

ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1 10

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

BPA NO.

| | | | | | |
|---|----------------|---|--|---|----------------|
| 1. DATE OF ORDER FEB 20 2013 | | 2. CONTRACT NO. (If any) NRC-HQ-12-C-42-0094 | | 6. SHIP TO | |
| 3. ORDER NO. NRC-T002 | | 4. REQUISITION/REFERENCE NO. NRO-13-39 | | a. NAME OF CONSIGNEE U.S. Nuclear Regulatory Commission | |
| 5. ISSUING OFFICE (Address correspondence to) U.S. Nuclear Regulatory Commission Div. of Contracts Attn: P. Merriweather Mail Stop: TWB-01-B10M Washington, DC 20555 | | | | b. STREET ADDRESS | |
| | | | | c. CITY Washington | d. STATE DC |
| | | | | e. ZIP CODE 20555 | |
| 7. TO | | | | f. SHIP VIA | |
| a. NAME OF CONTRACTOR ENERGY RESEARCH, INC. | | DUNS 621211259 DUNS-4: | | 8. TYPE OF ORDER | |
| b. COMPANY NAME | | | | <input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY | |
| c. STREET ADDRESS 6189 EXECUTIVE BLVD | | | | 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. | |
| d. CITY ROCKVILLE | e. STATE MD | f. ZIP CODE 208523901 | | Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract. | |
| 9. ACCOUNTING AND APPROPRIATION DATA 2013-25-17-4-107 Q4015 252A 31X0200 FFS:1310821 DUNS 621211259 | | CONTINUATION Page \$15,000.00 | | 10. REQUISITIONING OFFICE NRO | |

| | | | | | | |
|--|---|---|---|-------------------------------------|--|--|
| 11. BUSINESS CLASSIFICATION (Check appropriate box(es)) | | | | | 12. F.O.B. POINT | |
| <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 | N/A | |
| <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED | <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM | <input type="checkbox"/> h. EDWOSB | | | | |
| 13. PLACE OF | | | 14. GOVERNMENT B/L NO. | | 15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 9/30/2014 | |
| a. INSPECTION See Block 6 | | b. ACCEPTANCE See Block 6 | | 16. DISCOUNT TERMS NET 30 DAYS | | |

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) |
|-----------------|---|-------------------------|-------------|-----------------------|---------------|--------------------------|
| | <p>The Contractor shall provide services in accordance with the attached SOW titled "Review of FSAR Sections 3.7 and 3.8 of RCOL Application for STP Units 3 & 4."</p> <p>COR-A: Christine 301-415-2713 Christine.Briggs@nrc.gov COR-T: Samir.Chakrabarti@nrc.gov; Manas.Chakravorty@nrc.gov PM Dr. M. Khatib-Rahbar 301-881-0866</p> <p>Total Order ceiling: \$110,083.22 Total Obligated Amount: \$15,000.00 Estimated Reimbursable Cost: \$104,841.16 Estimated Fee: \$5,242.06 Period of Performance: 3/01/2013-9/30/2014</p> <p><i>Pearlette Merriweather-Rull</i> Official Authorized to Bind ERI, Inc</p> <p><u>2/15/13</u> Date</p> | | | See CONTINUATION Page | | |

| | | | | | |
|---|--|---------------------------|--|---------------------------|--|
| 18. SHIPPING POINT | | 19. GROSS SHIPPING WEIGHT | | 20. INVOICE NO. | |
| 21. MAIL INVOICE TO: | | | | | |
| a. NAME Department of Interior / NBC NRCPayments@nbc.gov | | | | | |
| b. STREET ADDRESS (or P.O. Box) Attn: Fiscal Services Branch - D2770 7301 W. Mansfield Avenue | | | | | |
| c. CITY Denver | | d. STATE CO | | e. ZIP CODE 80235-2230 | |
| SEE BILLING INSTRUCTIONS ON REVERSE | | | | \$110,083.22 | |
| | | | | 17(h) TOTAL (Cont. pages) | |
| | | | | 17(i) GRAND TOTAL | |

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

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TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

ADM002

SCHEDULE - SUPPLIES OR SERVICES

The period of performance of this task order is 3/1/2013 – 9/30/2014.

| 001 | Labor Rates for Period of Performance: 3/1/2013 – 12/31/2013 | | |
|-----|--|--|----------|
| | Labor Category | | Burden |
| | | Labor rate Unburden | |
| | a | Project Manager (ERI) | \$90.00 |
| | b | Support Staff (ERI) | \$33.00 |
| | c | Principle Subject Matter Expert/Technical Reviewer (Subcontractor) | \$200.00 |
| | d | Senior Subject Matter Expert/Technical Reviewer (Subcontractor) | \$180.00 |
| | e | Subject Matter Expert/Technical Reviewer (Subcontractor) | \$140.40 |

| 002 | Labor Rates for Period of Performance: 1/1/2014 – 9/30/2014 | | |
|-----|---|--|----------|
| | Labor Category | | Burden |
| | | Labor rate Unburden | |
| | a | Project Manager (ERI) | \$92.70 |
| | b | Support Staff (ERI) | \$33.99 |
| | c | Principle Subject Matter Expert/Technical Reviewer (Subcontractor) | \$206.00 |
| | d | Senior Subject Matter Expert/Technical Reviewer (Subcontractor) | \$185.00 |
| | e | Subject Matter Expert/Technical Reviewer (Subcontractor) | \$144.20 |

Statement of Work

| | | |
|---|--|--|
| JCN Q-4015 | Contractor Energy Research, Inc. | Task Order No. 2 |
| Applicant Nuclear Innovation North America LLC | Design/Site South Texas Project Units 3 and 4 | Docket No. 52-012 & 52-013 |
| Title/Description Review of FSAR Sections 3.7 (Seismic Design, excluding Section 3.7.4) and 3.8 (Design of Category I Structures) of RCOL Application for STP Units 3 and 4. | | |
| TAC No. RX0068 | B&R Number 2013-25-17-4-107 | SRP or ESRP Section(s) 3.7.1, 3.7.2, 3.7.3, 3.8.1, 3.8.2, 3.8.3, 3.8.4, 3.8.5 |
| NRC Contracting Officer Representative (Administrative) | | |
| Christine Briggs | 301-415-2713 | Christine.Briggs@nrc.gov |
| NRC Contracting Officer Representative (Technical) | | |
| Samir Chakrabarti | 301-415-1106 | Samir.Chakrabarti@nrc.gov |
| Manas Chakravorty | 301-415-3738 | Manas.Chakravorty@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), "Licenses, Certifications, and Approvals 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 in Final Safety Analysis Report."

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.

An Environmental Safety Review Plan (ESRP) (NUREG-1555) is prepared for the guidance of staff reviewers in performing environmental reviews of applications related to nuclear power plants. The ESRPs are companions to regulatory guides that address siting and environmental issues. As with NUREG-0800 the purpose of the ESRP is to assure the quality and uniformity of environmental reviews.

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

As part of Task Order 19 under Contract No. NRC-42-07-483, the contractor provided technical assistance related to the Review of FSAR Section 3.7 (Seismic Design, excluding Section 3.7.4) and Section 3.8 (Design of Category I Structures) of the South Texas Project Units 3 and 4 RCOL. Requests for additional information

(RAIs) were developed, applicant's responses to the RAIs were reviewed, on-site audits were performed, and a draft technical evaluation report (TER) was prepared. Responses to all of the RAIs were received from the applicant and reviewed by the contractor, except for updating the TER with the results of review of the last few RAI responses. The contractor will continue the technical assistance under this new contract, updating the TER with results of review of the remaining responses (Task 6, partial), finalize the TER, and support Advisory Committee on Reactor Safety meetings as required (Tasks 7, 8, and 9).

2.0 OBJECTIVE

The objective of this task order is to obtain continued technical expertise from the contractor to assist the NRC staff in determining whether or not the subject RCOL application meets appropriate regulatory requirements relating to Sections 3.7.1, 3.7.2, 3.7.3, 3.7.5, 3.8.1, 3.8.2, 3.8.3, 3.8.4, 3.8.5, and 3.8.6 of the FSAR submitted with the application including any references to or departures from the corresponding ABWR Certified Design sections. Specifically, continued technical assistance is required for:

- Complete the TER with results of review of the latest RAI responses received.
- Review any update to the STP Units 3 and FSAR to determine any impact to the TER.
- Support NRC staff for ACRS meetings and hearings, as required.
- Provide technical support to NRC staff to prepare the FSER, as required.

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 |
|---|---|--------------|
| <p>6. REQUIREMENT: Incorporate the results of review of the remaining responses and update the TER as input to the staff's SER for Sections 3.7 and 3.8. 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 COL sections 3.7 and 3.8.</p> <p>STANDARD: Complete TER that follows the NRC provided template without deviation. Update the RAI tracking table following the NRC template.</p> | As directed by the COR to accommodate project schedule. | Updated TER |

| Tasks/Standards | Scheduled Completion | Deliverables |
|---|--------------------------------|---|
| <p>7. REQUIREMENT: As needed and requested by the staff, provide technical support to the staff with related ACRS meetings and hearing proceedings.</p> <p>STANDARD: Ensure presentation materials are reviewed and approved by the Contracting Officer Representative (COR). Input to responses to questions or comments from ACRS or hearing are in a format approved by COR.</p> | TBD based on project schedule. | Prepare Presentation Materials. Attend Meetings, if required. Provide input to responses to questions and comments that result from meetings. |
| <p>8. REQUIREMENT: Prepare final TER with no OI's (as an input to staff's FSER) including addressing any ACRS questions.</p> <p>STANDARD: Complete TER that follows the NRC provided template without deviation. Attend meetings, if requested.</p> | TBD based on project schedule | Final TER with no open items |
| <p>9 REQUIREMENT: As needed and requested by the staff, provide technical support to the staff to prepare the FSER (Phase 6 task)</p> <p>STANDARD: Provide technical support, if requested.</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 COR 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 Contracting Officer (CO) and will be coordinated with the NRO COR.

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 vibration analyses, development of seismic ground motion spectra and consistent time histories, soils-structure interaction analyses, development of in-structure floor response spectra, linear and non-linear dynamic and seismic structural analysis, design and analysis of nuclear steel and concrete containment and other Category I structures, systems, and mat

foundations for various load combinations, modeling of complicated structures, finite element structural analysis methods, use of sophisticated structural analysis computer codes, implementation of NRC regulations, use of US industry codes and standards applicable for design and construction of nuclear power plants, etc.

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 COR'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 CORs and CO.

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

Technical reporting requirements

Unless otherwise specified above, the contractor shall provide all deliverables as draft products. The NRC COR 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 COR, and then deliver the final version of the deliverable. When mutually agreed upon between the contractor and the COR, 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 (upon request) and electronic formats. The electronic format shall be provided in MS Word or other word processing software approved by the COR. For each deliverable, the contractor shall provide one hard copy (upon request) and electronic copy to both the CORs and the CO. 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), if applicable, RX0068; Task Order No. 2; the licensee: Nuclear Innovation North America LLC; and, the site: STP Units 3 and 4.

1. At the completion of Task 6, submit an updated TER (**see Attachment 1**) that contains a safety evaluation report with no open items resulting from review of the latest RAI responses.
2. 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).
3. At the completion of Task 9, review the staff's FSER for adequacy and completion, and provide written comments.

6.0 MEETINGS AND TRAVEL

The following travel assumptions should be considered in planning the work effort. Travel in excess of the total number of person-trips must be approved by the CO; travel within the work scope limits must be approved by the COR.

Two, four-person, one-day meetings, if needed, for an ACRS meeting and a plant site hearing (Task 7 and 8)

7.0 NRC FURNISHED MATERIAL

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

- a. CD-ROM containing Reference R-COL Sections and the relevant Appendices from the R-COL application.
- b. CD-ROM containing the Final Safety Evaluation Report of the 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 hours apportioned among the tasks and by labor category is as follows:

| Task(s) | Labor Category | Level of Effort FY-13 (hours) | Level of Effort FY-14 (hours) |
|----------------|-----------------------|--|--|
| 6 | Subject Matter Expert | 80 | |
| 7 | Subject Matter Expert | 140 | 100 |
| 8 | Subject Matter Expert | 60 | |
| 9 | Subject Matter Expert | 60 | |
| Task 6 - 9 | Project Manager | 14 | 4 |
| Task 6 - 9 | Admin Support | 20 | 6 |
| Total | | 374 | 110 |

9.0 PERIOD OF PERFORMANCE

The projected period of performance is from March 1, 2013 to September 30, 2014.

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. Expected Classification or Sensitivity

All work under this project is expected to be unclassified and not sensitive.

c. Assumptions and Understandings:

The level of effort for Task 6 is based on the estimated level of effort needed to update the TER with the results of review of reclassification of Radwaste Building and FSAR Section 3H.11, "Design for Site-Specific Hurricane Winds and Missiles."

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

The level of effort for Task 8 is based on the estimated time needed for updating the TER resolving ACRS comments.

The level of effort for Task 9 is based on the estimated time needed for final review of the SER by the contractor.

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.

The primary deliverable, or output of this regulatory review, shall be the Technical Evaluation TER. The TER will serve as input to the NRC staff's SER which will document the NRC's technical, safety, and legal basis for approving the RCOL application. The TER must provide sufficient information to adequately explain the NRC staff's rationale for why there is *reasonable assurance* that public health and safety is protected. 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.

Attachments:

1. Outline, Format, and Content for the TER Input

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 requests 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