

| STANDARD FORM 26, JULY 1966<br>GENERAL SERVICES ADMINISTRATION<br>FED. PROC. REG. (41CFR) 1-16.101  |  | AWARD/CONTRACT  |  | PAGE<br>1  | OF<br>4                    |
|---|--|---|--|--|----------------------------|
| 1. CONTRACT (Proc. Inst. Ident.) NO.<br>NRC-17-80-451   |  | 2. EFFECTIVE DATE<br>7/3/80   | 3. REQUISITION/PURCHASE REQUEST/PROJECT NO.<br>SECY-80-451   | 4. CERTIFIED FOR NATIONAL DEFENSE UNDER BOSA<br>REG. 2 AND/OR DMS REG. 1.<br>RATING: |                            |
| 5. ISSUED BY<br>U. S. Nuclear Regulatory Commission<br>Division of Contracts<br>Washington, D. C. 20555   |  | 6. ADMINISTERED BY<br>(If other than block 5)   | 7. DELIVERY<br>FOB DESTI-<br>NATION<br><input checked="" type="checkbox"/> OTHER (See<br>below)  |  |                            |
| 8. CONTRACTOR<br>NAME AND ADDRESS<br><br>(Street, city,<br>county, State,<br>and ZIP code)  |  | 9. DISCOUNT FOR PROMPT PAYMENT<br><br>Net 30  | 10. SUBMIT INVOICES (4 copies unless otherwise<br>specified) TO ADDRESS SHOWN IN BLOCK <u>TZ</u>   |  |                            |
| R&D Associates<br>ATTN: Mr. Jack White<br>P. O. Box 9695<br>Marina del Rey, CA 90291  |  |   |  |  |                            |
| 11. SHIP TO/MARK FOR<br>U. S. Nuclear Regulatory Commission<br>ATTN: Mr. Victor Gilinsky, H-1149<br>Office of the Commissioners<br>Washington, D. C. 20555  |  | 12. PAYMENT WILL BE MADE BY<br>U. S. Nuclear Regulatory Commission<br>Office of the Controller<br>Washington, D. C. 20555 |  |  |                            |
| 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<br>B&R No.: 70-19-09      FIN No.: B1314      Allotment No.: 31X0200.700      Amount: \$8,832.00  |  |   |  |  |                            |
| 15.<br>ITEM NO.   | 16.<br>SUPPLIES/SERVICES                               | 17.<br>QUANTITY   | 18.<br>UNIT  | 19.<br>UNIT PRICE  | 20.<br>AMOUNT              |
|   | Assessment of Strength of Ice Condenser<br>Containment |   |  |  |                            |
| 21. FIRM-FIXED PRICE TOTAL AMOUNT OF CONTRACT \$8,832.00<br>CONTRACTING OFFICER WILL COMPLETE BLOCK 22 OR 26 AS APPLICABLE  |  |   |  |  |                            |
| 22. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign<br>this document and return <u>3</u> copies to issuing office.) Contractor agrees<br>to furnish and deliver all items or perform all the services set forth or otherwise<br>identified above and on any continuation sheets for the consideration stated herein.<br>The rights and obligations of the parties to this contract shall be subject to and gov-<br>erned by the following documents: (a) this award/contract, (b) the solicitation, if any,<br>and (c) such provisions, representations, certifications, and specifications, as are<br>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<br>on Solicitation Number _____, including the<br>additions or changes made by you which additions or changes are set forth in full<br>above, is hereby accepted as to the items listed above and on any continuation sheets.<br>This award consummates the contract which consists of the following documents: (a)<br>the Government's solicitation and your offer, and (b) this award/contract. No<br>further contractual document is necessary. |  |                            |
| 23. NAME OF CONTRACTOR<br>BY <u>Jack W. White</u><br>(Signature of person authorized to sign)   |  |   | 27. UNITED STATES OF AMERICA<br>BY <u>Joyce Perlman</u><br>(Signature of Contracting Officer)  |  |                            |
| 24. NAME AND TITLE OF SIGNER (Type or print)<br>Jack W. White<br>Director, Contract Operations  |  | 25. DATE SIGNED<br>24 JUL 80  | 28. NAME OF CONTRACTING OFFICER (Type or print)<br>Joyce Perlman   |  | 29. DATE SIGNED<br>7/28/80 |

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ARTICLE I - STATEMENT OF WORK

Critique the ultimate strength analyses of the Sequoyah containment contained in Enclosure 1 of SECY-80-107A. The critique should address at least the following subjects:

- (a) To what extent are the assumptions in the analyses conservative?
- (b) To what extent is the calculated ultimate strength conservative?
- (c) What are the uncertainties in the analyses, methods, and models?
- (d) To what extent is there assurance of no gross leakage from the vessel at stresses above the design stress and yield stress?
- (e) How would the analyses and results be altered if the stresses are caused by ignition/detonation of 300-600 Kg of hydrogen distributed uniformly and nonuniformly in the containment?
- (f) To what extent can distributed ignition sources mitigate the effects of hydrogen?

A final report incorporating the above is to be provided to the Project Officer no later than July 25, 1980. The final report is to be prepared in accordance with Manual Chapter NRC-3202 entitled "Publication of Unclassified Regulatory and Technical Documents Prepared by NRC Contractors, Including Reports Prepared under or Pursuant to Interagency Agreements."

A copy of all correspondence generated by the Contractor to the Project Officer, including a copy of the final report, is to be forwarded to the Contracting Officer.

There is no travel authorized under this contract. However, if during the course of this contract, travel to the Sequoyah containment is determined to be necessary, authorization will be provided through a supplemental agreement to this contract.

ARTICLE II - PERIOD OF PERFORMANCE

The period of performance of this contract shall commence on July 3, 1980 and all effort, including the submission of the final report, shall be completed by July 25, 1980.

ARTICLE III - CONSIDERATION

In full consideration of the Contractor's performance hereunder, NRC shall pay the Contractor a lump sum of \$8,832.00.

ARTICLE IV - OBLIGATION

The amount presently obligated by NRC with respect to this contract is \$8,832.00.

ARTICLE V - PAYMENT

Payment shall be made in accordance with Clause 2 of the General Provisions entitled "Payments," as soon as practicable after completion and acceptance of all of the work 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 GOVERNMENT-FURNISHED MATERIAL

Upon award of the contract, the NRC shall furnish the information set forth below:

1. Copy of SECY-80-107A
2. Detailed drawings of the Sequoyah containment vessel
3. Copy of NRCM-3202

This information is provided for such information and assistance as it may provide the Contractor with regard to the general scope of work to be performed. Only the matter which is referred to above will be furnished by the Government.

All of the above Government-furnished material may be disposed of after the completion of the contract effort.

VI.2 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.3 INSPECTION AND ACCEPTANCE

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

#### VI.4 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.)

#### 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, which is attached hereto and made a part hereof.

Clause 14 entitled "Patent Rights" of the above General Provisions is deleted in its entirety.