

STANDARD FORM 26, JULY 1966 GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41CFR) 1-16.101			AWARD/CONTRACT			PAGE 1	OF 5
1. CONTRACT (Proc. Inst. Ident.) NO. NRC-03-80-148		2. EFFECTIVE DATE 9/25/80	3. REQUISITION/PURCHASE REQUEST/PROJECT NO. NRR-80-148		4. CERTIFIED FOR NATIONAL DEFENSE UNDER BOSA REG. 2 AND/OR DMS REG. 1. RATING:		
5. ISSUED BY U. S. Nuclear Regulatory Commission Division of Contracts Washington, D. C. 20555		CODE	6. ADMINISTERED BY (If other than block 5)		CODE	7. DELIVERY FOB DESTI- NATION <input checked="" type="checkbox"/> OTHER (See below)	
8. CONTRACTOR NAME AND ADDRESS (Street, city, country, State, and ZIP code)		CODE	FACILITY CODE		9. DISCOUNT FOR PROMPT PAYMENT Net 30		
University of Maryland Department of Chemical and Nuclear Engineering College Park, MD 20740					10. SUBMIT INVOICES (4 copies unless otherwise specified) TO ADDRESS SHOWN IN BLOCK <u>12</u>		
11. SHIP TO/MARK FOR U. S. Nuclear Regulatory Commission ATTN: Mr. Walter R. Butler Office of Nuclear Reactor Regulation Washington, D. C. 20555		CODE	12. PAYMENT WILL BE MADE BY U. S. Nuclear Regulatory Commission Division of Accounting Office of the Controller Washington, D. C. 20555		CODE		
13. THIS PROCUREMENT WAS <input type="checkbox"/> ADVERTISED, <input checked="" type="checkbox"/> NEGOTIATED, PURSUANT TO:		<input type="checkbox"/> 10 U.S.C. 2304 (a)(1)	<input checked="" type="checkbox"/> 41 U.S.C. 252 (c)(3)				
14. ACCOUNTING AND APPROPRIATION DATA B&R No.: 20-19-08-10 Appropriation: 31X0200.200 FIN No.: B-7503-0 \$9,291.00							
15. ITEM NO.	16. SUPPLIES/SERVICES	17. QUANTITY	18. UNIT	19. UNIT PRICE	20. AMOUNT		
	Analysis and Verification of the CONTEMPT-4 Computer Code						
21. TOTAL AMOUNT OF CONTRACT					\$9,291.00		
CONTRACTING OFFICER WILL COMPLETE BLOCK 22 OR 26 AS APPLICABLE							
22. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return <u>3</u> copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and gov- erned by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)				26. <input type="checkbox"/> AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____, including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.			
23. NAME OF CONTRACTOR BY <u>Victor Medina</u> (Signature of person authorized to sign)		27. UNIT: <u>UNITED STATES OF AMERICA</u> BY <u>Joyce Perlman</u> (Signature of Contracting Officer)		28. NAME OF CONTRACTING OFFICER (Type or print) Joyce Perlman		29. DATE SIGNED 9/15/80	
24. NAME AND TITLE OF SIGNER (Type or print) Victor Medina, Director Office of Sponsored Programs		25. DATE SIGNED 9/15/80		28. NAME OF CONTRACTING OFFICER (Type or print) Joyce Perlman		29. DATE SIGNED 9/15/80	

ARTICLE I - STATEMENT OF WORK

A. Background

The CONTEMPT-4 computer code is a completely rewritten successor to the CONTEMPT-LT/28, a computer program for predicting containment pressure-temperature response to a loss-of-coolant accident. In terms of capability, the CONTEMPT-4 code differs from the earlier code by incorporating ice condenser containment options and multi-volume capability.

In its present form, the CONTEMPT-4 code has not been debugged and contains a number of known programming errors.

B. Objective

The objective of this task is to verify and correct the CONTEMPT-4 code so that the basic dry containment Main Steam Line Break (MSLB) and Loss-of-Coolant Accident (LOCA) analyses can be checked against many available CONTEMPT-LT/28 runs.

C. Work Requirements

Estimated Completion Date

- | | |
|---|-------------------|
| 1. Verify and correct any errors in the following portions of the CONTEMPT-4 computer code: | December 31, 1980 |
| a. mass and energy balance routine; | |
| b. heat sink routines; | |
| c. spray train routine. | |
| 2. Benchmark, upon completion of the above items, a set of basic dry containment LOCA and MSLB calculations against CONTEMPT-LT/28 results. | January 31, 1981 |
| 3. A final letter report indicating all corrected errors in the CONTEMPT-4 code along with the benchmark comparison of the code to the LT/28 results will be provided upon completion of the above tasks. | February 28, 1981 |

D. Reporting Requirements

1. The Contractor shall provide the information delineated under the work requirements for the cognizant NRC Branch Chief.
2. A bi-monthly business letter is to be submitted by the 15th of the month to the cognizant Branch Chief with copies to L. Rubenstein, DSI and B. L. Grenier, NRR.

- a listing of any efforts completed during the period, milestones reached or, if missed, an explanation provided;
- the amount of funds expended for manpower and computer services during the period and cumulative to date;
- any problems or delays encountered or anticipated;
- a summary of the progress to date;
- plans for the next reporting period.

E. Meetings

It is estimated that the Contractor shall be required to attend at least three (3) guidance meetings of one day duration in Bethesda.

ARTICLE II - PERIOD OF PERFORMANCE

The period of performance under this contract shall commence on the effective date of this contract and all effort shall be completed, including submission of the final report, six (6) months thereafter.

ARTICLE III - CONSIDERATION

In full consideration of the Contractor's performance hereunder, the NRC will pay the Contractor, for an estimated two (2) man-months of effort, a lump sum of \$9,291.00.

ARTICLE IV - OBLIGATIONS

The amount presently obligated by the NRC with respect to this contract is \$9,291.00.

ARTICLE V - PAYMENT

Payment will be made in accordance with Clause 2 of the General Provisions entitled "Payments" as soon as practicable after completion of the effort, and upon submission by the Contractor of voucher(s) in a form satisfactory to the Contracting Officer; provided, however, that said payment(s) shall not be deemed to prejudice any rights which the Government may have by law or under other provisions of this contract.

ARTICLE VI - SPECIAL PROVISIONS

VI.1 PROJECT OFFICER

Performance of work hereunder shall be subject to the technical instructions issued by the U. S. Nuclear Regulatory Commission. The technical instructions shall be signed by the Project Officer.

The Project Officer is responsible for:

- (1) monitoring the Contractor's technical progress, including the surveillance and assessment of performance and recommending to the Contracting Officer changes in requirement;
- (2) interpreting the statement of work;
- (3) performing technical evaluation as required;
- (4) performing technical inspections and acceptances required by this contract; and
- (5) assisting the Contractor in the resolution of technical problems encountered during performance.

Within the purview of this authority, the Project Officer is authorized to approve payment vouchers for supplies/services required under the contract. The Contracting Officer is responsible for directing or negotiating any changes in terms, conditions, or amounts cited in the contract.

For guidance from the Project Officer to the Contractor to be valid, it must:

- (1) be consistent with the description of work set forth in this contract;
- (2) not constitute new assignment of work or change of the expressed terms, conditions, or specifications incorporated into this contract;
- (3) not constitute a basis for an extension to the period of performance or contract delivery schedule; and
- (4) not constitute a basis for any increase in the contract price.

If the Contractor receives guidance from the Project Officer which the Contractor feels is not valid under the criteria cited above, the Contractor shall immediately notify the Project Officer. If the Project Officer and the Contractor are not able to resolve the questions within five (5) days, the Contractor shall notify the Contracting Officer.

VI.2 INSPECTION AND ACCEPTANCE

Acceptance of the services and reports to be delivered herein will be made by the Project Officer.

VI.3 DISSEMINATION OF CONTRACT INFORMATION

The Contractor shall not publish, permit to be published, or distribute for public consumption, any information, oral or written,

concerning the results or conclusions made pursuant to the performance of this contract, without the prior written consent of the Contracting Officer. (Two (2) copies of the material proposed to be published or distributed shall be submitted to the Contracting Officer.)

VI.4 GOVERNMENT-FURNISHED MATERIALS

The CONTEMPT-4 computer code will be provided to the Contractor after award of this contract.

ARTICLE VII - GENERAL PROVISIONS

This contract is subject to the Fixed Price Research and Development Contracts Provisions under \$10,000.00, dated November 14, 1977 which incorporated the FPR Changes and Additions and NRC Additions, attached hereto and made a part hereof.

Clause 14 entitled "Patent Rights - Acquisition by the Government" of the General Provisions is deleted in its entirety.