



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

DEC 10 1990

AECL Technologies  
ATTN: Mr. D. R. Shiflett  
15400 Calhoun Drive  
Suite 100  
Rockville, Maryland 20855

Dear Mr. Shiflett:

Subject: Task Order No. 15 Under Contract No. NRC-03-90-031 Entitled  
"Electrical Distribution System Functional Inspection -  
Waterford (FIN L-1527)

This letter confirms verbal authorization provided to Walter Zolkiewicz by Brenda DuBose, of my staff, to commence work under the subject task order effective December 4, 1990, with a temporary ceiling of \$10,000.00.

In accordance with the task order procedures of the subject contract, this letter definitizes Task Order No. 15. This effort shall be performed in accordance with the enclosed Statement of Work and the Contractor's technical proposal dated November 22, 1990, incorporated herein by reference.

Task Order No. 15 shall be in effect from December 4, 1990 through February 15, 1991, with a cost ceiling of \$107,509.23. The amount of \$105,970.59 represents the total estimated costs and the amount of \$1,538.64 represents the fixed fee.

The amount presently obligated with respect to this task order is \$32,000.00 (which includes the \$10,000.00 previously authorized), of which \$31,542.63 represents the reimbursable costs and the amount of \$457.37 represents the fixed fee. It is estimated that this amount will cover performance of work through December 31, 1990. This obligated amount may be unilaterally increased from time to time by the Contracting Officer by written modification to this task order. The obligated amount shall, at no time, exceed the task order ceiling. When and if the amount(s) paid and payable to the Contractor hereunder shall equal the obligated amount, the Contractor shall not be obligated to continue performance of the work unless and until the Contracting Officer shall increase the amount obligated with respect to this task order. Any work undertaken by the Contractor in excess of the obligated amount specified above is done so at the Contractor's sole risk. The Contractor shall comply with the provisions of 52.232-22 - Limitation of Funds for this incrementally funded task order.

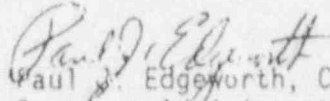
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Mr. D. R. Shiflett

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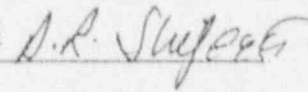
Please indicate your acceptance of this task order by having an official, authorized to bind your organization, execute three copies of this document in the space provided and return two copies to the Contract Administrator. You should retain the third copy for your records.

Sincerely,

  
Paul J. Edgeworth, Contracting Officer  
Contract Administration Branch No. 1  
Division of Contracts and  
Property Management  
Office of Administration

Enclosure:  
As stated

ACCEPTED: Task Order No. 15

D. R. Shiflett   
NAME

Vice President/General Manager  
TITLE

12/14/90  
DATE

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Accounting data for Task Order No. 15 is as follows:

B&R No.: 020-19-14-02-0  
FIN No.: L-1527-0  
Appropriation No.: 31X0200.200  
Obligated Amount: \$32,000.00  
(Funding has been obligated under the basic contract.)

The following individuals are considered to be essential to the successful performance of the work hereunder:

B. Diest	J. Panesar
N. Deinha	I. Kuperman
H. Singh	N. Tzeng

The Contractor agrees that such personnel shall not be removed from the effort under the task order without compliance with Contract Clause H.1, Key Personnel.

The issuance of this task order does not amend any terms or conditions of the subject contract.

Your contacts during the course of this task order are:

Technical Matters: Brian E. Thomas  
Project Officer  
(301) 492-1210

Contractual Matters: Brenda J. DuBose  
Contract Management Assistant  
(301) 492-7442

2. The inspection should evaluate whether:

(a) The installed configuration of the EDS in agreement with the facility drawings such as the Q-list, setpoint list, and equipment location drawings and that appropriate physical separation has been maintained between redundant electrical divisions and internal plant hazards.

The inspection preparation is scheduled to take place on or about December 4, thru December 6, the inspection is to take place on or about January 7, thru January 11, and January 21, thru January 26, with an intervening home-office review period January 14, thru January 18, 1991.

(b) The EDS meets the appropriate regulatory requirements and licensing commitments.

(c) Electrical motive and control power of the correct frequency and adequate voltage is available on demand to assure components will function as required to achieve safe shutdown and mitigate accident consequences.

(d) Proper logic for system actuation, operation, control and protection has been incorporated in the system. Review of proper logic includes review of control logic diagrams, and ladder diagrams of programmatic controllers, to verify that proper interlocks and permissive have been included in the design to achieve the required design functions of systems and components.

(e) Setpoints have been correctly chosen for over current protective relays to (1) assure proper breaker coordination between different voltage levels; (2) to prevent exceeding the vendor specified thermal limits on motors, containment electrical penetrations and cable insulation systems;

- 3) to allow starting of electrical equipment under degraded voltage conditions; and
- 4) to provide adequate pre-trip alarms, when applicable.

(f) Setpoints and time delays have been correctly chosen for other protective relays for attributes such as under-voltage, under-differential current, thermal overload and phase synchronization to assure functionality of the EDS.

- (g) The scope, depth and frequency of maintenance, surveillance and testing of electrical systems and components is adequate to verify their functional performance.
- (h) The operators understand the design bases and the limitations of the EDS. The inspectors should determine whether the design bases and operating limitations have been adequately addressed in normal and emergency operating procedures.
- (i) The EDS support system such as HVAC, EDG fuel oil transfer system, EDG cooling water system and air-start system etc., are adequate to support operation under design basis conditions.

3. Prepare an inspection report input.

Documentation of inspection at office on or about January 28 thru February 1, 1991

#### REPORTING REQUIREMENTS

##### Technical Reports

At the completion of Task 1, provide inspection plan input to the NRC Team Leader. The format and scope of this input shall be as provided by the NRC Team Leader.

During Task 2, each contractor specialist shall / provide daily reports to the NRC Team Leader. The format and scope of these reports shall be as provided by the NRC Team Leader.

At the completion of Task 2 (prior to the inspection team's exit meeting with the licensee) each contractor specialist shall provide a draft inspection report input to the NRC Team Leader. The format and scope of this input shall be as provided by the NRC Team Leader. Typically, this input will consist of a handwritten summary of the specialist's inspection findings.

At the completion of Task 3, the contractor shall deliver each specialist's final inspection report input (feeder report) to the NRC Project Manager (original and one copy) with one hard copy and one computer diskette version (IBM Displaywrite 3 or 4, or other IBM PC compatible software acceptable to

the NRC Team Leader) to the NRC Team Leader. The format and scope of the final report inputs shall be as provided by the NRC Team Leader. Each specialist's feeder report will serve as documentation of the specialist's inspection activities, efforts, and findings, and will be used by the NRC Team Leader for the preparation of the NRC's inspection report. As a minimum, each specialist reports input shall include the following:

- ° Identify of the individuals (name, company, and title) that provided information to the specialist during the inspection.
- ° For each area inspected, a description of the activities and general findings and conclusions reached regarding the adequacy of the area.
- ° For each area with a concern or findings, a discussion of the concern of finding with technical bases.

#### BUSINESS LETTER REPORTS

The contractor shall provide monthly progress reports in accordance with the requirements of the basic contract.

#### MEETINGS AND TRAVEL

One, three-person, three day trip to the Waterford plant site, located in Taft, Louisiana, to prepare for the subject inspection.

Two, three-person, five day trips to the Waterford plant site to assist NRC in conducting the subject inspection.

The contract specialist shall coordinate all travel arrangements in advance with the NRC Team Leader.

#### ESTIMATED LEVEL OF EFFORT

<u>Number</u>	<u>Discipline</u>	<u>Hours</u>
1	Project Manager	90
	Mechanical Systems Engineer	244
2	Electrical Design Engineer	488
	Support Staff	20

The estimated level of effort for each of the specialists consists of 64 hours for inspection preparation, 100 hours for on-site inspection activities, 40 hours for home office inspection related review during the intervening period between the on-site inspection periods, and 40 hours for inspection documentation.

The contractor specialists assigned to this task order may have to be badged for unescorted access privileges at the plant site. The contractor shall provide all advance information required for badging to the NRC Team Leader and the contractor specialists shall provide all documentation required before badging (as identified by the Team Leader) at the plant site. Questions concerning badging and plant site access shall be addressed to the NRC Team Leader.

It shall be the responsibility of the contractor to assign technical staff, employees, subcontractors 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 representation made by the contractor concerning the qualifications of the personnel proposed for assignment to this task order including assurance that all information contained in the technical and cost proposals, including resumes and conflict of interest disclosures, is accurate and truthful.

#### NRC FURNISHED MATERIAL

Documents required to prepare for the subject inspection will be provided by the NRC Team Leader.