

ORDER FOR SUPPLIES OR SERVICES

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

BPA NO.

| | | | | | |
|--|--|--|--|---|----------------------|
| 1. DATE OF ORDER JUN 0 2 2009 | | 2. CONTRACT NO. (If any) NRC-42-07-483 | | 6. SHIP TO: | |
| 3. ORDER NO. 0018 | | MODIFICATION NO. | | a. NAME OF CONSIGNEE U.S. Nuclear Regulatory Commission | |
| 5. ISSUING OFFICE (Address correspondence to) U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Kala Shankar 301-492-3638 Mail Stop TWB 01-B10M Washington, DC 20555 | | 4. REQUISITION/REFERENCE NO. 42-07-483T018 09748318015 | | b. STREET ADDRESS Tracy Clark 301-415-1474 | |
| 7. TO: | | c. CITY Washington | | d. STATE DC | e. ZIP CODE 20555 |
| a. NAME OF CONTRACTOR ENERGY RESEARCH INC | | b. COMPANY NAME | | f. SHIP VIA | |
| c. STREET ADDRESS 6167 EXECUTIVE BLVD | | d. CITY ROCKVILLE | | 8. TYPE OF ORDER | |
| e. STATE MD | | f. ZIP CODE 208523901 | | <input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY REFERENCE YOUR _____ Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated. | |
| 9. ACCOUNTING AND APPROPRIATION DATA 925-15-171-111; JC:Q-4015; BOC: 252A; 31X0200 Obligate: \$200,000 Contractor DUNS: 621211259 | | 10. REQUISITIONING OFFICE NRO | | 12. F.O.B. POINT Destination | |
| 11. BUSINESS CLASSIFICATION (Check appropriate box(es)) | | <input checked="" type="checkbox"/> a. SMALL <input type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. EMERGING SMALL BUSINESS | | <input type="checkbox"/> g. SERVICE-DISABLED VETERAN-OWNED | |
| 13. PLACE OF | | 14. GOVERNMENT B/L NO. | | 15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) | |
| a. INSPECTION | | b. ACCEPTANCE | | 16. DISCOUNT TERMS NET 30 | |

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) |
|--------------|--|----------------------|----------|----------------|------------|-----------------------|
| | Issuance of Task Order No. 18 under Contract No. NRC-42-07-483 Title: "Review of FSAR Sections 3.3 through 3.5, 14.3S, parts of section 19, and seismic margin analysis including appendices 19B, D, F H and I, and parts of part 9 ITAAC of RCOL Application for STP units 3 and 4" Period of Performance: 05/22/2009-11/21/2011 Estimated Reimbursable Cost: \$368,590.03 Fixed Fee: \$18,429.50 Total Cost Plus Fixed Fee: \$387,019.53 Funding in the amount of \$200,000 is being provided. See attached pages for a description of Task Order 18 and Statement of Work. | | | | | |

| | | | | | | | |
|-------------------------------------|--|----------------|---------------------------|----------------------|-----------------|--------------|---------------------------|
| SEE BILLING INSTRUCTIONS ON REVERSE | 18. SHIPPING POINT | | 19. GROSS SHIPPING WEIGHT | | 20. INVOICE NO. | | 17(h) TOTAL (Cont. pages) |
| | 21. MAIL INVOICE TO: | | | | | | |
| | a. NAME U.S. Nuclear Regulatory Commission Payment Team, Mail Stop TWB 01-B10M | | | | | | 17(i) GRAND TOTAL |
| | b. STREET ADDRESS (or P.O. Box) Attn: NRC-42-07-483, Task Order 18 | | | | | | |
| c. CITY Washington | | d. STATE DC | | e. ZIP CODE 20555 | | \$200,000.00 | |

| | |
|---|--|
| 22. UNITED STATES OF AMERICA BY (Signature) <i>Kala Shankar</i> | 23. NAME (Typed) Kala Shankar Contracting Officer TITLE: CONTRACTING/ORDERING OFFICER |
|---|--|

NRC-42-07-483 0018

This confirms the verbal authorization that was provided to Energy Research Inc. on May 22, 2009, to begin work under the subject task order, with a temporary ceiling of \$100,000.00.

In accordance with Section G.4, Task Order Procedures, of Contract No. NRC-42-07-483, this definitizes Task Order No. 18. The effort shall be performed in accordance with the attached Statement of Work.

Task Order No. 18 shall be in effect thirty months from date of award, with a cost ceiling of \$387,019.53. The amount of \$368,590.03 represents the estimated reimbursable costs, and the amount of \$18,429.50 represents the fixed fee.

The amount obligated by the Government with respect to this task order is \$200,000, of which \$190,476 represents the estimated reimbursable costs, and the amount of \$9,524 represents the fixed fee.

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: Tracy Clark
Project Officer
301-415-1474

Contractual Matters: Kala Shankar
Contract Specialist
301-492-3638

Acceptance of Task Order No. 18 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:

John Cantrell
NAME
President
TITLE
6/3/09
DATE

TASK ORDER STATEMENT OF WORK

| | | |
|--|--|--|
| JCN Q-4015 | Contractor Energy Research, Inc. | Task Order No. NRC 42-07-483 18 |
| Applicant STP Nuclear Operating Company | Design/Site South Texas Project Units 3 and 4 | Docket No. 52-012 & 52-013 |
| Title/Description Review of FSAR Sections 3.3 (Wind and Tornado Loadings), 3.4 (Water Level (Flood) Design), 3.5 (Missile Protection), 14.3S (ITAAC), Parts of Section 19 (Containment Ultimate Capacity and Seismic Margin Analyses including Appendices 19B, 19D, 19E, 19F, 19H and 19I) and Parts of Part 9 ITAAC of RCOL Application for STP Units 3 and 4. | | |
| TAC No. RX0067 | B&R Number 925-15-171-111 | SRP or ESRP Section(s) SRP Sections 3.3.1, 3.3.2, 3.4.2, 3.5.3, 14.3.2 and 19 |
| NRC Task Order Project Officer (PO) | | |
| Tracy Clark | 301-415-1474 | Tracy.Clark@nrc.gov |
| NRC Technical Monitor (TM) | | |
| David Jeng | 301-415-2727 | david.jeng@nrc.gov |

1.0 BACKGROUND

Combined Operating License (COL) Applications are submitted pursuant to Part 52 of Title 10 of the *Code of Federal Regulations* (10 CFR 52), "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants." The U.S. Nuclear Regulatory Commission (NRC) reviews COL Applications based on information furnished by electric utility companies pursuant to 10 CFR 52.79, "Contents of Applications Technical Information."

A Standard Review Plan (NUREG-0800) is prepared for the guidance of staff reviewers in the Office of New Reactors in performing safety reviews of applications to construct or operate nuclear power plants and the review of applications to approve standard designs and sites for nuclear power plants. The principal purpose of the SRP is to assure the quality and uniformity of staff safety reviews.

The staff publishes the results of these reviews in a Safety Evaluation Report (SER).

2.0 OBJECTIVE

The objective of this task order is to obtain technical expertise from the contractor to assist the NRC staff in determining whether or not the subject COL application meets appropriate regulatory requirements relating to Sections 3.3 (Wind and Tornado Loadings), 3.4 (Water Level (Flood) Design), 3.5 (Missile Protection), 14.3S (ITAAC) and Parts of Section 19 (Containment Ultimate Capacity and Seismic Margin Analyses including Appendices 19B, 19D, 19E, 19F, 19H and 19I) of the FSAR, and structural/seismic portions of Part 9 ITAAC submitted with the application including any references to or departures from the corresponding ABWR Certified Design sections. Specifically,

- Review of SRP subsections 3.3.1, 3.3.2, 3.4.2 and 3.5.3 is required to ensure that the design basis wind, tornado, flood and tornado generated missiles analysis and design meet the applicable requirements of 10 CFR Part 50, Appendix S and other applicable regulations. The review shall focus on the (1) wind and tornado design parameters, (2) the procedures used to transform the wind and tornado speeds into equivalent pressures, (3) determination of design wind loads and tornado wind loads for seismic Category I structures (4) determination of tornado missile impact effects on seismic Category I structures and (5) compliance with the acceptance criteria provided in respective SRP subsections,
- Review of SRP subsections 14.3.2, FSAR Sections 14.3S (ITAAC) and Parts of Part 9 ITAAC of RCOL Application is required to insure that relevant regulations related to ITAAC of Seismic Category I structures meet the applicable requirements of 10 CFR Part 52, including 10 CFR 52.80(a). The review shall focus on the acceptability of the applicant's proposed ITAAC covering containment pressure boundary integrity, normal loads, seismic loads, suppression pool hydrodynamic loads, flood, wind, and tornado loads, rain and snow loads, pipe rupture loads and applicable codes and standards,
- Review of containment ultimate capacity and seismic margin analyses aspects of SRP Section 19.0 and FSAR Section 19 (parts related to Containment Ultimate Capacity and Seismic Margin Analyses including Appendices 19B, 19D, 19E, 19F, 19H and 19I) and portion of Part 9 ITAAC of RCOL Application for STP Units 3 and 4 to ensure that applicable NRC regulations and regulatory requirements are fully complied with. The review shall focus on the acceptability of the applicant's analysis methods and results addressing items related to containment ultimate capacity, seismic margin analyses of seismic Category I structures.

The level of effort for this task order is based on the expectation that the contractor is familiar with the review procedures of the SRP sections in the work scope, and the technical reviewer has the required knowledge and experience in the subject matter as outlined in Section 4 of this document. The specific work scope and schedule required for this task order is provided in Section 3 and the requirements for communicating work progress and status is provided in Section 5.

3.0 WORK REQUIREMENTS, SCHEDULE AND DELIVERABLES

| Tasks/Standards | Scheduled Completion | Deliverables |
|-----------------|----------------------|--------------|
|-----------------|----------------------|--------------|

| Tasks/Standards | Scheduled Completion | Deliverables |
|--|--|--|
| <p>1. REQUIREMENT: Become familiar with COL FSAR Sections 3.3, 3.4, 3.5, 14.3S, Parts of Section 19 (Containment Ultimate Capacity and Seismic Margin Analyses including Appendices 19B, 19D, 19E, 19F, 19H and 19I), Part 9 ITAAC of RCOL Application for STP Units 3 and 4; the related sections of ABWR DCD; the basis upon which the staff granted the ABWR design certification including pertinent sections of staff's SER for the DC, and relevant sections of the SRP. Attend NRC offered training on Regulations and TER development. (Phase 1 task)</p> <p>STANDARD: Provide written confirmation that familiarization is complete. The level of effort for Task 1 is based on the volume of materials to be reviewed; this task is for familiarity and not for evaluation.</p> | <p>*One week after authorization of work</p> | <p>Documentation that assigned personnel have reviewed references</p> |
| <p>2. REQUIREMENT: Participate in an orientation/ kick-off meeting with the NRC staff to discuss the scope of the work, expectations, and task order management. Establish an agreed upon schedule that is consistent and aligned with the NRC's EPM program. (Phase 1 task)</p> <p>STANDARD: Attendance by individuals designated by NRC.</p> | <p>*One week after authorization of work</p> | <p>A jointly agreed upon schedule</p> |
| <p>3. REQUIREMENT: Review the COL application Sections identified in Task 1 above, both standard and STP specific departures, STO specific supplemental information and all related documents/appendices to determine the adequacy of the COL application for the sections. Determine if the methods and approach proposed by the applicant to meet the appropriate NRC regulations and SRP acceptance criteria. Review the adequacy and acceptability of the methods/data used by the applicant to demonstrate its compliance with the COL action items and interface parameter requirements stipulated in the ABWR DC. All deviations from or</p> | <p>ERI staff to provide draft TERs and RAIs for all FSAR Sections by June 25, 2009 in order to meet a key STP RCOL review milestone date.</p> | <p>a. Preliminary TERs with RAIs for relevant FSAR sections defined in the TO 18 review scope by 06/25/2009.</p> <p>b. An RAI Tracking Table by 08/15/2009.</p> <p>c. A comparative</p> |

| Tasks/Standards | Scheduled Completion | Deliverables |
|--|---|---|
| <p>modifications to the COL action items, standard plant design parameters, limits imposed on acceptance criteria and interface parameter requirements should be evaluated and justified. Identify issues and those aspects of the application that need additional or clarifying information. (Phase 1 task)</p> <ul style="list-style-type: none"> a. Prepare draft questions as input to a formal Request for Additional Information (RAI). b. Prepare a draft TER for each of the COL sections being reviewed including a discussion of the RAI contents and their bases. c. Participate in conference calls with the applicant (if required by TM) to explain the information to be provided or clarified to bring closure to the open issues. d. Prepare a comparative table of all deviations from ABWR DC, and COL applicant's implementation/disposition of the same. <p>STANDARD: Completed Technical Evaluation Report that follows the NRC provided template without deviation. No deviation from the guidance defined in Section III, RAI Guidance of Attachment1. One round of comment incorporation is acceptable.</p> | | <p>table of all deviations from ABWR DC, supplements and interface information by 08/15/2009.</p> |
| <p>4. REQUIREMENT:</p> <ul style="list-style-type: none"> a. Review responses to the RAI questions to determine if they adequately resolve the outstanding issues identified in Task 3. Identify any other open items. Develop new or supplemental RAIs, as necessary. Incorporate the review results in the TER completed under Task 3. Update the RAI tracking table. b. Prepare an audit plan with a list of documents to be audited and issues to be discussed during an audit under Task 5. c. As a result of review efforts in Task 5, review responses to the RAI questions to | <ul style="list-style-type: none"> a. Review of RAI response within three weeks after receipt of the responses. b. Updated TER, RAI tracking table, and audit list to be prepared two weeks prior to Task 5. c. Ongoing review | <ul style="list-style-type: none"> a. Updated RAI tracking table and TER with open items b. Audit Plan c. Input to new or supplemental RAIs d. Updated RAI tracking table monthly |

| Tasks/Standards | Scheduled Completion | Deliverables |
|--|---|---|
| <p>determine if they adequately resolve the outstanding issues. As necessary, develop new or supplemental RAIs. Update the RAI tracking table. Continue this process until closing of all open items at the end of Task 7. (Phase 2 & 3 task)</p> <p>STANDARD: Update TER with open items and RAI tracking table as RAIs are reviewed and resolved.</p> | <p>of responses to unresolved or supplemental RAIs within two weeks after receipt of the applicant's responses.</p> | |
| <p>5. REQUIREMENT: Prepare for and travel to the applicant's designated facilities and participate in an NRC review team to accomplish the following: (Phase 2 task)</p> <p>a. Audit key supporting documentation that forms the basis for the applicant's determination, that all ABWR DC stipulated COL action items/interface parameter requirements are fully implemented or complied with. This includes review of documentation for STP Units 3 and 4 containment ultimate capacity re-constitutive analysis, STP structural seismic margin analysis, adequacy of STP COL Tier 1 and Tier 2 ITAAC commitments and associated ITAAC tables, adequacy of STP site specific ITAAC documentation and adequacy of FSAR Sections 3.3.1, 3.3.2, 3.4.2 and 3.5.3 related seismic Category I structural calculations.</p> <p>b. As applicable, audit key supporting documentation that forms the basis for the applicant's taking exceptions or providing alternatives to the ABWR DC stipulated COL action items/interface parameter requirements.</p> <p>c. Evaluate and determine the adequacy and acceptability of FSAR Tiers 1 and 2 standard and STP specific departures and supplemental information.</p> | <p>Trip duration is one week</p> <p>Deliverables due two weeks after the trip</p> | <p>a. Trip Report</p> <p>b. Input to new or supplemental RAIs Trip Report</p> |

| Tasks/Standards | Scheduled Completion | Deliverables |
|--|--|---|
| <p>d. Evaluate and discuss the findings resulting from 5.a and 5c above. Identify any open items and plans for their resolution.</p> <p>e. Evaluate and discuss the applicant's responses to the unresolved issues identified in Task 4 to determine if the outstanding issues are adequately resolved. Prepare input to new or supplemental RAIs as necessary.</p> <p>f. Prepare a COL Action Items/Interface Parameter Requirements Audit Summary Tables as part of the trip report.</p> <p>g. Prepare a trip report (as an input to NRC Audit Report) to summarize the information reviewed, results of the audit, list of open/action items, plan for closure of the open/action items, and meeting discussions</p> <p>STANDARD: Participate in audit. Submit: (1) a Trip Report, (2) Input to RAIs in accordance with NRC guidance and (3) update RAI tracking table.</p> | | |
| <p>6. REQUIREMENT: Incorporate the results of the review efforts in Task 4c and update the TER as input to the staff's SER w/ OI for FSAR Sections 3.3, 3.4, 3.5, 14.3S, Parts of Section 19 (Containment Ultimate Capacity and Seismic Margin Analyses including Appendices 19B, 19D, 19E, 19F, 19H and 19I), and Part 9 ITAAC of RCOL Application for STP Units 3 and 4. The TER should summarize information reviewed, key technical issues evaluated/ resolved, any confirmatory analysis performed, significant staff evaluation findings and their technical bases covering the staff review of the above listed COL sections. (Phase 2 task)</p> <p>STANDARD: Complete TER that follows the NRC provided template without deviation. Update the RAI tracking table following the NRC template.</p> | <p>Four weeks after completion of Task 4c, or as agreed upon with the TM to accommodate ACRS schedule.</p> | <p>a. Updated TER with open items</p> <p>b. Updated comparative table with COL specifics and RAI tracking table</p> |

| Tasks/Standards | Scheduled Completion | Deliverables |
|---|-------------------------------|--|
| <p>STANDARD: Complete Technical Evaluation Report that follows the NRC provided template without deviation.</p> | | |
| <p>7. REQUIREMENT: As needed and requested by the TM, provide technical support to the staff during ACRS review and/or hearing meeting. (Phase 3 task)</p> <p>STANDARD: Ensure presentation materials are reviewed and approved by TM. Attend meetings, if requested.</p> | TBD based on project schedule | Prepare Presentation Materials. Attend Meetings, if required by TM |
| <p>8. REQUIREMENT: Prepare final TER with no OI's (as an input to staff's FSER) including addressing any ACRS questions, and participate in ACRS review meetings as requested by the TM. (Phases 4 and 5 tasks)</p> <p>STANDARD: Complete TER that follows the NRC provided template without deviation. Attend meetings, if requested by TM.</p> | TBD based on project schedule | Final TER with no open items |
| <p>9. REQUIREMENT: As needed and requested by the TM, provide technical support to the staff to prepare the FSER (Phase 6 task)</p> <p>STANDARD: Provide technical support, if requested by TM.</p> | TBD as needed | N/A |

* These Work Schedules are subject to change by the NRC Contracting Officer (CO) to support the needs of the NRC Licensing Program Plan.

The Technical Monitor may issue technical instruction from time to time throughout the duration of this task order. Technical instructions must be within the general statement of work delineated in the task order and shall not constitute new assignments of work or changes of such a nature as to justify an adjustment in cost or period of performance. The contractor shall refer to Section G.1 of the base contract for further information and guidance on any technical directions issued under this task order.

Any modifications to the scope of work cost or period of performance of this task order must be issued by the CO and will be coordinated with the NRO Project Officer.

4.0 TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

As specified in the base contract, the contractor shall provide individuals who have the required educational background and work experience to meet the objectives of the work specified in this task order. Specific qualifications for this effort include:

Senior structural engineers with knowledge and experience in linear and non-linear finite element modeling and analysis of containment/seismic Category I structures; seismic response analysis of nuclear plant structures; seismic margin analysis and structural reliability and probabilistic analysis of seismic category I structures; use of ANSYS computer program or equivalent in advanced structural analysis; understanding of 10 CFR Part 52 regulations with respect to ITAAC regulatory philosophy, its planning and implementation and COL applicant oversight; working knowledge of Category I structural analyses needed to demonstrate compliance with pertinent acceptance criteria of SRP sections listed in Task 6 of Section 3.0 of this SOW; implementation of NRC regulations, and use of US industry codes and standards applicable for design and construction of nuclear power plant facilities.

The contractor shall provide a contractor project manager (PM) to oversee the effort and ensure the timely submittal of quality deliverables so that all information is accurate and complete as defined in the base contract.

The NRC will rely on representations made by the contractor concerning the qualifications of the personnel assigned to this task order, including assurance that all information contained in the technical and cost proposals, including resumes, is accurate and truthful. The resume for each professional proposed to work under this task order (contractor, subcontractor, or consultant) shall describe the individual's experience in applying his or her area of engineering specialization to work in the proposed area. The use of particular personnel on this contract is subject to the NRC technical monitor's (TM's) approval. This includes any proposed changes to key personnel during the life of the task order.

5.0 REPORTING REQUIREMENTS

Task Order Progress Report

The contractor shall provide a bi-weekly progress report summarizing accomplishments, expenditures, contractor staff hours expended, percent completed for each task under this task order, and any problems encountered by the contractor. The report shall be sent via e-mail to the NRC TM, Task Order Project Officer (PO) and CO.

Please refer to Section F of the basic contract award document for contract reporting requirements.

Technical reporting requirements

Unless otherwise specified above, the contractor shall provide all deliverables as draft products. The NRC TM will review all draft deliverables (and coordinate any internal NRC staff review, if needed) and provide comments back to the contractor. The contractor shall revise the draft deliverable based on the comments provided by the TM, and then deliver the final version of the deliverable. When mutually agreed upon between the contractor and the TM, the contractor

may submit preliminary or partial drafts to help gauge the contractor's understanding of the particular work requirement.

The contractor shall provide the following deliverables in hard copy and electronic formats. The electronic format shall be provided in MS Word or other word processing software approved by the TM. For each deliverable, the contractor shall provide one hard copy and electronic copy to both the PM and the TM. The schedule for deliverables shall be contained in the approved project plan for the task order effort.

In all correspondence, include identifying information: JCN No.: Q-4015; Technical Assignment Control No. (TAC), RX0067, Task Order No 18 the licensee: STP Nuclear Operating Company; and, the site: STP Units 3 and 4.

1. At the completion of Task 1, submit a TLR indicating that assigned personnel have reviewed the required references.
2. At the completion of Task 2, submit a project schedule.
3. At the completion of Task 3, submit a TER that contains, for each sub-section of the SER: the regulatory acceptance criteria, a description of the information proposed by the applicant including the assumptions for the analysis, design, and references to consensus standards, review findings (including the basis for the findings), as a result of comparison with the review guidelines, and a list of RAIs. Submit a tracking table for the RAIs and a comparative table of all deviations from the ABWR DC. See Attachment 1 to this SOW for the outline, format and content of the TER report. See Attachment 1 in the base contract SOW for the guidelines for developing RAIs. See Attachment 2 to this SOW for the format of the RAI tracking table.
4. At the completion of Task 4.a, submit an update to the TER completed under Task 3 that incorporates review results and the findings from the resolution of the RAIs. Submit new or supplemental RAIs. Submit updated RAI tracking table.
5. At the completion of Task 4.b, submit an audit plan.
6. During the performance of Task 4.c, submit RAIs as necessary and an updated RAI tracking table monthly.
7. At the completion of Task 5, submit a Trip Report to summarize the information reviewed, results of the audit, meeting discussions, a list of outstanding issues, and significance of these issues. Submit RAIs as necessary.
8. At the completion of Task 6, submit an update to the TER developed in Task 4.a including the review information developed in Task 5, and the RAI responses reviewed under Task 4.c. This will be the input to the staff's SER with open items. Submit a TLR with updated comparative table with COL specifics and the RAI tracking table.
9. At the completion of Task 8, update the TER developed in Task 6 including closure of all the open items and the responses to ACRS questions, as necessary. Submit the final TER with no open items which forms the input to the staff's final safety evaluation report (FSER).
10. At the completion of Task 9, review the staff's FSER for adequacy and completion, and provide written comments.
11. During the performance of Tasks 7 and 9, describe each request for assistance and the

information provided in the MLSR under the "Work Performed" section.

12. For the RAI tracking table and the TLRs, submit only electronic copies to the TM and PO.

6.0 MEETINGS AND TRAVEL

The following travel assumptions should be considered in planning the work effort. It is likely that a smaller group than the entire review team will be necessary to accomplish some activities; the actual travel contingent will be determined by the NRC TM after discussion with the contractor PM. Travel in excess of the total number of person-trips must be approved by the NRC TAPM; travel within the work scope limits will be approved by the NRC TM.

- One, two-person, one-day working meeting to kick off project and laboratory orientation (Task 2)
- One, four-person, five-day trip to the applicant's facility to implement a COL review team audit (Tasks 5)
- One, two-person, one-day working meetings at NRC headquarters to discuss the preparation of the TER with open items (Task 6)
- Two, two-person, one-day meetings, if needed, for an ACRS meeting and a plant site hearing (Task 7 and 8)

*At the discretion of the NRC TM, meeting may be conducted via telephone or video conference.

7.0 NRC FURNISHED MATERIAL

The following NRC furnished materials will be provided to the contractor together with SOW:

- a. CD-ROM containing COL Sections and the relevant Appendices from the COL application.
- b. CD-ROM containing the Final Safety Analysis Report of the ABWR/DCD.

The contractor staff will identify any additional NRC documentations that are needed to perform the work, and the TM will determine whether it will be provided by the NRC or obtained directly by the contractor from NUDOCS, ADAMS, and NRC public document room on the NRC website at www.nrc.gov.

8.0 LEVEL OF EFFORT

The estimated level of effort in professional staff days apportioned among the tasks and by labor category is as follows:

| Task(s) | Labor Category | Level of Effort FY-09 (hours) | Level of Effort FY-10 (hours) | Level of Effort FY-11 (hours) |
|--------------|----------------------------|-------------------------------|-------------------------------|-------------------------------|
| 1 | Senior Structural Engineer | 120 | | |
| 1 | Senior Structural Engineer | 120 | | |
| 2 | Senior Structural Engineer | 100 | | |
| 3 | Senior Structural Engineer | 400 | | |
| 4 | Senior Structural Engineer | 400 | | |
| 5 | Senior Structural Engineer | 300 | | |
| 6 | Senior Structural Engineer | 300 | | |
| 7 | Senior Structural Engineer | | 100 | |
| 8 | Senior Structural Engineer | | 60 | 100 |
| 9 | Senior Structural Engineer | | | 60 |
| Task 1 - 9 | Project Manager | 180 | 20 | 20 |
| Task 1 - 9 | Admin Support | 80 | 10 | 10 |
| Total | | 1880 | 190 | 190 |

9.0 PERIOD OF PERFORMANCE

The projected period of performance is 30 months from date of task order award.

10.0. OTHER APPLICABLE INFORMATION

a. License Fee Recovery

All work under this task order is fee recoverable and must be charged to the appropriate TAC number(s).

b. Assumptions and Understandings:

The level of effort for Task 1 is based on the volume of materials to be reviewed; this task is for familiarity and not for evaluation.

The level of effort for Task 3 is based on the assumption that the contractor is familiar with the review procedures of SRP Sections 3.3, 3.4, 3.5, 14.3.2 and 19.

The level of effort for Task 4 is based on the assumption that there will be 110 RAIs including supplemental RAIs. Five days are allocated for updating the preliminary TER prepared in Task 3 to incorporate RAI responses.

The level of effort for Task 5 is based on one, four-person, five-day trip (including travel time) plus 100 staff-hours to prepare for the trip and to write the trip reports.

The level of effort in Task 6 includes one, two-person, one-day working meeting at the NRC headquarters to discuss the preparation of the TER with open items.

The level of effort for Task 7 is based on one, two-person trip to NRC headquarters for an ACRS meeting, and time needed to prepare presentation material.

The level of effort for Task 8 is based on one, two-person trip to NRC headquarters for an ACRS meeting, and time needed to prepare the final TER with no open items as input to the staff's FSER.

The level of effort for Task 9 is based on one, one-person trip to NRC headquarters for an ACRS meeting, and time needed to prepare the final TER with no open items as input to the staff's FSER.

It is assumed that the contractor has access to the NRC furnished material available on the Internet.

It is understood that the scope of the review consists of conference calls with the NRC staff, and with the NRC staff and the applicant, to discuss open items in an attempt to obtain additional information or reach resolution.

During the course of the review, the Technical Monitor, and possibly other NRC personnel, may travel to the contractor site to discuss the status of the review and participate in the resolution of open items. It is assumed that the level of effort covers such a meeting.

The primary deliverable, or output of this regulatory review, shall be the Technical Evaluation Report (TER). The TER will serve as input to the NRC's Safety Evaluation Report (SER) which will document the NRC's technical, safety, and legal basis for approving the COL. The TER documents the contractor's technical evaluation of a proposed design against relevant regulatory criteria. The technical evaluation should include a description of the proposed design and an analysis of the proposal in terms of regulatory requirements, established NRC positions (e.g., SRP or regulatory guides), industry standards, or other relevant criteria. The Contractor

should explain the method used in its review of the design (e.g., a comparison of applicant's proposal against regulatory criteria, a review of input assumptions combined with use of approved methodology, or an independent calculation to confirm results presented by an applicant). The technical evaluation should be specific as to what information is relied on to form the basis for approving or denying the proposed design. The technical evaluation should also contain the contractor's specific conclusion that the proposed design is technically acceptable and meets regulatory guidance or other industry standards or reasons why the proposed design is unacceptable. The TER, and ultimately the SER, should be written in a manner whereby a person with a technical (non-nuclear) background and unfamiliar with the applicant's request could understand the basis for the staff's conclusions. The TER format is described in Attachment 1 to this Task Order Statement of Work (SOW).

Attachments:

1. Outline, Format, and Sample for the TER (draft SER input)
2. Sample Request for Information (RAI) Tracking Table

Attachment 1
Outline, format, and sample for the TER (draft SER input)

X.Y.Z Title of Section

X.Y.Z.1 Regulatory Criteria

Develop an outline that follows the format and topics presented in the AREAS OF REVIEW section of the appropriate SRP section. This information will correspond to the SRP sections that are the subject of this Task Order. For each unique SRP review area contained in the TER, the contractor should specify the acceptance criteria that were used for its review. Summarize the applicable regulations and other regulatory references, including regulatory guides, generic letters, or NRC staff positions, that are relevant to this topic.

Technical reviewers are encouraged to use the descriptions of acceptance criteria from previously issued Safety Evaluation Reports for completed design certifications (e.g., NUREG-1793 for the AP1000 Final Safety Evaluation Report) when applicable.

X.Y.Z.2 Summary of Technical Information

Describe the key technical points that were made in the application. It is not necessary to restate the application verbatim or to address all the details in the application.

X.Y.Z.3 Technical Evaluation

Document the contractor's evaluation of the application against the relevant regulatory criteria. The evaluation should support the contractor's conclusions as to whether the regulations are met. State what the contractor did to evaluate the applicant's submittal. The contractor's evaluation may include verification that the applicant followed applicable regulatory guidance, performance of independent calculations, and validation that the appropriate assumptions were made. The contractor may state that certain information provided by the applicant was not considered essential to the contractor's review and was not reviewed by the contractor. While the contractor may summarize the information offered by the applicant in support of its application, the contractor should clearly articulate the bases for its conclusions.

Contractor should provide a clear and concise description of any request for additional information (RAIs). The description should include a justification of the requested information that the requested information is not provided in the application and is absolutely needed to determine or confirm whether the relevant regulatory requirements (articulate specific requirements) have been met. The contractor should discuss its technical evaluation of the licensee's response to the RAIs and determine whether it is acceptable. The contractor should clearly articulate the bases for its acceptance or rejection. If the RAI response is not acceptable, it will be classified as an 'open item'. All open items will be resolved in Phase 3.

X.Y.Z.4 Conclusions

Summarize the contractor's conclusions regarding the application, including words such as the following. As set forth above in Sections X.Y.Z.2 and X.Y.Z.3 of this report, [provide specific bases for conclusions that follow]. Accordingly, the staff concludes that the application meets [or, if applicable, does not meet] the relevant requirements of 10 CFR Part XX and is [or, if applicable, is not] acceptable.

X.Y.Z.5 References

Attachment 2

Sample Request for Additional Information (RAI) Tracking Table

**RAI Tracking Table
STP Units 3 and 4 COLA – SER Section 3.X**

| RAI Number | Question Summary | Full RAI Text / Applicant Response / Staff Assessment |
|-------------------|-----------------------------------|--|
| 3.X.X-xx | Provide a summary of the question | <p><u>Text:</u> <i>Provide full text of RAI.</i></p> <p><u>[Applicant Response] (xx/xx/0x):</u> <i>Summarize applicant response</i></p> <p><u>Staff Assessment:</u> <i>Provide a detail description of the staff assessment, technical basis, and conclusion [resolved/unresolved]</i></p> <p><u>Supplemental RAI (if any)</u> <i>Repeat the above entries.</i></p> |