordance with the specifications in Section D and the following:

Additional Preliminary Requirements

The contractor shall review the existing draft procedures for consistency and proper application of requirements.

Review current regulations, guides, codes, for additional requirements that must be included in the procedures.

Incorporate additional requirements described in OIE-OP 0301

Develop a "background" section for all procedures.

(See attached Schedule A for reference)

Section F Meetings and Travel

For proposal purposes, it is anticipated that one additional round trip from Pittsburgh, PA to Washington, DC will be required for this effort. NRC will fund only those trips approved on advance by the NRC project officer and directly applicable to the contract.

		<u>Work Needed</u>		<u>Year of Last Revision</u>
<u>Background</u>	<u>Review Procedure for Consistent and Proper Application of Requirements</u>	<u>Review Regulation Guides Codes, Standards for Requirements and so identify and include other than Background</u>	<u>Rewrite Procedure to Current IE Office Procedure 0301</u>	
2501	X	X		1980
2300	X	X		1984
2301	X	X		1984
2302	X	X		1984
2400	X	X	X	1980
2500	X	X	X	1975
2524	X	X		1984
2564	X	X	X	1980
2566	X	X	X	1980
2570	X	X	X	1980
2572	X	X	X	1980
2576	X	X	X	1980
2578	X	X	X	1980
2580	X	X	X	1980
2582	X	X	X	1980
2583	X	X	X	1980
2584	X	X	X	1980
2592	X	X		1984
2596	X	X	X	1980
2600	X	X	X	1980
2608	X	X	X	1980
2616	X	X	X	1980
2624	X	X	X	1980
2502	X	X	X	1975
2504	X	X	X	1975
2508	X	X	X	1980
2509	X	X	X	1980
2510	X	X	X	1980
2512	X	X	X	1980
2514	X	X	X	1980
2516	X	X	X	1980

THIS SERIES IS ALSO UNDER THE CSD PROGRAM

	<u>Background</u>	<u>Review Procedure for Consistent and Proper Application of Requirements</u>	<u>Review Regulation Guides Codes, Standards for Requirements and so identify and include other than Background</u>	<u>Rewrite Procedure to Current IE Office Procedure 0301</u>	<u>Year of Last Revision</u>
517	X	X	X	X	1980
518	X	X	X	X	1980
526	X	X			1984
532	X	X			1984
018	X	X			1984
020	X	X			1984
022	X	X			1984
034	X	X			1984
038	X	X			1984
042	X	X			1984
046	X	X			1984
052	X	X			1984
054	X	X			1984
058	X	X			1984
062	X	X			1984
064	X	X			1984
066	X	X			1984
070	X	X			1984
072	X	X			1984
074	X	X			1984
078	X	X			1984
080	X	X			1984
084	X	X			1984
088	X	X			1984
1501	X	X			1984
1601	X	X			1982
1810	X	X	X	X	1984
3521	X	X			1984
4521	X	X	X	X	1975
0501	X	X	X		

8100 Series is also found in the 25' Program

Schedule B
TYPICAL INSPECTION PLAN - LIGHT WATER REACTOR PLANTS
(GENERAL PROCEDURES)

PROCED. NUMBER	PROCEDURE DESCRIPTION	INSPECTION SCHEDULE (months from OL)*													
		-6	-5	-4	-3	-2	-1	0L	+1	+2	+3	+4	+5	+6	+7
35501	QA for Startup Test Program														
72300	Startup Test Procedure Review												C		
72301	Startup Test Results Evaluation							S						C	
72302	Startup Test Witnessing							S					C		
72400	Overall Startup Test Program								S ..				C		
72500	Initial Fuel Loading Procedure Review							C							
72524	Initial Fuel Loading Witnessing							S	C						

*S = start inspection; C = complete inspection.

LIGHT WATER ... ACT... INSPECTION
PROGRAM - STARTUP TESTING PHASE

2514,

PROCED. NUMBER	PROCEDURE DESCRIPTION	INSPECTION SCHEDULE (months from OL)*													
		-6	-5	-4	-3	-2	-1	0L	+1	+2	+3	+4	+5	+6	+7
83530	Radiation Protection - SU & Power Ascension														
84530	Radioactive Waste Systems - SU & Power Ascension														
90501	Reportable Matters - Test Program														
93700	Inspector Dispatched to Site - Test Program Related														

*S = startup inspection; C = complete inspection.

2514.

LIGHT WATER REACTOR INSPECTION
PROGRAM - OPERATIONS PHASE

APPENDIX C
TYPICAL INSPECTION PLAN - LIGHT WATER REACTOR PLANTS
(BWR PROCEDURES)

PROCED. NUMBER	PROCEDURE DESCRIPTION	INSPECTION SCHEDULE (months from OL)*													
		-6	-5	-4	-3	-2	-1	OL	+1	+2	+3	+4	+5	+6	+7
72502	Initial Criticality Procedure Review	S						C							
72504	Heatup Phase Procedure Review	S						C							
72508	Power Ascension Procedure Review: HPCI System	S						C							
72509	Power Ascension Procedure Review: CRD System	S						C							
72510	Power Ascension Procedure Review (RV-MSIV)	S						C							
72512	Startup Test Procedure Review (RCICS/Recirculation Pump Trip)	S						C							

* S = start inspection; C = complete inspection.