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NRC-03-03-038 Task Order No. 033 Page 2 of 12

In accordance with Section G.4, Task Order Procedures, of contract no. NRC-03-03-038, this definitizes Task Order No. 033. The effort shall be performed in accordance with the attached Statement of Work.

Task Order No. 033 shall be in effect from the Day of Award through January 31, 2009, with a cost ceiling of \$165,636.00. The amount of \$153,419.00 represents the estimated reimbursable costs, and the amount of \$12,217.00 represents the fixed fee.

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 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 Matter: Rachel Glaros Project Officer 301-415-3672

Contractual Matters: Kala Shankar Contract Specialist 301-415-6310

Acceptance of Task Order No. 033 should be made 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 Specialist at the address identified in Block No. 5 of the OF 347. You should retain the third copy for your records.

ACCEPTANCE: TITLE

4-11-07

DATE

T035 SUPPLEMENTAL INVOICING INFORMATION If desired, this order (or copy thereof) may be used by the Contractor as the Contractor's invoice, instead of a separate invoice, provided the following However, if the Contractor wishes to submit an invoice, the following information must be provided: contract number (if any), order number, item number(s), description of supplies or services, sizes, quantities, unit prices, and extended totals. Prepaid shipping costs will be indicated as a separate item on the invoice. Where shipping costs exceed \$10 (except for parcel post), the billing must be supported by a bill of lading or receipt. When several orders are invoiced to an ordering activity during the same billing period, consolidated periodic billings are encouraged. **RECEIVING REPORT** Quantity in the "Quantity Accepted" column on the face of this order has been: inspected, accepted, received by me and conforms to contract. Items listed below have been rejected for the reasons indicated. PARTIAL DATE RECEIVED SIGNATURE OF AUTHORIZED U.S. GOV'T REP. DATE SHIPMENT NUMBER FINAL RECEIVED AT TITLE TOTAL CONTAINERS GROSS WEIGHT **REPORT OF REJECTIONS** QUANTITY ITEM NO. SUPPLIES OR SERVICES UNIT REASON FOR REJECTION REJECTED

NRC-03-03-038 T033

DELIVERY ORDER TERMS AND CONDITIONS NOT SPECIFIED IN THE CONTRACT

A.1 NRC Acquisition Clauses - (NRCAR) 48 CFR Ch. 20 A.2 Other Applicable Clauses

[] See Addendum for the following in full text (if checked)

[] 52.216-18, Ordering

[] 52.216-19, Order Limitations

[] 52.216-22, Indefinite Quantity

[] 52.217-6, Option for Increased Quantity

[] 52.217-7, Option for Increased Quantity Separately Priced Line Item

[] 52.217-8, Option to Extend Services

[] 52.217-9, Option to Extend the Term of the Contract

A.3 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.

Contract No. NRC-03-03-038 Task Order 33 Statement of Work

Title: Review of the Shearon Harris License Renewal Application (LRA) -Scoping and Screening of Balance of Plant (BOP - Auxiliary and Steam and Power Conversion less HVAC and Containment) Systems and Components that are subject to Aging Management Review (AMR)

Technical Monitor: Stan Gardocki, (301) 415-1023, Email: SJG1@nrc.gov

TAC Number: MD3599

BACKGROUND

Pursuant to Section 50.51 of Title 10 of the <u>Code of Federal Regulations</u> (10 CFR 50.51), licenses to operate nuclear power plants are issued by the U.S. Nuclear Regulatory Commission (NRC) for a fixed period of time not to exceed 40 years; however, these licenses may be renewed by the NRC for a fixed period of time including a period not to exceed 20 years beyond expiration of the current operating license. The Commission's regulations in 10 CFR Part 54, (60 FR 22461) published on May 8, 1995, set forth the requirements for the renewal of operating licenses for commercial nuclear power plants (NPPs).

Applicants for license renewal are required by 10 CFR 54 (The License Renewal Rule) to perform an integrated plant assessment (IPA). As specified in 10 CFR 54.4, the applicant must identify the systems, structures, and components (SSCs) that are within the scope of license renewal (scoping). In addition, in accordance with 10 CFR 54.21(a)(1), the applicant must determine which of the SSCs are subject to an aging management review (screening). 10 CFR 54.21 (a)(2) requires the applicant to describe and justify the methods used to meet the requirements of 10 CFR 54.21(a)(1). Further, 10 CFR 54.21(a)(3) requires that, for each structure and component subject to an aging management review, the applicant must demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the current licensing basis (CLB) for the period of extended operation (aging management program or AMP). 10 CFR 54.21(b) requires that each application contain CLB changes, in the form of an amendment, during NRC review of the license renewal application (LRA). 10 CFR 54.21(c) requires the applicant to provide an evaluation of Time-limited Aging Analyses (TLAAs) including a list of TLAAs, as defined in 10 CFR 54.3 (special reviews for equipment which has aging assumptions integral to the design process). Lastly, 10 CFR 54.21(d) requires that each LRA include a FSAR supplement containing a summary description of the intended aging management programs (AMPs) for the period of extended operation.

For the purposes of this task order, the BOP systems include auxiliary systems and steam and power conversion systems less HVAC and containment systems.

OBJECTIVE

The objective of this task order is to obtain technical expertise from Information Systems Laboratories (ISL) to assist the in determining the adequacy of applicant's screening and

scoping of balance of plant (BOP) systems and components as stated within the scope of the license renewal application for the Shearon Harris Nuclear Power Plant, Unit 1 pursuant to 10 CFR 54 requirements.

TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

This effort will require mechanical/systems engineering expertise, of senior-level and staff-level engineers, on an intermittent, part-time basis, with experience in commercial nuclear power reactor operations (specifically BOP systems), NRC License Renewal Regulations, and regulatory issues associated with BOP SSCs commonly found at commercial nuclear reactor plants.

The proposal should identify who will be designated as the project lead/Principal Investigator, and any other key personnel and the role they will play in performing the work.

WORK REQUIREMENTS AND SCHEDULE

<u>Tasks</u>

- In accordance with the requirements of Section 2.2 of NUREG-1800, perform a plant level scoping review of all the systems and structures listed in the tables of LRA Section 2.2 and determine if any of the systems and structures that perform their intended functions as defined in 10 CFR 54.4 is missing. Prepare a request for additional or clarifying information. Using the screening criteria found in the Brunswick License Renewal Safety Evaluation Report, ADAMS accession number: ML 053550324 dated December, 2005, determine which systems and structures will be reviewed using the "tier-two"process and which will be reviewed using the "tier-one" process¹. Prepare a technical letter report.
- 2. In accordance with the requirements of Section 2.3 of NUREG-1800, perform a detailed review of all BOP systems according to the level of importance specified in the NUREG and identify those aspects of the application that need additional or clarifying information. Identify systems, if any, that need regional inspection support to verify the results of scoping and screening described in the LRA.

Scheduled Completion

Four weeks after authorization of work.

Based on the review findings, the level of effort for Task 2 may need to be modified. Also, the number of systems for Harris might be too few to separate into tiers.

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Prepare a technical letter report.

- a. First-half of the review.
- b. Second-half of the review.
- 3. On an as required basis, provide technical review and evaluation of additional information associated with clarifying the RAI or intent of the RAI, resolving an RAI or "open items," and addressing an issue raised by upper NRC management or the ACRS. This task includes participation in telephone conference calls as may be required. If applicable, prepare a technical letter report².
- 4. If necessary, prepare for and travel to the plant site or the applicant's offices to discuss and assist in resolving the RAIs or open items. Prepare a trip report.
- 5. Review the applicant's responses to the RAIs and identify those issues that have been resolved along with the basis for resolution and those items for which further information may be needed, but for which resolution may not be readily forthcoming, i.e, the open items remain. Using the shell provided by the NRC, prepare a technical letter report, to include those items addressed in Tasks 3 and 4, above.
 - a. Draft report.

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- b. Incorporate NRC comments and prepare the final report.
- Prepare for and travel to NRC HQ to participate in the ACRS Subcommittee meeting scheduled in 2008; prepare a trip report.
- 7. Participate in the ACRS full committee meeting meeting scheduled in 2008.

Six weeks after authorization of work.

Four weeks after completion of Subtask 2.a.

As mutually agreed upon; each request will be documented in an E-mail by the Technical Monitor.

One week after the trip.

Four weeks after receipt of the applicant's responses to the RAIs.

Two weeks after receipt of NRC comments.

One week after the meeting.

As mutually agreed upon, if a technical letter report is not required, document the request for assistance, the results provided and the date provided in the "<u>Work</u> <u>Accomplished During the Period</u>" section of the Monthly Business Letter Report.

LEVEL OF EFFORT

The estimated level of effort in professional staff hours apportioned among the tasks is as follows:

Tasks Le	evel of Effort (hour	<u>'s)</u>
	<u>FY-07</u>	<u>FY-08</u>
1. 2. 3. 4. 5. 6. 7. Subtotal	180 380 120 40 300 0 <u>0</u> 1020	32 <u>8</u> 40
Project managemen	t 80	
Program support	160	
Total (1300)	1260	40

PERIOD OF PERFORMANCE

The projected period of performance is date of task order award through January 31, 2009.

DELIVERABLES

Technical Reporting Requirements

TAC Number: MD3599 Job Code: 4048

- NOTE: All reports are to be submitted electronically using WordPerfect X3 (font: Arial regular 11 point) to the Technical Monitor with a copy provided to the Project Officer. In all correspondence, include identifying information: JCN No., Task No., the applicant, the facility, TAC No., and NRC/NRR Division and Branch.
- At the completion of Task 1, submit a technical letter report that contains the identified systems and structures that may be missing or mis-categorized and describe the need for the RAIs and the bases for the RAI. The report will also consist of a listing of those systems and structures for which a "tier-one" or a "tier-two" review is recommended, the basis for the

4

recommendation, the review schedule consistent with the milestones established under Task 2 and the assigned reviewer to each system or structure.

- 2. At the completion of Subtasks 2.a. and 2.b., submit a technical letter report that contains the list of RAIs the <u>basis</u> or <u>bases</u> for the RAIs clearly articulated.
- 3. For Task 3, at the completion of each request for technical assistance to address an RAI, close an open item or to address a management comment or concern, submit a technical letter report that contains the results of the work performed in the format suitable for incorporation into the safety analysis report, if applicable. If the submission of a technical letter report is not required, a brief summary of the request, results provided and date provided is to be described in the Monthly Business Letter Report.
- 4. At the completion of Task 4, submit a trip report that contains a summary of major discussion points, decisions and agreements reached, information provided by the applicant, open issues and follow-up actions, responsible party/individual(s) for the action(s), action(s) due date, and a list of attendees.
- 5. At the completion of Task 5, submit a technical letter report that contains the results of the review and evaluation of the RAI responses, essentially updating the report prepared under Task 2 (which will address 100% of the required systems in the review, i.e., work performed under Tasks 3 and 4). Within the report, identify those aspects of the application that are still considered as "Open Items" and the basis for why they remain open items.
- 6. At the completion of Task 6, submit a technical letter report that contains a summary of major discussion points, decisions and agreements reached, information provided by the applicant, open issues and follow-up actions, responsible party/individual(s) for the action(s), and the action(s) due date.

Monthly Business Reporting Requirements

A budget is to be developed for each Task based on the agreed upon allocation of the level of effort among the Tasks. Separate expenditures for each Task will be reported in the MBLR against the budget using the following format:

Authorize	ed Cost Ceiling: \$ _		Funds Obligated to date: \$			
<u>Tasks</u> 1. 2. 3. 4. 5. 6. 7.	<u>Planned Budget</u> \$ \$ \$ \$ \$ \$ \$	Expenditures <u>for the Period</u> \$ \$ \$ \$ \$ \$ \$	Task Expenditures <u>Cumulative</u> \$ \$ \$ \$ \$ \$ \$ \$	Percentage <u>vs. Budget</u> % % % % % %		

5

		. 6	•	
Proj Mgt. Support	\$ \$	\$ \$	`\$ \$	% %
Travel	\$	\$	\$	%
Total	\$	\$	\$	%

A monthly expense variance greater than 10 percent must be explained in the "Problem/Resolution" section.

MEETINGS AND TRAVEL

One one-person, five-day trip to the plant site in New Hill, NC

NRC FURNISHED MATERIAL

Compact Disk containing the Shearon Harris LRA

See Attachment 1 for other sources of information and documents needed.

OTHER APPLICABLE INFORMATION

License Fee Recovery

All work specified in this SOW is license fee recoverable and must be charged to TAC number indicated above.

Assumptions and Understandings

It is assumed that the documents listed **Attachment 1** or the appropriate reference locations (i.e. NRC web page address) can be accessed directly by the contractor.

It is understood that the review of this LRA will be conducted in such a manner that the majority of SER development will occur during the first six-month period, subject to unavoidable delays in obtaining needed information.

The review goal is to evaluate the LRA in such a way that the documentation that results consists of input to be used in the NRC safety evaluation report and identifies, simultaneously and on a continuing basis as needed, the need for RAIs. That is, where "gaps " exist in the report, there will exist an RAI or, ultimately, an initial open item. Initial open items are to eventually be resolved between the applicant and the NRC staff. See the specific reporting requirements that are defined in the Technical Reporting Requirements section.

The level of effort assumption for Tasks 1, and 3 is based on the average level of effort spent

NOTE: Once a variance reaches 15 percent, prior approval is required in writing from the NRC Project Officer, or a Modification is to be processed.

on this type of effort on past LRA reviews.

The level of effort assumption for Task 2 is based on reviewing the LRA, and its supporting documentation including the License Renewal Boundary Drawings and the Updated Final Safety Analysis Report.

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The level of effort assumption for Task 4 consists of two days for travel and report writing and three days for the meeting.

The level of effort assumption for Task 5 is based on addressing/resolving approximately 60 RAIs or open items which will take, on the average, five hours each to review, evaluate and prepare the documentation.

WEB ADDRESS FOR NRC FURNISHED MATERIAL AVAILABLE ON-LINE

The following NRC furnished materials are available on-line at the web addresses provided below:

- 1. License Renewal Rule, 10 CFR Part 54, "Requirements for Renewal of Operating Licenses For Nuclear Power Plants," as amended in 1995.
- 2. Standard Review Plan for License Renewal (SRP-LR) NUREG 1800, Revision 1 dated September 2005.
- 3. Regulatory Guide 1.188, Revision 1 dated September 2005, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses."
- 4. Nuclear Energy Institute Guidance in NEI- 95-10, "Nuclear Energy Institute (NEI) Guidance Document NEI 95-10, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54--The License Renewal Rule," Revision 6, dated June, 2005.

The quick link to the various references to Title 10 of the Code of Federal Regulations (10 CFR) is shown below:

http://www.nrc.gov/reading-rm/doc-collections/cfr/

The quick link to the various license renewal references and guidance documents is shown below:

http://www.nrc.gov/reactors/operating/licensing/renewal/guidance.html