



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

DCD

May 24, 1999

Dale T. Nebuda
U.S. Army Corps of Engineers
Omaha District
Attn: CENWO-ED-ST
215 North 17th Street
Omaha, Nebraska 68102-4978

SUBJECT: INTERAGENCY AGREEMENT NO. NRR-99-026, ENTITLED "EXPLOSIVE BLAST RESISTANT VALIDATION-STUDIES OF SPENT FUEL POOLS AGAINST MALEVOLENT USE OF VEHICLES AT PERMANENTLY SHUTDOWN REACTOR FACILITIES"

Dear Mr. Nebuda:

Pursuant to the Economy Act of 1932, as amended, the Nuclear Regulatory Commission (NRC) and the U.S. Army Corps of Engineers (COE) desire to enter into an agreement whereby COE will develop guidance that licensees could use to easily evaluate barrier protection and bomb blast effects.

Accordingly, upon your agreement as provided below, the terms and conditions of this Interagency Agreement are as follows:

Article I - Scope of Work

COE is to initially provide the necessary technical assistance to conduct a review of the licensee's justification for the modifications of a vehicle barrier system. This review would be part of initial onsite security inspection activities to examine and validate the licensee's findings. As a second phase, if the accumulation of site data allowed, the COE will develop guidance and other licensees may use to evaluate their power reactor spent fuel pools (they are currently using the national laboratories) and their contents to protect against the malevolent use of a land vehicle as previously defined by the Commission.

Article II - Period of Performance

The period of performance of this Agreement shall be from the date of execution of this agreement and continue through May 24, 2004. This period of performance may be extended by mutual agreement. Any changes to the period of performance shall be incorporated into this Agreement by the execution of a bilateral modification to this Agreement.

Article III - Orders

Each order shall comply with the procedures set forth in FAR 17.504 and be accompanied by a Determination and Finding containing the supporting information required by FAR 17.503. Each

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order shall be signed by an NRC authorized Contracting Officer, shall contain a detailed scope of work and state the amount of funds required and available to accomplish the scope as stated.

Article IV - Payment by NRC to COE

Payment to the COE shall be on a reimbursable basis. The COE shall submit invoices in accordance with the enclosed "Billing Instructions for NRC/COE Interagency Agreements" which is enclosed herewith and made a part hereof.

A Standard Form 1080 will be prepared for each month's billing for costs incurred up to the amount authorized. Request for payment shall cite the following data:

B&R No.:	92015303105	Job No. J-2649	BOC: 252A
Appn. No.:	31X0200.920	Amount Obligated:	\$ 20,000.00

Article V - Obligation of Funds and Estimated Amount

The total estimated amount of this Agreement is \$95,210.00.

The amount presently obligated by the NRC for this Agreement is \$20,000.00.

It is estimated that the amount currently obligated will cover performance through September 30, 1999. Additional funding will be provided, if available, in accordance with Federal Acquisition Regulation 52.232-018, "Availability of Funds."

Article VI - Dispute Resolution

Both parties mutually covenant and agree to appoint program managers to represent their respective parties for the purpose of resolving dispute(s) that may arise as a result of this Contract. If a dispute(s) cannot be resolved, the party initiating the dispute(s) may choose to revoke this Contract in accordance with this Article, or provide a written request to the next highest level of authority for both parties to mediate the dispute(s). A written request to resolve the dispute(s), must contain a concise synopsis of the dispute(s), and be accompanied by a copy of the original Contract and all amendments. Any request to resolve a dispute shall not exceed the level of authority of the signatures affixed herein.

Article VII - Amendment, Modification and Termination

This Agreement may be modified or amended only by written, mutual agreement of the parties. Either party may terminate this Agreement by providing 30 days written notice to the other party. In the event of termination the NRC shall continue to be responsible for all costs incurred by the COE under this Agreement and for the costs of closing out or transferring any on-going contracts.

May 24, 1999

Article VIII - Points of Contact

The COE contact responsible for the successful completion of this Agreement is Dale T. Nebuda (402) 221-4914.

The NRC contacts for this agreement are:

Project Officer: Elaine McNeil
(301) 415-2932

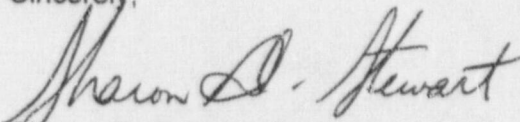
NRC Technical Monitor: Robert F. Skelton
(301) 415-3309

Administrative
Management Trainee: Nancy Turner Boyd
(301) 415-5613

If this Agreement is acceptable to the COE, please so indicate by signing in the space provided below and returning three fully executed copies to me. The fourth copy is for your records.

Should you have any questions, or require any assistance, please do not hesitate to contact me on 301/415-7315.

Sincerely,

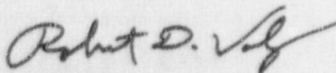


Sharon D. Stewart, Contracting Officer
Division of Contracts and
Property Management
Office of Administration

Enclosure: As stated

cc: Elaine McNeil, NRC
Robert Skelton, NRC

AGREED:



Robert D. Volz

Name

Colonel, Corps of Engineers

District Engineer

Title

26 May 1999

Date

BILLING INSTRUCTIONS FOR NRC/COE INTERAGENCY AGREEMENT

Billings will be provided by U.S. Army Corps of Engineers (COE) through Standard Form 1080.

The following information shall be provided by the COE:

1. Date of Billing
2. Interagency Agreement Number
3. Name and address of agency performing work
4. NRC Project Officer or Technical Contact
5. Billing period or beginning/ending dates (day, month, and year) of the period in which costs were incurred and for which reimbursement is requested.
6. Work Order Number
7. Cost detailed by major costs elements:
 - a. Direct labor - This consists of salaries and wages paid (or accrued) for direct performance of the contract. Indicate labor category and number of hours worked for each labor category.
 - b. Laboratory testing costs, supplies, etc.
 - c. Indirect rates, if any
 - d. Travel cost - airfare, train, local travel by POA - number of miles times mileage rate.

Frequency. The Agency shall submit billings for reimbursement monthly.

Billing of Costs After Expiration of Agreement. If reimbursable costs are incurred during the agreement period and claimed after the agreement has expired, the period during which these costs were incurred must be cited.

An original and three copies of your billing must be sent to:

U.S. Nuclear Regulatory Commission
Office of the Controller
Division of Accounting and Finance
General Accounting Branch, T9-E2
Washington, DC 20555

Telephone Number: 301-415-7520

Payments will be made by the Office of the Controller, Division of Accounting and Finance,
GOV/COM Accounts Section, Washington, DC 20555.

STATEMENT OF WORK

Title: Explosive Blast Resistant Validation Studies for Protection of Spent Fuel Pools Against Malevolent Use of Vehicles at Permanently Shutdown Power Reactor Facilities.

Job Code: J2649

B & R Number:

NRC Contract Manager: Elaine McNeil, NRR/DIPM
301-415-2932, ELK@NRC.GOV

NRC Technical Monitor: Robert F. Skelton, NRR/DIPM
301-415-3309, RFS1@NRC.GOV
Robert B. Manili, NRR/DIPM
301-415-2912, RBM1@NRC.GOV

TAC Number:

NRR Priority Number:

BACKGROUND

In light of the events regarding the vehicle incursion into the TMI site and the bombing of the World Trade Center in New York City, the NRC revised its regulation to require a vehicle barrier system (VBS) in the mid 1990's to preclude the malevolent use of a vehicle bomb against power reactor sites. Since that time the Commission has seen a marked increase in the request for amendments to power reactor licenses to accommodate a change to a non-operating status where spent reactor fuel is stored on site in a spent fuel pool. The staff has been processing these changes by the use of site specific exemptions, but it is clear that the number of such requests now warrants a change in the regulations to accommodate this non-operating status. Sites are requesting exemptions from the vehicle bomb provisions currently in 10 CFR 73.55, stating that the spent fuel pool itself is adequate protection against such vehicles. The staff does not have the technical expertise or documentation necessary to determine acceptability of the close placement or total absence of the vehicle barrier system. Sites requesting these changes have prepared individual technical justifications supporting their requested changes to the VBS. These studies need to be technically reviewed for the staff as part of our routine inspection functions.

OBJECTIVE

The objective of this interagency agreement with U. S. Army Corps of Engineers (USACE) is to initially provide the necessary technical assistance to conduct a review of the licensee's justification for the modifications of a VBS. This review would be part of initial onsite security inspection activities and would validate the licensee's findings. As a second phase, if the accumulation of site data allowed, the staff would also use the USACE and their data, to develop guidance that other licensees could use to evaluate their power reactor spent fuel pools (they are currently using the national laboratories) and their contents to protect against the malevolent use of a land vehicle as previously defined by the Commission.

TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

To perform the work described below, the U.S. Army Corps of Engineers shall provide the staff with the following combination of experience and qualifications.

1. Broad experience in civil and structural engineering.
 - Comprehensive knowledge of industrial building codes and standards for various types of build structures.
 - Comprehensive knowledge of design of reinforced concrete structures.
2. Extensive knowledge of and experience with analysis of bomb blast effects on various industrial building or structures.
 - Ability to perform in-depth bomb blast effects calculations.
 - Comprehensive knowledge of assumption and limitation of current bomb blast analysis for reinforced concrete structures.
3. Extensive knowledge of and experience with current vehicle barriers.
 - Ability to perform in-depth analysis of the effectiveness of vehicle barriers.
 - Comprehensive knowledge of design of vehicle barriers.
 - Ability to develop a simplified method of evaluating the stopping capabilities of vehicle barriers in connection with natural geographical attributes of a specific site.
4. Possess existing techniques, evaluations and analyses that are current and could be easily converted into guidance that could be implemented by individuals lacking technical experience in civil and structural engineering and lacking knowledge of blast effects on structures and equipment.

WORK REQUIREMENTS

The primary work requirement would be to support the staff's inspection efforts through the review of a licensee's technical basis for a reduced stand-off distance or removal of the existing vehicle barrier systems. As a secondary requirement the U.S. Army Corps of Engineers, if the data derived from the primary reviews allowed, the USACE would develop guidance that licensees could use to evaluate barrier protection and bomb blast effects. The USACE shall use as a basis for their evaluations current technologies and data.

Site Specific Evaluations

The U. S. Army Corps of Engineers shall assist the staff by conducting an evaluation of vehicle barrier protection and bomb blast effects at licensees' sites spent fuel pool as part of the staff's validation of technical justifications supplied by the licensees and as part of the NRC's routine inspection activities. USACE will not require unescorted site access, since they will be accompanied by NRC personnel.

Bomb Blast Effects Verification

The U.S. Army Corps of Engineers shall develop a procedure to determine the destructive effects of a vehicle land bomb on various commercial nuclear power spent fuel pools. The procedure calculation shall consider at a minimum various: (1) wall construction techniques, geometry, thickness, reinforcements, penetration and materials used in the construction of the spent fuel pools; (2) distance and height to the spent fuel pools; and (3) effects of obstructions on bomb blast. The procedure shall use graphs, tables, or monograms with the above information to determine the degree of protection provided.

LEVEL OF EFFORT AND PERIOD OF PERFORMANCE

The date of performance shall begin on the date of authorization and continue through May 24, 2004. The estimated level of effort for this project is as follows:

<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	<u>FY2004</u>
0.20 FTE	0.30 FTE	0.30 FTE	0.30 FTE	0.30 FTE	0.20 FTE

This agreement may be extended or modified by mutual agreement of both parties.

DELIVERABLES AND SCHEDULE

For each site specific evaluation of a licensee's submittal conducted by the U.S. Army Corps of Engineers, they shall provide the NRC a draft report in 14 working days from the onsite evaluation and a final report in 28 working days.

U.S. Army Corps of Engineers personnel shall be available to assist the NRC for meeting support at its headquarters in Rockville, Maryland or at the licensee's site for which the evaluation was conducted.

The NRC shall provide the licensees' technical documentation that requires USACE evaluation approximately 30 days prior to the licensee site visit.

As site specific evaluation data is accumulated in FY 2001 and beyond, the U.S. Army Corps of Engineers will review that data for possible development of an NRC NUREG document which would provide technical guidance to licensees to conduct their own "peer reviews" of these site submittals.

Monthly Business Letter Reports

See attached

Estimated Expense Summary Categories descriptors used in the Monthly Business Letter will be identical to billing line items listed on monthly expense vouchers.

Technical Reporting Requirements

The U.S. Army Corps of Engineers shall supply the technical reports listed above for staff final evaluations of the licensee submittals. Each site specific draft report shall be submitted to the technical monitor within 14 working days of the site visit and a final report in 28 working days of completion of the site visit. In addition, they will accumulate data from these site surveys with the possibility of preparing a NUREG document at some time in the future and based upon the Corps recommendation of feasibility for creating that document. The drafting of that NUREG will be the subject of a future interagency agreement.

MEETINGS AND TRAVEL

The following meetings and travel are anticipated:

1. Up to 5 two-day, one person trips (per fiscal year) for technical/licensee meetings at NRC Headquarters or licensee sites.
2. Up to 5 three-day, one person trips (per fiscal year) for plant site visits for field verification of licensee supplied technical studies for movement or removal of the vehicle barrier system at spent fuel pools.
3. The above meetings and travel are anticipated over the life of the Interagency Agreement.

Except for local travel, the U. S. Army Corps of Engineers shall obtain prior written approval of the NRC Project Manager for any travel to be performed.

No licensee calls direct to USACE are covered by this statement of work unless authorized by the NRC Project Manager.

NRC-FURNISHED MATERIALS

The NRC staff will provide the licensee's site specific studies that will be validated at least 30 days prior to the site visits.

OTHER APPLICABLE INFORMATION

License Fee Recovery

Work under this contract is not license fee recoverable.

Applicable Special Provisions

It is the responsibility of the U.S. Army Corps of Engineers to assign technical staff, employees, subcontractors, or specialists who have the required educational background, experience, or combination thereof to meet both the technical and regulatory objectives of the work specified in this SOW. The NRC will rely on representations made by the contractor concerning the

qualifications of the personnel assigned to this contract including assurance that all information contained in the technical and cost proposals, including resumes, is accurate and truthful.

Property Management

It is not expected that the U. S. Army Corps of Engineers will be required to purchase any equipment, including computer hardware or software, to perform the work contemplated under this contract. If such purchase becomes necessary, prior written approval of the NRC Project Manager will be obtained and copies of receiving reports will be provided to the NRC Project Manager.

Point of Contact

The NRC points of a contact under this Interagency Agreement are:

NRC Contract Manager:	Elaine McNeil (301) 415-2932
NRC Technical Monitor:	Robert F. Skelton (301) 415-3309
	Robert B. Manili (301) 415-2912