

ORDER FOR SUPPLIES OR SERVICES

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER: **6/30/05** 2. CONTRACT NO. (if any): 3. ORDER NO.: DR-03-05-029 4. REQUISITION/REFERENCE NO.: NRR-05-029 DTD 5/16

5. ISSUING OFFICE (Address correspondence to): U.S. Nuclear Regulatory Commission, Division of Contracts, Mail Stop: T-7-I-2, Contract Management Branch 2, Washington, DC 20555

6. SHIP TO: a. NAME OF CONSIGNEE: U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation; b. STREET ADDRESS: Division of Engineering, Attn: B. Grenier, Mail Stop O9-E3; c. CITY: Washington, d. STATE: DC, e. ZIP CODE: 20555

7. TO: 8. TYPE OF ORDER: a. PURCHASE b. DELIVERY

9. ACCOUNTING AND APPROPRIATION DATA: B&R: 520-15-111-102 Job Code: J-3221 BOC: 252A 31X0200.520 OBLIGATE: \$17,000.00

10. REQUISITIONING OFFICE: NRR, Office of Nuclear Reactor Regulation

11. BUSINESS CLASSIFICATION (Check appropriate box(es))

a. SMALL b. OTHER THAN SMALL c. DISADVANTAGED d. SERVICE-DISABLED VETERAN-OWNED

d. WOMEN-OWNED e. HUBZone f. EMERGING SMALL BUSINESS

12. F.O.B. POINT: N/A

13. PLACE OF: a. INSPECTION, b. ACCEPTANCE

14. GOVERNMENT B/L NO.

15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date): October 31, 2005

16. DISCOUNT TERMS: N/A

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (A)	SUPPLIES OR SERVICES (B)	QUANTITY ORDERED (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)	QUANTITY ACCEPTED (G)
1.	Professional Services of Dr. Samir Ziada				\$30,720.00	
2.	Travel Costs Not To Exceed-----				\$7,472.00	
Period of Performance: 6/30/05 through 10/31/05 Estimated Ceiling of Purchase Order is \$38,192.00 Funding of \$17,000.00 is being obligated at this time. NRC Project Officer: Bernard L. Grenier (email: blg@nrc.gov Telephone No.: (301) 415-2726 Attachments: (1) Statement of Work (2) Billing Instructions						

18. SHIPPING POINT 19. GROSS SHIPPING WEIGHT 20. INVOICE NO.

21. MAIL INVOICE TO:

a. NAME: U.S. Nuclear Regulatory Commission, Division of Contracts

b. STREET ADDRESS (or P.O. Box): Mail Stop: T-7-I-2, Attn: DR-03-05-029

c. CITY: Washington, d. STATE: DC, e. ZIP CODE: 20555

17(h) TOTAL (Cont. pages) 17(i) GRAND TOTAL: \$17,000.00

22. UNITED STATES OF AMERICA BY (Signature): *Sharon D. Stewart*

23. NAME (Typed): Sharon D. Stewart, Contracting Officer, TITLE: CONTRACTING/ORDERING OFFICER

TEMPLATE - ADM001

SISP REVIEW COMPLETE

ADM002

ADDITIONAL SIMPLIFIED ACQUISITION TERMS AND CONDITIONS

A.1 NOTICE LISTING CLAUSES INCORPORATED BY REFERENCE

The following clauses are hereby incorporated by reference (by Citation Number, Title, and Date) in accordance with the clause at FAR "52.252-2 CLAUSES INCORPORATED BY REFERENCE" contained in this document. FAR 52.252-2 contains the internet address for electronic access to the full text of a clause.

NUMBER	TITLE	DATE
52.233-4	FEDERAL ACQUISITION REGULATION (48 CFR Chapter 1) Applicable Law for Breach of Contract Claim	OCT 2004
52.237-2	PROTECTION OF GOVERNMENT BUILDINGS, EQUIPMENT, AND VEGETATION	APR 1984
52.242-10	F.O.B. ORIGIN--GOVERNMENT BILLS OF LADING OR PREPAID POSTAGE	APR 1984
52.243-1	CHANGES--FIXED PRICE ALTERNATE I (APR 1984)	AUG 1987

A.2 52.212-4 CONTRACT TERMS AND CONDITIONS--COMMERCIAL ITEMS (OCT 2003)

(a) Inspection/Acceptance. The Contractor shall only tender for acceptance those items that conform to the requirements of this contract. The Government reserves the right to inspect or test any supplies or services that have been tendered for acceptance. The Government may require repair or replacement of nonconforming supplies or reperformance of nonconforming services at no increase in contract price. The Government must exercise its postacceptance rights (1) within a reasonable time after the defect was discovered or should have been discovered; and (2) before any substantial change occurs in the condition of the item, unless the change is due to the defect in the item.

(b) Assignment. The Contractor or its assignee may assign its rights to receive payment due as a result of performance of this contract to a bank, trust company, or other financing institution, including any Federal lending agency in accordance with the Assignment of Claims Act (31 U.S.C. 3727). However, when a third party makes payment (e.g., use of the Governmentwide commercial purchase card), the Contractor may not assign its rights to receive payment under this contract.

(c) Changes. Changes in the terms and conditions of this contract may be made only by written agreement of the parties.

(d) Disputes. This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613). Failure of the parties to this contract to reach agreement on any request for equitable adjustment, claim, appeal or action arising under or relating to this contract shall be a dispute to be resolved in accordance with the clause at FAR 52.233-1, Disputes, which is incorporated herein by reference. The Contractor shall proceed diligently with performance of this contract, pending final resolution of any dispute arising under the contract.

(e) Definitions. The clause at FAR 52.202-1, Definitions, is incorporated herein by reference.

(f) Excusable delays. The Contractor shall be liable for default unless nonperformance is caused by an occurrence beyond the reasonable control of the Contractor and without its fault or negligence such as, acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, unusually severe weather, and delays of common carriers. The Contractor shall notify the Contracting Officer in writing as soon as it is reasonably possible after the commencement of any excusable delay, setting forth the full particulars in connection therewith, shall remedy such occurrence with all reasonable dispatch, and shall promptly give written notice to the Contracting Officer of the cessation of such occurrence.

(g) Invoice.

(1) The Contractor shall submit an original invoice and three copies (or electronic invoice, if authorized) to the address designated in the contract to receive invoices. An invoice must include--

(i) Name and address of the Contractor;

(ii) Invoice date and number;

(iii) Contract number, contract line item number and, if applicable, the order number;

(iv) Description, quantity, unit of measure, unit price and extended price of the items delivered;

(v) Shipping number and date of shipment, including the bill of lading number and weight of shipment if shipped on Government bill of lading;

(vi) Terms of any discount for prompt payment offered;

(vii) Name and address of official to whom payment is to be sent;

(viii) Name, title, and phone number of person to notify in event of defective invoice; and

(ix) Taxpayer Identification Number (TIN). The Contractor shall include its TIN on the invoice only if required elsewhere in this contract.

(x) 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, 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.

(2) Invoices will be handled in accordance with the Prompt Payment Act (31 U.S.C. 3903) and Office of Management and Budget (OMB) prompt payment regulations at 5 CFR part 1315.

(h) Patent indemnity. The Contractor shall indemnify the Government and its officers, employees and agents against liability, including costs, for actual or alleged direct or contributory infringement of, or inducement to

infringe, any United States or foreign patent, trademark or copyright, arising out of the performance of this contract, provided the Contractor is reasonably notified of such claims and proceedings.

(i) Payment.

(1) Items accepted. Payment shall be made for items accepted by the Government that have been delivered to the delivery destinations set forth in this contract.

(2) Prompt payment. The Government will make payment in accordance with the Prompt Payment Act (31 U.S.C. 3903) and prompt payment regulations at 5 CFR part 1315.

(3) Electronic Funds Transfer (EFT). If the Government makes payment by EFT, see 52.212-5(b) for the appropriate EFT clause.

(4) Discount. In connection with any discount offered for early payment, time shall be computed from the date of the invoice. For the purpose of computing the discount earned, payment shall be considered to have been made on the date which appears on the payment check or the specified payment date if an electronic funds transfer payment is made.

(5) Overpayments. If the Contractor becomes aware of a duplicate contract financing or invoice payment or that the Government has otherwise overpaid on a contract financing or invoice payment, the Contractor shall immediately notify the Contracting Officer and request instructions for disposition of the overpayment.

(j) Risk of loss. Unless the contract specifically provides otherwise, risk of loss or damage to the supplies provided under this contract 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) Delivery of the supplies to the Government at the destination specified in the contract, if transportation is f.o.b. destination.

(k) Taxes. The contract price includes all applicable Federal, State, and local taxes and duties.

(l) Termination for the Government's convenience. The Government reserves the right to terminate this contract, or any part hereof, for its sole convenience. In the event of such termination, the Contractor shall immediately stop all work hereunder and shall immediately cause any and all of its suppliers and subcontractors to cease work. Subject to the terms of this contract, the Contractor shall be paid a percentage of the contract price reflecting the percentage of the work performed prior to the notice of termination, plus reasonable charges the Contractor can demonstrate to the satisfaction of the Government using its standard record keeping system, have resulted from the termination. The Contractor shall not be required to comply with the cost accounting standards or contract cost principles for this purpose. This paragraph does not give the Government any right to audit the Contractor's records. The Contractor shall not be paid for any work performed or costs incurred which reasonably could have been avoided.

(m) Termination for cause. The Government may terminate this contract, or any part hereof, for cause in the event of any default by the Contractor, or if the Contractor fails to comply with any contract terms and conditions, or fails to provide the Government, upon request, with adequate assurances of future performance. In the event of termination for cause, the Government shall not be liable to the Contractor for any amount for supplies or services not accepted, and the Contractor shall be liable to the Government for any and all rights and remedies provided by law. If it is determined that the Government improperly terminated this contract for default, such termination shall be deemed a termination for convenience.

(n) Title. Unless specified elsewhere in this contract, title to items furnished under this contract shall pass to the Government upon acceptance, regardless of when or where the Government takes physical possession.

(o) Warranty. The Contractor warrants and implies that the items delivered hereunder are merchantable and fit for use for the particular purpose described in this contract.

(p) Limitation of liability. Except as otherwise provided by an express warranty, the Contractor will not be liable to the Government for consequential damages resulting from any defect or deficiencies in accepted items.

(q) Other compliances. The Contractor shall comply with all applicable Federal, State and local laws, executive orders, rules and regulations applicable to its performance under this contract.

(r) Compliance with laws unique to Government contracts. The Contractor agrees to comply with 31 U.S.C. 1352 relating to limitations on the use of appropriated funds to influence certain Federal contracts; 18 U.S.C. 431 relating to officials not to benefit; 40 U.S.C 327, et seq., Contract Work Hours and Safety Standards Act; 41 U.S.C. 51-58, Anti-Kickback Act of 1986; 41 U.S.C. 265 and 10 U.S.c. 2409 relating to whistle blower protections; 49 U.S.C 40118, Fly American; and 41 U.S.c. 423 relating to procurement integrity.

(s) Order of precedence. Any inconsistencies in this solicitation or contract shall be resolved by giving precedence in the following order: (1) the schedule of supplies/services; (2) the Assignments, Disputes, Payments, Invoice, Other Compliances, and Compliance with Laws Unique to Government Contracts paragraphs of this clause; (3) the clause at 52.212-5; (4) addenda to this solicitation or contract, including any license agreements for computer software; (5) solicitation provisions if this is a solicitation; (6) other paragraphs of this clause; (7) the Standard Form 1449; (8) other documents, exhibits, and attachments; and (9) the specification.

(t) Central Contractor Registration (CCR).

(1) Unless exempted by an addendum to this contract, the Contractor is responsible during performance and through final payment of any contract for the accuracy and completeness of the data within the CCR database, 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 review and update on an annual basis from the date of initial registration or subsequent updates its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(2)(i) If a Contractor has legally changed its business name, "doing business as" name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in FAR subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day's written notification of its intention to (A) change the name in the CCR database; (B) comply with the requirements of subpart 42.12; and (C) agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraph (t)(2)(i) of this clause, or fails to perform the agreement at paragraph (t)(2)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the "Suspension of Payment" paragraph of the electronic funds transfer (EFT) clause of this contract.

(3) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor's CCR record that indicates payments, including those made by EFT, to an ultimate

recipient other than that Contractor will be considered to be incorrect information within the meaning of the "Suspension of payment" paragraph of the EFT clause of this contract.

(4) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at <http://www.ccr.gov> or by calling 1-888-227-2423 or 269-961-5757.

A.3 52.212-5 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS--COMMERCIAL ITEMS (APR 2005)

(a) The Contractor shall comply with the following Federal Acquisition Regulation (FAR) clauses, which are incorporated in this contract by reference, to implement provisions of law or Executive orders applicable to acquisitions of commercial items:

(1) 52.233-3, Protest after Award (AUG 1996) (31 U.S.C. 3553).

(2) 52.233-4, Applicable Law for Breach of Contract Claim (OCT 2004) (Pub. L. 108-77, 108-78)

(b) The Contractor shall comply with the FAR clauses in this paragraph (b) that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items: [Contracting Officer check as appropriate.]

(1) 52.203-6, Restrictions on Subcontractor Sales to the Government (JUL 1995), with Alternate I (OCT 1995) (41 U.S.C. 253g and 10 U.S.C. 2402).

(2) 52.219-3, Notice of Total HUBZone Set-Aside (JAN 1999) (15 U.S.C. 657a).

(3) 52.219-4, Notice of Price Evaluation Preference for HUBZone Small Business Concerns (JAN 1999) (if the offeror elects to waive the preference, it shall so indicate in its offer) (15 U.S.C. 657a).

(4) (i) 52.219-5, Very Small Business Set-Aside (JUNE 2003) (Pub. L. 103-403, section 304, Small Business Reauthorization and Amendments Act of 1994).

(ii) Alternate I (MAR 1999) of 52.219-5.

(iii) Alternate II (JUNE 2003) of 52.219-5.

(5)(i) 52.219-6, Notice of Total Small Business Set-Aside (JUNE 2003) (15 U.S.C. 644).

(ii) Alternate I (OCT 1995) of 52.219-6.

(iii) Alternate II (MAR 2004) of 52.219-6.

(6)(i) 52.219-7, Notice of Partial Small Business Set-Aside (JUNE 2003) (15 U.S.C. 644).

(ii) Alternate I (OCT 1995) of 52.219-7.

(iii) Alternate II (MAR 2004) of 52.219-7.

(7) 52.219-8, Utilization of Small Business Concerns (MAY 2004) (15 U.S.C. 637 (d)(2) and (3)).

- (8)(i) 52.219-9, Small Business Subcontracting Plan (JAN 2002) (15 U.S.C. 637(d)(4)).
- (ii) Alternate I (OCT 2001) of 52.219-9.
- (iii) Alternate II (OCT 2001) of 52.219-9.
- (9) 52.219-14, Limitations on Subcontracting (DEC 1996) (15 U.S.C. 637(a)(14)).
- (10)(i) 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns (JUNE 2003) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323) (if the offeror elects to waive the adjustment, it shall so indicate in its offer).
- (ii) Alternate I (JUNE 2003) of 52.219-23.
- (iii) Alternate II (OCT 1998) of 52.219-23.
- (11) 52.219-25, Small Disadvantaged Business Participation Program--Disadvantaged Status and Reporting (OCT 1999) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).
- (12) 52.219-26, Small Disadvantaged Business Participation Program--Incentive Subcontracting (OCT 2000) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).
- (13) 52.219-27, Notice of Total Service-Disabled Veteran-Owned Small Business Set-Aside (May 2004)
- (14) 52.222-3, Convict Labor (JUNE 2003) (E.O. 11755).
- (15) 52.222-19, Child Labor--Cooperation with Authorities and Remedies (JUN 2004) (E.O. 13126).
- (16) 52.222-21, Prohibition of Segregated Facilities (FEB 1999).
- (17) 52.222-26, Equal Opportunity (APR 2002) (E.O. 11246).
- (18) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212).
- (19) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998) (29 U.S.C. 793).
- (20) 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212).
- (21) 52.222-39, Notification of Employee Rights Concerning Payment of Union Dues or Fees (DEC 2004) (E.O. 13201).
- (22)(i) 52.223-9, Estimate of Percentage of Recovered Material Content for EPA-Designated Products (AUG 2000) (42 U.S.C. 6962(c)(3)(A)(ii)).
- (ii) Alternate I (AUG 2000) of 52.223-9 (42 U.S.C. 6962(i)(2)(C)).
- (23) 52.225-1, Buy American Act--Supplies (JUNE 2003) (41 U.S.C. 10a-10d).
- (24)(i) 52.225-3, Buy American Act--Free Trade Agreements-- Israeli Trade Act (JAN 2005) (41 U.S.C. 10a-10d, 19 U.S.C. 3301 note, 19 U.S.C. 2112 note, Pub. L. 108-77, 108-78, 108-286).
- (ii) Alternate I (JAN 2004) of 52.225-3.

- (iii) Alternate II (JAN 2004) of 52.225-3.
 - (25) 52.225-5, Trade Agreements (JAN 2005) (19 U.S.C. 2501, et seq., 19 U.S.C. 3301 note).
 - (26) 52.225-13, Restrictions on Certain Foreign Purchases (MAR 2005) (E.O.s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of the Treasury).
 - (27) 52.225-15, Sanctioned European Union Country End Products (FEB 2000) (E.O. 12849).
 - (28) 52.225-16, Sanctioned European Union Country Services (FEB 2000) (E.O. 12849).
 - (29) 52.232-29, Terms for Financing of Purchases of Commercial Items (FEB 2002) (41 U.S.C. 255(f), 10 U.S.C. 2307(f)).
 - (30) 52.232-30, Installment Payments for Commercial Items (OCT 1995) (41 U.S.C. 255(f), 10 U.S.C. 2307(f)).
 - (31) 52.232-33, Payment by Electronic Funds Transfer--Central Contractor Registration (OCT 2003) (31 U.S.C. 3332).
 - (32) 52.232-34, Payment by Electronic Funds Transfer--Other than Central Contractor Registration (MAY 1999) (31 U.S.C. 3332).
 - (33) 52.232-36, Payment by Third Party (MAY 1999) (31 U.S.C. 3332).
 - (34) 52.239-1, Privacy or Security Safeguards (AUG 1996) (5 U.S.C. 552a).
 - (35)(i) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (APR 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631).
 - (ii) Alternate I (APR 2003) of 52.247-64.
- (c) The Contractor shall comply with the FAR clauses in this paragraph (c), applicable to commercial services, that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items: [Contracting Officer check as appropriate.]
- (1) 52.222-41, Service Contract Act of 1965, as Amended (MAY 1989) (41 U.S.C. 351, et seq.).
 - (2) 52.222-42, Statement of Equivalent Rates for Federal Hires (MAY 1989) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).
 - (3) 52.222-43, Fair Labor Standards Act and Service Contract Act--Price Adjustment (Multiple Year and Option Contracts) (MAY 1989) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).
 - (4) 52.222-44, Fair Labor Standards Act and Service Contract Act--Price Adjustment (February 2002) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).
 - (5) 52.222-47, SCA Minimum Wages and Fringe Benefits Applicable to Successor Contract Pursuant to Predecessor Contractor Collective Bargaining Agreements (CBA) (May 1989) (41 U.S.C. 351, et seq.).

(d) Comptroller General Examination of Record. The Contractor shall comply with the provisions of this paragraph (d) if this contract was awarded using other than sealed bid, is in excess of the simplified acquisition threshold, and does not contain the clause at 52.215-2, Audit and Records--Negotiation.

(1) The Comptroller General of the United States, or an authorized representative of the Comptroller General, shall have access to and right to examine any of the Contractor's directly pertinent records involving transactions related to this contract.

(2) The Contractor shall make available at its offices at all reasonable times the records, materials, and other evidence for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in FAR Subpart 4.7, Contractor Records Retention, of the other clauses of this contract. 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. Records relating to appeals under the disputes clause or to litigation or the settlement of claims arising under or relating to this contract shall be made available until such appeals, litigation, or claims are finally resolved.

(3) As used in this clause, records include books, documents, accounting procedures and practices, and other data, regardless of type and regardless of form. This does not require the Contractor to create or maintain any record that the Contractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e)(1) Notwithstanding the requirements of the clauses in paragraphs (a), (b), (c), and (d) of this clause, the Contractor is not required to flow down any FAR clause, other than those in paragraphs (i) through (vi) of this paragraph in a subcontract for commercial items. Unless otherwise indicated below, the extent of the flow down shall be as required by the clause--

(i) 52.219-8, Utilization of Small Business Concerns (May 2004) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds \$500,000 (\$1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (April 2002) (E.O. 11246).

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (December 2001) (38 U.S.C. 4212).

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (June 1998) (29 U.S.C. 793).

(v) 52.222-39, Notification of Employee Rights Concerning Payment of Union Dues or Fees (DEC 2004) (E.O. 13201).

(vi) 52.222-41, Service Contract Act of 1965, as Amended (May 1989), flow down required for all subcontracts subject to the Service Contract Act of 1965 (41 U.S.C. 351, et seq.).

(vii) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (April 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631). Flow down required in accordance with paragraph (d) of FAR clause 52.247-64.

(2) While not required, the contractor May include in its subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

A.4 NRC ACQUISITION CLAUSES - (NRCAR) 48 CFR CH. 20

A.5 2052.209-72 CONTRACTOR ORGANIZATIONAL CONFLICTS OF INTEREST (JAN 1993)

(a) Purpose. The primary purpose of this clause is to aid in ensuring that the contractor:

(1) Is not placed in a conflicting role because of current or planned interests (financial, contractual, organizational, or otherwise) which relate to the work under this contract; and

(2) Does not obtain an unfair competitive advantage over other parties by virtue of its performance of this contract.

(b) Scope. The restrictions described apply to performance or participation by the contractor, as defined in 48 CFR 2009.570-2 in the activities covered by this clause.

(c) Work for others.

(1) Notwithstanding any other provision of this contract, during the term of this contract, the contractor agrees to forego entering into consulting or other contractual arrangements with any firm or organization the result of which may give rise to a conflict of interest with respect to the work being performed under this contract. The contractor shall ensure that all employees under this contract abide by the provision of this clause. If the contractor has reason to believe, with respect to itself or any employee, that any proposed consultant or other contractual arrangement with any firm or organization may involve a potential conflict of interest, the contractor shall obtain the written approval of the contracting officer before the execution of such contractual arrangement.

(2) The contractor may not represent, assist, or otherwise support an NRC licensee or applicant undergoing an NRC audit, inspection, or review where the activities that are the subject of the audit, inspection, or review are the same as or substantially similar to the services within the scope of this contract (or task order as appropriate) except where the NRC licensee or applicant requires the contractor's support to explain or defend the contractor's prior work for the utility or other entity which NRC questions.

(3) When the contractor performs work for the NRC under this contract at any NRC licensee or applicant site, the contractor shall neither solicit nor perform work in the same or similar technical area for that licensee or applicant organization for a period commencing with the award of the task order or beginning of work on the site (if not a task order contract) and ending one year after completion of all work under the associated task order, or last time at the site (if not a task order contract).

(4) When the contractor performs work for the NRC under this contract at any NRC licensee or applicant site,

(i) The contractor may not solicit work at that site for that licensee or applicant during the period of performance of the task order or the contract, as appropriate.

(ii) The contractor may not perform work at that site for that licensee or applicant during the period of performance of the task order or the contract, as appropriate, and for one year thereafter.

(iii) Notwithstanding the foregoing, the contracting officer may authorize the contractor to solicit or perform this type of work (except work in the same or similar technical area) if the contracting officer determines that the situation will not pose a potential for technical bias or unfair competitive advantage.

(d) Disclosure after award.

(1) The contractor warrants that to the best of its knowledge and belief, and except as otherwise set forth in this contract, that it does not have any organizational conflicts of interest as defined in 48 CFR 2009.570-2.

(2) The contractor agrees that if, after award, it discovers organizational conflicts of interest with respect to this contract, it shall make an immediate and full disclosure in writing to the contracting officer. This statement must include a description of the action which the contractor has taken or proposes to take to avoid or mitigate such conflicts. The NRC may, however, terminate the contract if termination is in the best interest of the Government.

(3) It is recognized that the scope of work of a task-order-type contract necessarily encompasses a broad spectrum of activities. Consequently, if this is a task-order-type contract, the contractor agrees that it will disclose all proposed new work involving NRC licensees or applicants which comes within the scope of work of the underlying contract. Further, if this contract involves work at a licensee or applicant site, the contractor agrees to exercise diligence to discover and disclose any new work at that licensee or applicant site. This disclosure must be made before the submission of a bid or proposal to the utility or other regulated entity and must be received by the NRC at least 15 days before the proposed award date in any event, unless a written justification demonstrating urgency and due diligence to discover and disclose is provided by the contractor and approved by the contracting officer. The disclosure must include the statement of work, the dollar value of the proposed contract, and any other documents that are needed to fully describe the proposed work for the regulated utility or other regulated entity. NRC may deny approval of the disclosed work only when the NRC has issued a task order which includes the technical area and, if site-specific, the site, or has plans to issue a task order which includes the technical area and, if site-specific, the site, or when the work violates paragraphs (c)(2), (c)(3) or (c)(4) of this section.

(e) Access to and use of information.

(1) If in the performance of this contract, the contractor obtains access to information, such as NRC plans, policies, reports, studies, financial plans, internal data protected by the Privacy Act of 1974 (5 U.S.C. Section 552a (1988)), or the Freedom of Information Act (5 U.S.C. Section 552 (1986)), the contractor agrees not to:

- (i) Use this information for any private purpose until the information has been released to the public;
- (ii) Compete for work for the Commission based on the information for a period of six months after either the completion of this contract or the release of the information to the public, whichever is first;
- (iii) Submit an unsolicited proposal to the Government based on the information until one year after the release of the information to the public; or
- (iv) Release the information without prior written approval by the contracting officer unless the information has previously been released to the public by the NRC.

(2) In addition, the contractor agrees that, to the extent it receives or is given access to proprietary data, data protected by the Privacy Act of 1974 (5 U.S.C. Section 552a (1988)), or the Freedom of Information Act (5 U.S.C. Section 552 (1986)), or other confidential or privileged technical, business, or financial information under this contract, the contractor shall treat the information in accordance with restrictions placed on use of the information.

(3) Subject to patent and security provisions of this contract, the contractor shall have the right to use technical data it produces under this contract for private purposes provided that all requirements of this contract have been met.

(f) Subcontracts. Except as provided in 48 CFR 2009.570-2, the contractor shall include this clause, including this paragraph, in subcontracts of any tier. The terms contract, contractor, and contracting officer, must be appropriately modified to preserve the Government's rights.

(g) Remedies. For breach of any of the above restrictions, or for intentional nondisclosure or misrepresentation of any relevant interest required to be disclosed concerning this contract or for such erroneous representations that necessarily imply bad faith, the Government may terminate the contract for default, disqualify the contractor from subsequent contractual efforts, and pursue other remedies permitted by law or this contract.

(h) Waiver. A request for waiver under this clause must be directed in writing to the contracting officer in accordance with the procedures outlined in 48 CFR 2009.570-9.

(i) Follow-on effort. The contractor shall be ineligible to participate in NRC contracts, subcontracts, or proposals therefor (solicited or unsolicited), which stem directly from the contractor's performance of work under this contract. Furthermore, unless so directed in writing by the contracting officer, the contractor may not perform any technical consulting or management support services work or evaluation activities under this contract on any of its products or services or the products or services of another firm if the contractor has been substantially involved in the development or marketing of the products or services.

(1) If the contractor, under this contract, prepares a complete or essentially complete statement of work or specifications, the contractor is not eligible to perform or participate in the initial contractual effort which is based on the statement of work or specifications. The contractor may not incorporate its products or services in the statement of work or specifications unless so directed in writing by the contracting officer, in which case the restrictions in this paragraph do not apply.

(2) Nothing in this paragraph precludes the contractor from offering or selling its standard commercial items to the Government.

A.6 SEAT BELTS

Contractors, subcontractors, and grantees, are encouraged to adopt and enforce on-the-job seat belt policies and programs for their employees when operating company-owned, rented, or personally owned vehicles.

A.7 COMPLIANCE WITH U.S. IMMIGRATION LAWS AND REGULATIONS

NRC contractors are responsible to ensure that their alien personnel are not in violation of United States Immigration and Naturalization (INS) laws and regulations, including employment authorization documents and visa requirements. Each alien employee of the Contractor must be lawfully admitted for permanent residence as evidenced by Alien Registration Receipt Card Form 1-151 or must present other evidence from the Immigration and Naturalization Services that employment will not affect his/her immigration status. The INS Office of Business Liaison (OBL) provides information to contractors to help them understand the employment eligibility verification process for non-US citizens. This information can be found on the INS website, <http://www.ins.usdoj.gov/graphics/services/employerinfo/index.htm#obl>.

The NRC reserves the right to deny or withdraw Contractor use or access to NRC facilities or its equipment/services, and/or take any number of contract administrative actions (e.g., disallow costs, terminate for cause) should the Contractor violate the Contractor's responsibility under this clause.

(End of Clause)

DR-03-05-029
STATEMENT OF WORK

Project Title: Assessment of Steam Dryer Integrity Issues Associated with Uprated Power Operation Licensing Actions for Vermont Yankee

Technical Monitor: Cheng-Ih Wu, 301/415-2764; E-mail = ciw1@nrc.gov

TAC¹ Number: MC0761

BACKGROUND

The NRC staff is reviewing a license amendment request from Entergy to operate the Vermont Yankee Nuclear Power Station (VYNPS) at extended power uprate (EPU) conditions (20% above the original licensed thermal power). Recently, some nuclear power plants have experienced problems with certain components following implementation of approved power uprates. For example, steam dryers at certain boiling water reactor (BWR) plants have developed cracks and, in some cases, fractured metal parts from the steam dryer have entered the reactor coolant system and steam lines leading to the turbine generator.

The steam dryer in the upper section of the reactor vessel of a BWR nuclear power plant removes moisture from steam generated from feedwater in the reactor core before the steam is directed through piping to the plant turbine generator to produce electricity. The steam dryer is constructed of metal plates that force the steam to change directions abruptly to remove moisture, which is then returned to mix with the incoming feedwater. The steam dryer is intended to remove essentially all of the remaining moisture from the steam to prevent damage to the turbine. Industry representatives have indicated that cracking in steam dryers occurred during the early operational phase of some BWR plants. During recently approved operation under EPU conditions above the Original Licensed Thermal Power (OLTP), steam dryers designed with a square hood and internal braces at certain BWR plants have developed cracks along with an increase in moisture carryover to the main steam lines. Steam dryers designed with square hoods but without internal braces, or designed with slanted or curved hoods, have not experienced significant cracking during plant operation under EPU conditions to date.

Plant-specific equipment problems during operation under power uprate conditions have been discussed in NRC information notices and during public meetings. For example, in NRC Information Notice (IN) 2002-26, "Failure of Steam Dryer Cover Plate After a Recent Power Uprate" (ML022530291), the NRC staff describes the failure of a cover plate on the outside of the steam dryer at Quad Cities Nuclear Power Station, Unit 2, which broke loose in June 2002 under 17.8% EPU conditions, and caused pieces of the dryer to be swept down the main steamline. This degradation of the steam dryer at Quad Cities Unit 2 was revealed by an increase in moisture carryover and minor perturbations in reactor pressure, water level, and steam flow. The licensee evaluated the cause of the steam dryer cover plate failure and determined that the failure was due to high-cycle fatigue. The NRC staff discussed another failure of the steam dryer at Quad Cities Unit 2 in IN 2002-26, Supplement 1, "Additional Failure of Steam Dryer After a Recent Power Uprate" (ML031980434). In that instance, the licensee's inspection of the steam dryer at Quad Cities Unit 2 in June 2003 revealed an extensive fracture in the steam dryer outer bank hood, detached or severed internal braces, and cracked tie bars.

The NRC staff prepared IN 2002-26, Supplement 2, "Additional Flow-Induced Vibration Failures After a Recent Power Uprate," to alert licensees to equipment performance problems under EPU conditions at Quad Cities Unit 1. After identifying high moisture carryover levels at Quad Cities Unit 1 such as that which occurred at Unit 2, the licensee shut down Quad Cities

¹ TAC number = Technical Assignment Control number.

Unit 1 in November 2003 and found significant damage to the steam dryer. In addition to lengthy cracks in the steam dryer, the licensee determined that a piece of metal approximately 6.5 by 9.0 inches in size and 0.5 inches thick was missing from the steam dryer at Quad Cities Unit 1.

From the early stages of the review of the VYNPS EPU submittal dated September 10, 2003, the NRC staff has emphasized that steam dryer integrity was an area receiving a very high level of attention by the NRC due to industry operating experience with steam dryer failures following EPU implementation. Although steam dryers do not perform a safety-related function, they must maintain their structural integrity to prevent the occurrence of loose parts in the reactor vessel or steam lines that could adversely affect plant operation. The NRC staff considers the structural failure of steam dryers and other plant components to be safety significant when their failure adversely affects the ability of safety-related components to perform their safety function or when the generation of a large number of loose parts from their failure has the potential to affect safe shutdown of a reactor using safety-related systems.

On January 31, 2004, Entergy submitted Supplement 4 to its original submittal to address and provide analysis of the VYNPS steam dryer issue. During the course of the review of this supplement, in order to resolve the steam dryer concerns, the NRC staff requested additional information, held three public meetings with Entergy, and performed an audit of the steam dryer analysis at the General Electric office in San Jose, California. Based on review of the information provided by the licensee in its submittals during public meetings on July 23 and 24, 2004, and as part of the audit at GE Nuclear Energy, the NRC staff concluded that the licensee's analysis of record was inadequate to demonstrate that the steam dryer at Vermont Yankee would be capable of maintaining its structural integrity under EPU conditions. Specifically, the licensee's analysis of the Vermont Yankee steam dryer as then submitted in support of its EPU request (1) had not adequately identified and verified the excitation sources for flow-induced vibration mechanisms that resulted in significant degradation of similar steam dryers at other BWR nuclear power plants operating at EPU conditions; (2) had not provided a complete load definition for the Vermont Yankee steam dryer for EPU conditions in light of several assumptions that have not been adequately justified; (3) had not justified the applied methodology as realistic in light of assumptions to account for uncertainties that resulted in apparent significant overestimation of predicted steam dryer stresses; (4) might be non-conservative based on assumptions for reducing the stress experienced by steam dryer parts and the movement of the potential fatigue failure location as a result of modifications to the Vermont Yankee steam dryer; and (5) had not validated the extrapolation of pressure peaks from original power levels at the three reference BWR plants to EPU conditions for the steam dryer at Vermont Yankee. During the audit and a public meeting on September 29, 2004, at NRC Headquarters in Rockville, Maryland, Entergy indicated that further information would be submitted to address the NRC staff concerns related to steam dryer integrity.

On March 31 and April 5, 2005, Entergy submitted a revised steam dryer analysis that includes an acoustic circuit analysis, computational fluid dynamics analysis, scale model testing and validation of the acoustic model and the computer code that generates the final forcing functions used in the dryer analysis. Technical expertise is required by the staff to assist in the review of the licensee's revised analysis of the structural capability of the steam dryer at Vermont Yankee for EPU conditions.

OBJECTIVE

The objective of this purchase order is to obtain technical expertise to assist the staff in determining the adequacy of Entergy's analysis to ensure the structural integrity of the Vermont Yankee steam dryer during EPU operation.

TECHNICAL AND OTHER SPECIAL QUALIFICATIONS

One expert-level Mechanical Engineer who has demonstrated experience in evaluating the cause, significance, and future prevention of steam dryer structural failures; and has expertise in performing and assessing scale-model testing to validate loadings on steam dryers in nuclear power plants. These qualification requirements are critical to the performance of this work. The engineer must be specialized in flow induced effects on nuclear power plant structures and internal components, including hydrodynamic, acoustic, and vibrational effects on nuclear power plant systems and internal components; fluid-structure-acoustic interaction; and source, initiation, and impact of hydrodynamic and acoustic loadings on nuclear power plant piping systems and internal components. The engineer should also have a demonstrated ability in developing and evaluating finite-element analysis models of complex three-dimensional components, and performing and evaluating computational fluid dynamics (CFD) analyses using FLUENT Code.

WORK REQUIREMENTS AND SCHEDULE

Tasks

1. Become familiar with the technical issue by reviewing the documents listed under the NRC Furnished Materials section, specifically, Items 1, 2 and 3 with a focus on the validation of acoustic circuit analysis using GE scale model testing and CFD analysis to determine additional flow induced vibrations (FIV) loads on the steam dryer. Items 4 through 12 are for background information and reference purposes. Prepare a technical letter report.
2. Prepare for and travel to NRC HQ to participate in a meeting scheduled for July 2005, to discuss the steam dryer loads and technical approaches proposed by the licensee to ensure adequate steam dryer integrity. Prepare a trip report.
3. Prepare for and travel to GE in Valicitos, CA, to participate in discussions with GE on their scale model testing methodology, setup and test data. Prepare a trip report.
4. Review and evaluate Vermont Yankee's submittal and determine the following:
 - the appropriateness and adequacy of validation of acoustic circuit model applying the scale model testing data that was not plant specific for Vermont Yankee;

Scheduled Completion

One week after authorization of work, or the date established by the NRC Technical Monitor.

One week after the meeting, or the date established by the NRC Technical Monitor.

One week after trip, or the date established by the NRC Technical Monitor.

Three weeks after completion Task 2, or the date established by the NRC Technical Monitor.

WORK REQUIREMENTS AND SCHEDULE (CONTINUED)TasksScheduled Completion

- adequacy of CFD analysis to predict fluid dynamic loads on the steam dryer.

Identify the need for any additional or clarifying information (RAIs) and prepare a technical letter report (see Technical Reporting Requirements, below, and Attachment 1 for format and guidance in the preparation of the technical letter report and the RAIs.)

5. Review the licensee's responses to follow-up RAIs and determine if the information provided satisfactorily addresses the issue. If response does, incorporate the evaluation results including the basis for the conclusion(s) in the report developed under Task 1. If the response does not satisfactorily close the issue, provide the basis for why it does not in an E-mail to the Technical Monitor (See Technical Reporting Requirement Item 5. below). Participate in telephone conference calls with NRC and the licensee to further discuss the issue(s), as may be necessary. If the issue is satisfactorily resolved as a result of the discussions, and/or after receipt of supporting documentation resulting from the discussions, incorporate the evaluation results including the basis for the conclusion(s) in the final report. If the issue(s) is not resolved, identify the unresolved issue(s) as an open item(s) and include the bases for rejecting the responses. Prepare a technical letter report.

One week after final discussion/receipt of confirming documentation, as notified in writing by the NRC Technical Monitor.

TRAVEL REQUIREMENTS

Travel to NRC HQ and to the plant site to participate in ACRS meetings:

- (a) Attend sub-committee meeting and prepare a trip report. The trip report is due one week after the meeting.
- (b) Attend sub-committee meeting at the site and prepare a trip report. The trip report is due one week after the meeting.
- (c) Attend full-committee meeting and prepare a trip report. The trip report is due one week after the meeting.

PERIOD OF PERFORMANCE

The period of performance is June 30, 2005, through October 31, 2005.

DELIVERABLES

Technical Reporting Requirements

NOTE: All reports are to be submitted to the Technical Monitor with a copy provided to the Project Officer. These reports will be transmitted electronically and will be prepared in WordPerfect 10.0 or compatible format. The transmittal letter and cover page of each report, or other deliverables as appropriate, shall contain the job code number (JCN) and title, and NRC technical assignment control (TAC) number.

1. At the completion of Task 1, submit a technical letter report that contains observations and/or questions on the licensee's approaches to addressing the validation of acoustic circuit analysis using GE scale model testing and the CFD analysis used to determine additional flow induced vibrations (FIV) loads on the steam dryer under EPU operations.
2. At the completion of Task 2, submit a trip report that contains a summary of the significant highlights of the meeting reflecting insights on current efforts to resolve the steam dryer integrity issue. Include a copy of any slides or other visuals obtained during the meeting.
3. At the completion of Task 3, submit a trip report that contains a summary of the significant highlights of the meeting reflecting insights on possible strengths and weaknesses of the scale model testing and data presented. Include a copy of the slides or other visuals obtained during the meeting.
4. At the completion of Task 4, a technical letter report that contains the background of the steam dryer flow induced vibration phenomena; a summary description of the steam dryer loading definitions and modeling; evaluation of the steam dryer scale model and its loadings; description of the method and results of the assessment of the steam dryer including acoustic circuit analysis and CFD analysis; any open or unresolved items, and conclusions with any limitations. See Attachment 1 for format, content, and outline of the technical letter report. The report must **clearly identify** any issues in **bold type** at the appropriate text location for which further information / discussion will be needed (e.g., open and unresolved items). Attach a separate list of RAIs should be provided which **clearly articulates** the bases for the need for further information or discussion.
5. At the completion of Task 5, for each open issue, submit an E-mail summarizing the issue, the licensee's position and a clearly articulated evaluation of the issue and the basis for why the response(s) or does not resolve the issue; include a list of questions and/or comments that should be raised in discussion with the licensee. Upon receipt of the last input from the Technical Monitor, submit a technical letter report, draft and final as appropriate, that contains an update of the Task 1 report with open items, if any, clearly identified and explained.
6. At the completion of Subtasks 6. a. and 6. b., submit a technical letter report that summarizes the results of the meeting including technical basis, as necessary, in support of the staff's response to the ACRS questions for the structural capability of the Vermont Yankee steam dryer.

MEETINGS AND TRAVEL

One one-person, three-day trip to the General Electric, Valicitos, CA, for a one-day meeting.
 Three one-person, two-day trips to Washington, DC, for a one-day meeting.
 One one-person, two-day trip to the Vermont Yankee site, for a one-day meeting.

NRC-FURNISHED MATERIALS

The following NRC furnished materials will be provided to the Contractor:

1. GE Scale Model Testing Report of Steam Dryer. (TBD)
2. Vermont Yankee Nuclear Power Station EPU "Supplement 26 - Extended Power Uprate - Dryer Acoustic Load Methodology Benchmark," dated March 31, 2005. (Proprietary Information)
3. Vermont Yankee Nuclear Power Station EPU "Supplement 27 - Extended Power Uprate - Steam Dryer Analyses and Monitoring," dated April 5, 2005. (Proprietary Information)
4. NRC Information Notice No. 2002-26, September 11, 2002, "Failure of Steam Dryer Cover Plate After a recent Power Uprate," Supplement 1, July 21, 2003, "Additional Failure of Steam Dryer Cover Plate After a recent Power Uprate," and Supplement 2, January 9, 2003, "Additional Failure of Steam Dryer Cover Plate After a recent Power Uprate."
5. GE Nuclear Energy SIL No. 644, August 21, 2002, "BWR/3 steam dryer failure," Supplement 1, September 5, 2003. "BWR steam dryer integrity," and Revision 1, November 9, 2004, "BWR steam dryer integrity."
6. GE Nuclear Energy, GENE-0000-0018-3359-P, "Quad Cities Unit 2, Steam Dryer Failure - Determination of Root Cause and Extend of Condition," August 2003. (Proprietary Information)
7. "Hydrodynamic Loads on Dresden Unit 2 Steam Dryer," Final Report, Revision 2, C.D.I. Report No. 04-01, Continuum Dynamics Inc, May 2004. (Proprietary Information)
8. "Hydrodynamic Loads on Dresden Unit 3 Steam Dryer," Final Report, Revision 3, C.D.I. Report No. 04-02, Continuum Dynamics Inc, May 2004. (Proprietary Information)
9. "Methodology to Determine Unsteady Pressure Loading on Components in Reactor Steam Domes," Revision 3, C.D.I. Report No. 04-09P, Continuum Dynamics Inc, September 2004. (Proprietary Information)
10. Exelon Nuclear dated February 9, 2005, "Request for Additional Information Regarding Exelon Justification Submitted May 12, 2004, for Continued EPU Operation of Dresden Units 2 and 3" (Proprietary Information)
11. Exelon Generation Company, LLC letter to U. S. NRC, dated April 1, 2005, "Technical Documentation Related to Analysis and Design of New Quad Cities Steam Dryers, and Responses to Requests for Additional Information Related to EPU Operation at Dresden and Quad Cities Nuclear Power Stations".(Proprietary Information)
12. Exelon Generation Company, LLC letter to U. S. NRC, dated April 6, 2005, "Additional Information Related to Analysis and Design of New Quad Cities Steam Dryers, and Responses to Requests for Additional Information Related to EPU Operation at Dresden and Quad Cities Nuclear Power Stations". (Proprietary Information)

NOTE: These documents contain proprietary information and they must be safeguarded against unauthorized disclosure. After completion of work, the documents should either be destroyed or returned to NRC. If they are destroyed, please confirm this in an

E-mail to the Technical Monitor with a copy to the Project Officer and include the date and manner in which the documents were destroyed.

OTHER APPLICABLE INFORMATION

License Fee Recovery

The work specified in this statement of work is license fee recoverable.

Assumptions and Understandings

The estimated level of effort for Task 5 is based on an assumption of three open items requiring follow-up resolution from the initial review of the steam dryer phenomena in addition to the scope which includes review of the RAI responses, preparation of a draft report, assessment of any additional information provided following preparation of the draft report, review and resolution of NRC comments on the draft report, telephone conferences between the NRC Technical Monitor and Contractor and preparation of the final report.

PROPRIETARY DATA AND SENSITIVE UNCLASSIFIED INFORMATION

In connection with performance of work under this purchase order, the Contractor may be furnished or may develop or acquire proprietary data (trade secrets) or confidential or privileged technical, business, or financial information, including Commission plans, policies, reports, financial plans, internal data protected by the Privacy Act (P.L.93-579) or other information which has not been released to the public or has been determined by the Commission to be otherwise exempt from disclosure to the public.

The Contractor agrees to hold such information in confidence and not directly or indirectly duplicate, disseminate, or disclose such information in whole or in part to any other person or organization except as may be necessary to perform the work under this purchase order. The Contractor agrees to return such information to the Commission or otherwise dispose of it, either as the Contracting Officer may from time to time direct during the progress of the work, or in any event, as the Contracting Officer shall direct upon completion or termination of this purchase order. Failure to comply with this clause shall be grounds for termination of this purchase order.

Prior to the provision of any proprietary information, the Contractor's employees and employees of any subContractor who will have access to such information shall execute and be bound by a formal, written non-disclosure agreement.

Content, Outline, and Format for Technical Letter Report

Introduction

Summary of Work Performed

Safety Evaluation Input

1. Background

Summarize (a) flow induced vibration and flow effects on the steam dryer integrity, (b) Vermont Yankee response to address steam dryer integrity, and (c) NRC staff concerns and evaluation of that response.

2. Evaluation of the Steam Dryer Integrity

Describe the evaluation of the flow induced vibration and flow effects on the steam dryer, and the results of the evaluation. The evaluation is to include the appropriateness and adequacy of validation of acoustic circuit model applying the scale model testing data that was not plant specific for Vermont Yankee and the adequacy of CFD analysis to predict fluid dynamic loads on the steam dryer. **Indicate open or unresolved items in the appropriate location in the text in bold type.**

3. Conclusion

Summarize the conclusion from the results of the evaluation of flow induced vibration and flow effects on the steam dryer with respect to the acceptability of loading functions and analytical method and results of the analysis for the uprated power conditions at the Vermont Yankee Nuclear Power Station.

Requests for Additional Information (RAIs)

Additional information necessary to resolve open or unresolved items identified during the review of the information associated with the steam dryer failure and modification needs to be requested in a manner that is unambiguous, has an adequate basis, and is necessary for the safety review. The technical letter report should provide a list of RAIs using the following guidance:

1. An RAI should include the appropriate basis for requesting the information. The basis should explain why the information is needed, including how it will be used to help make a reasonable assurance finding.
2. Judgmental language should be avoided.
 - a. Questions should not make adequacy determinations.
 - b. Words like "unacceptable" or "deficient" and "deviation" should be avoided. Likewise, avoid using phrases like "*the staff will require*" since it is premature to require anything when asking questions.
3. Questions should be focused, not open-ended.
 - a. The RAI should be in the form of a question or an imperative to provide what is needed to complete the review. When the reviewer needs specific information or the underlying issue may not be apparent, the RAI should clearly identify the information requested and/or the underlying issue.

Requests for Additional Information (RAIs) (Continued)

- b. "If ... then" questions (questions that could lead to follow-on questions) should provide both parts of the question.

After the RAIs have been forwarded to the applicable NRC Project Manager, teleconferences and/or public meetings may be held before issuing the RAIs:

- a. These discussions prevent misunderstandings of the intent of the questions.
- b. If a draft RAI is clarified or resolved before issuance, the NRC staff will prepare a documented record of the resolution (i.e., minutes of a public meeting or a teleconference summary).

After the RAIs have been issued, licensee may request a telephone conference and/or a public meeting:

- a. The teleconferences and/or meetings provide additional clarification of the intent of the RAIs and will help licensees prepare satisfactory responses.
- b. To ensure that the response appropriately addresses the RAI, the licensee may submit a draft response (which the NRC Project Manager docket in the Agency-Wide Documents Access and Management System (ADAMS)) and may request a follow-up teleconference and/or meeting.

After receiving licensee's response to the RAI, the NRC Project Manager may hold a teleconference and/or a public meeting:

- a. The purpose of discussing a response with licensee is to better understand the response and/or clarify areas of disagreement. If the resolution of a response relies on information not submitted to the NRC, the licensee should submit the information on the docket. The submission is not intended to be another RAI or a means to minimize the number of SE open items, but frequently reduces the number of SE open items.
- b. If the areas of disagreement remain, the unresolved RAI becomes an SE open item.

**BILLING INSTRUCTIONS FOR
LABOR HOUR TYPE CONTRACTS**

General: The contractor shall prepare vouchers/invoices for reimbursement of costs in the manner and format described herein or a similar format. **FAILURE TO SUBMIT VOUCHERS/INVOICES IN ACCORDANCE WITH THESE INSTRUCTIONS WILL RESULT IN REJECTION OF THE VOUCHER/INVOICE AS IMPROPER.**

Number of Copies: An original and three copies, including supporting documentation shall be submitted. A copy of all supporting documents must be attached to each copy of your voucher/invoice. Failure to submit all the required copies will result in rejection of the voucher/invoice as improper.

Designated Agency Billing Office: Vouchers/invoices shall be submitted to the following address:

U.S. Nuclear Regulatory Commission
Division of Contracts
Mail Stop T-7-I-2
Washington, D.C. 20555

HAND DELIVERY OF VOUCHERS/INVOICES IS DISCOURAGED AND WILL NOT EXPEDITE PROCESSING BY NRC. However, should you choose to deliver vouchers/invoices by hand, including delivery by any express mail services or special delivery services which use a courier or other person to deliver the voucher/invoice in person to the NRC, such vouchers/invoices must be addressed to the above Designated Agency Billing Office and will only be accepted at the following location:

U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike - Mail Room
Rockville, MD 20852

HAND-CARRIED SUBMISSIONS WILL NOT BE ACCEPTED AT OTHER THAN THE ABOVE ADDRESS.

Note that the official receipt date for hand-delivered vouchers/invoices will be the date it is received by the official agency billing office in the Division of Contracts and Property Management.

Billing Instructions
Page 2 of 2

Agency Payment Office: Payment will be made by the following office:

U.S. Nuclear Regulatory Commission
Division of Accounting and Finance GOV/COMM
Mail Stop T-9-H4
Washington, DC 20555

Frequency: The contractor shall submit claims for reimbursement once each month, unless otherwise authorized by the Contracting Officer.

Format: Claims should be submitted in the format depicted on the attached sample form entitled "Voucher/Invoice for Purchases and Services Other Than Personal" (see Attachment) or a similar format. **THE SAMPLE FORMAT IS PROVIDED FOR GUIDANCE ONLY AND IS NOT REQUIRED FOR SUBMISSION OF A VOUCHER/INVOICE. ALTERNATE FORMATS ARE PERMISSIBLE PROVIDED ALL REQUIREMENTS OF THE BILLING INSTRUCTIONS ARE ADDRESSED.**

Billing of Costs After Expiration of Contract/Purchase Order: If the costs are incurred during the purchase order period and claimed after the purchase order has expired, the period during which these costs were incurred must be cited. To be considered a proper voucher/invoice, the contractor shall clearly mark it "EXPIRATION VOUCHER" OR "EXPIRATION INVOICE".

Currency: Billings may be expressed in the currency normally used by the contractor in maintaining his accounting records; payments will be made in that currency. However, the U.S. dollar equivalent for all vouchers/invoices paid under the purchase order may not exceed the total U.S. dollars authorized in the purchase order.

ATTACHMENT

**INVOICE/VOUCHER FOR PURCHASES
AND
SERVICES OTHER THAN PERSONAL**

(SAMPLE FORMAT - COVER SHEET)

Official Agency Billing Office
U.S. Nuclear Regulatory Commission
Division of Contracts and Property
Management MS: T-7-I2
Washington, DC 20555-0001

(a) Purchase Order No:

(b) Voucher/Invoice No:

(c) Date of Voucher/Invoice:

Payee's Name and Address

(d) Individual to Contact Regarding Voucher/Invoice
Name:
Telephone No:

(e) This voucher/invoice represents reimbursable costs for the billing period
_____ to _____

	<u>Amount Billed</u>	
	<u>Current Period</u>	<u>Cumulative</u>
(f) <u>Direct Costs:</u>		
(1) Direct Labor*	\$ _____	\$ _____
(2) Travel*	\$ _____	\$ _____
Total Direct Costs:	\$ _____	\$ _____

* The contractor shall submit as an attachment to its invoice/voucher cover sheet a listing of labor categories, hours billed, fixed hourly rates, total dollars, and cumulative hours billed to date under each labor category, authorized under the purchase order for each of the three activities to be performed under the purchase order. In addition, the contractor shall include travel costs incurred with the required supporting documentation, as well as, the cumulative total of travel costs billed to date by activity.