

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

BPA NO.

1. CONTRACT ID CODE

PAGE

OF

1

14

2. AMENDMENT/MODIFICATION NO.

0004

3. EFFECTIVE DATE

See Block 16C

4. REQUISITION/PURCHASE REQ. NO.

NRC-42-07-483 (TO12)

0748312015-0324C

5. PROJECT NO. (If applicable)

6. ISSUED BY

CODE

3100

7. ADMINISTERED BY (If other than item 6)

CODE

3100

U.S. Nuclear Regulatory Commission
Div. of Contracts
Attn: Morie Gunter-Henderson
Mail Stop: TWB-01-B10M
Washington, DC 20555

U.S. Nuclear Regulatory Commission
Div. of Contracts
Mail Stop: TWB-01-B10M
Washington, DC 20555

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)

ENERGY RESEARCH INC

6167 EXECUTIVE BLVD

ROCKVILLE MD 208523901

(X)

9A. AMENDMENT OF SOLICITATION NO.

9B. DATED (SEE ITEM 11)

10A. MODIFICATION OF CONTRACT/ORDER NO.
NRC-42-07-483 0012

10B. DATED (SEE ITEM 13)

11-07-2008

CODE

FACILITY CODE

X

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers is extended, is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing items 8 and 15, and returning copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER.

12. ACCOUNTING AND APPROPRIATION DATA (If required)
025-15-171-111 Q4015 252A 31X0200
Obligate: \$75,000.00

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(X) A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).

C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

D. OTHER (Specify type of modification and authority)

X Mutual Agreement Between the Parties

E. IMPORTANT: Contractor is not, X is required to sign this document and return 3 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose of this modification is to (1) add development of Appendices, additional support for Chapter Days, ACRS, Briefings, and assembly of the Final SER as seen in the attached revised Statement of Work.

(2) Increase contract ceiling by \$53,037.25 and (3) Add incremental funding in the amount of \$75,000.00.

Contract Ceiling Amount: \$474,307.95 (Changed)

Contract Obligated Amount: \$396,000.00 (Changed)

Performance Period: 11/07/2008 - 09/30/2011 (Unchanged)

SEE CONTINUATION PAGE

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)

DR. MOHSEN KHANBAH RAHBAR, PRESIDENT

15B. CONTRACTOR/OFFEROR

(Signature of person authorized to sign)

15C. DATE SIGNED

6/22/10

16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)

Morie Gunter-Henderson
Contracting Officer

16B. UNITED STATES OF AMERICA

BY (Signature of Contracting Officer)

16C. DATE SIGNED

6/22/10

**NRC-42-07-483 –T0012
Modification 0003**

The purpose of this modification is to (1) add development of Appendices, additional support for Chapter Days, ACRS, Briefings, and assembly of the Final SER as seen in the attached revised Statement of Work. (2) Increase contract ceiling by \$53,037.25 and (3) Add incremental funding in the amount of \$75,000.00. Accordingly, the subject task order is hereby modified as follows:

Paragraph 2, page 2 of 2 under the base task order 012, is hereby deleted in its entirety and replaced with the following:

“The amount obligated by the Government with respect to this task order is \$396,000.00 of which \$377,142.86 represents the estimated reimbursable costs, and the amount of \$18,857.14 represents the fixed fee.”

**ALL OTHER TERMS AND CONDITIONS OF THE SUBJECT TASK ORDER REMAIN
UNCHANGED.**

MODIFICATION
TASK ORDER STATEMENT OF WORK

JCN Q-4015	Contractor Energy Research Inc. (ERI)	Task Order No. 12 NRC-42-07-483 12
Applicant NRG Energy-STP	Design/Site ABWR/South Texas Units 3 & 4	Docket No. 052-012, 052-013
Title/Description South Texas Project Units 3 & 4 SER Technical Assistance in SER Production Work		
TAC No. TBD	B&R Number 825-15-171-111	SRP or ESRP Section(s) Various
NRC Task Order Project Officer (PO) Tracy Clark 301-415-1474 Tracy.Clark@nrc.gov		
NRC Technical Monitor (TM) Raj Anand 301-415-1146 Raj.Anand@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 integrate the staff technical inputs into the ABWR COL SER templates previously developed by the staff. The deliverables from the contractor will be the completed and technically edited, formatted draft SER with open items, draft advanced final, and draft final SER to be utilized by the NRC staff for documenting the results of the staff review of the South Texas COL application. **In addition, technical assistance is required to develop Appendices as provided in Attachment 1.**

As part of this production, contractor will perform a regulatory review of cross-cutting requirements summarized in Chapter 1 on the Final Safety Analysis Report (FSAR).

3.0 WORK REQUIREMENTS, SCHEDULE AND DELIVERABLES

Tasks/Standards	Scheduled Completion	Deliverables
<p>1. Develop Project Plan including configuration and quality control. Develop tentative schedule for deliverables based on review phase milestones contained within the project specific schedule in EPM</p>	<p>Four Weeks after award of Task Order.</p>	<p>Project Plan and tentative schedule</p>
<p>2. REQUIREMENT: Phase1 input (e.g., technical evaluation and conclusions) incorporated into corresponding template, draft SER with open items edited, formatted and revised based on the updated SER User Guide, 6/6/2008 located in Share Point under General SER Templates.</p>	<p>Each Chapter Draft SER shall be completed within two weeks after final Chapter input by NRC provided to contractor.</p>	<p>Draft SER with open items using templates and PSER input by Chapter for the COL</p>
<p>3. REQUIREMENT: Phase 2 SER input (e.g., responses to requests for additional information) incorporated into corresponding draft SER with open items. Provide references at the end of each Chapter.</p>	<p>Each Chapter Draft SER shall be completed within two weeks after final Chapter input by NRC provided to contractor.</p>	<p>Updated Draft SER with open items</p>
<p>4. REQUIREMENT: Phase 2: Appendices as follows: See attached and list of open items by Chapter (to be incorporated into SER Chapter 1)</p>	<p>Two weeks prior to completion of each SER Chapter.</p>	<p>Included in Item 3, above.</p>

5. REQUIREMENT: Phase 2: Technical evaluation report related to regulatory review of cross cutting requirements identified in Ch 1 of the FSAR. Support Chapter Days and ACRS briefings as requested.	Agreed on with Lead PM	Included in Item 3, above
6. REQUIREMENT: Phase 6 SER input as provided by technical staff incorporated into draft final SER. Prepare Appendices per Attachment 1.	Two weeks after final Chapter input by NRC provided to contractor	Draft Final SER
7. REQUIREMENT: Review, Edit and assemble the final SER.	Two weeks after final Chapter input by NRC provided to contractor	Final SER
* 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: As a minimum, qualified personnel to perform technical evaluations, proficient in MS word formatting features, technical editing and the performance of NRC legal reviews.

The contractor shall pursue IT2 clearance for access to NRC network, specifically ADAMS.

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. Additionally a matrix should be added that includes all sections received, reviewed (redlined) and sent back to the NRC.

The report shall be sent via e-mail to the NRC TM, Task Order Project Officer (PO), CO and to a pre-designated NRC/NRO/DNRL South Texas Projects Licensing Assistant (LA) whom will monitor correspondence for this project.

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 including Style, Formatting and Technical Editing or other word processing software approved by the TM. For each deliverable, the contractor shall add and profile files within ADAMS and provide electronic copy to the PM, the TM, and the LA. 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 not the applicant, to discuss open items in an attempt to obtain additional information or reach resolution.

The primary deliverables, or output of this regulatory review, shall be the updated and properly formatted draft Safety Evaluation Reports (SERs). The draft SERs will serve as input to the NRC staff's SERs which will document the NRC's technical, safety, and legal basis for approving the COL application. The draft SERs 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 draft SERs, and ultimately the SERs, 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 draft SERs format is described in the SER Template User Guide Revision 1, 6/6/2008 located in Share Point under General SER Templates.

The contractor is responsible for structuring the draft SERs format to follow Federal and agency standards for publications. The current agency word processing standard is Microsoft Word. The contractor must use the latest agency-designated version of this agency standard. The word processing source file and electronic "print" file in Portable Document Format (PDF) should be automated, structured, and reusable (i.e., apply templates, contain automatic bookmarks, and have "live" Web links). The contractor must consider long-term use and revision when establishing styles. This will be evidenced by styles that are constructed for ease of use and that apply automated functions. The contractor must provide a style sheet itemizing the specifications for each style or tag applied in the word processing program. For example, the style sheet will note the name of the style, formatting details, and the specific functions of and use for each style.

At the completion of Task 3, submit references for each Chapter of the SER. Also, review, edit and assemble final SER after Task 6 as per Attachment 1.

The contractor should acquire NRC network/ADAMS access and provide accessible, archival-quality, print-ready, Web-enabled DOC source files that meet Federal and agency requirements for publications. These source files are entered in ADAMS and on finalization by the NRC TM, will be converted by ADAMS into Web-enabled PDFs. The print version will be made from the electronic file. Alternatively, on an interim basis while the contractor is pursuing IT2 clearance, the contractor will provide accessible, archival-quality, print-ready, Web-enabled PDF and DOC source files that meet Federal and agency requirements for publications. The print and electronic copies must match (suggestion: print the paper copy from the PDF, which is generated from the MS Word DOC file).

Electronic files should be—

1. Accessible: comply with Section 508 of the Rehabilitation Act (check the accessibility); accessible to screen readers; high contrast in b&w if any color is used; any information conveyed with color is conveyed equally well when color is not available
2. Archival: generate PDF using PDF/A format, an international standard for archival PDFs; embed fonts; update/delete metadata

3. Print-ready: min. 600 dpi (1200 dpi recommended) for high-quality, professional printing; include print disclaimers for any scanned or pixelated images; the PDF should be an entire document, including cover, inside cover, title page, Form 335, etc. (see NUREG-1757)

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), _____ Task Order No.:12; the Applicant: STP; and, the site: South Texas Project Units 3 and 4.

Reporting requirements are also specified in Section 3.

6.0 MEETINGS AND TRAVEL

- a. One person, one day working meeting to kickoff project and contractor orientation.*
- b. One person, one day working meetings at NRC headquarters to review deliverables*

*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.

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:

This estimate is on the South Texas COL application, which is designated as the reference COL or RCOLA.

Task(s)	Labor Category	Level of Effort FY-09 (hours)	Level of Effort FY-10 (hours)	Level of Effort FY-11 (hours)
1. Project Plan	Technical editor Document specialist	40 40	0	0
2. Phase 1 integration	Technical editor Document specialist Subject Matter expert	90 150 20	300 880 120	0
3. Phase 2 updated draft SER with open items	Technical editor Document specialist	20 20	75+40 220+40	0
4. Phase 2 draft SER with open items appendices and open items	Technical editor Document specialist	0	40+200 100+100	0 0
5. Phase 2 regulatory review and support Chapter Days and ACRS briefings	Project Manager	40	120	
6. Phase 4 draft advanced final SER. Prepare appendices per Attachment 1	Technical editor Document specialist	0	40 200 + 400	40+80 100
7. Review, edit and assemble final SER	Technical editor Document specialist	0	0 40	0+ 200 40+80
Task 1 – 7	Project Manager	80	520+300	520+80

Task(s)	Labor Category	Level of Effort FY-09 (hours)	Level of Effort FY-10 (hours)	Level of Effort FY-11 (hours)
Total		500	2615+1080	700+440

9.0 PERIOD OF PERFORMANCE

The projected period of performance is two weeks from date of task order award through September 30, 2011.

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).

Note, this task order is related to these activities for all of the Combined License applications that reference the ABWR, to that end, TAC numbers will be assigned for each application.

b. Assumptions and Understandings:

The level of effort for Task 2 is based assumption that there will be approximately 19 chapters and it will take, on the average, 86 hours to integrate, format, edit each chapter

The level of effort for Task 3 is based on the assumption that this task will be approximately 25% the effort of Task 2 as the scope is limited to additional content based on RAI responses and through normal staff concurrence.

The level of effort for Task 4 is based on the assumption that there will be approximately 20 chapters and it will take, on the average, 10 hours to develop necessary appendices and contents..

The level of effort for Task 5 is based on the assumption that this task will be approximately 25% the effort of Task 2 as the scope is limited to additional content based on responses to open items and other supplemental information.

Web-enabled (electronic): bookmarks for navigation (generated by MS Word with the heading styles applied); live links to Web sites (entire URL must be active); meet NRC Web publication standards; enabled for Fast Web view; match agency wide electronic standards (<http://www.nrc.gov/site-help/e-submittals.html>)

Specifically, the MS Word file should use—

1. Font: Arial Style: Regular Size: 11
2. automated formatting (no manually tabbed columns)
3. linked bookmarks or anchors for the table of contents or other document guides that jump to specific sections of the text
4. headers and other structural markup
5. abbreviation list
6. list and link figures, equations, tables, etc.
7. formatted tables with simple columns (do not nest tables, mark column headers if possible)
8. embedded fonts and objects

Suggestions for file names—

1. Use ASCII letters (a-z, A-Z), digits (0-9), underscores and hyphens (“_” and “-”).
2. Do not use spaces, quotation marks, diacritic marks or other special/non-printing characters.
3. Reserve the period (“.”, full stop) for the file extension at the end of the filename.

In addition to general document quality standards, the contractor should meet the standards in—

1. U.S. Government Printing Office (GPO) Style Manual
2. NUREG-0650, Rev. 2, "Preparing NUREG-series Publications"
3. NUREG-1379, "NRC Editorial Style Guide"
4. NUREG-0544, "NRC Collection of Abbreviations," Rev. 4 July 1998
5. www.plainlanguage.gov
6. Section 508 of the Rehabilitation Act

Attachments:

Regulatory Criteria in FSAR Ch 1

(Note: Interfaces with Standard Design is out of scope of this task)

1. Conformance with Regulatory Guidance

1.a Regulatory Guides

Review the South Texas FSAR Chapter 1 text and table(s) which address conformance with the NRC's regulatory guides that are applicable to the South Texas application. The table(s) should include an identification and description of deviations from the guidance contained in the NRC's regulatory guides, as well as suitable justifications for any alternative approaches proposed by the COL applicant with appropriate references to the FSAR sections where they are addressed.

1.b Standard Review Plan

Review the applicant's evaluation against the Standard Review Plan in effect 6 months before the docket date (January 28, 2008). The applicant's evaluation should include an identification and description of all differences in design features, analytical techniques, and procedural measures proposed for the facility and those corresponding features, techniques, and measures given in the acceptance criteria in the review guidance. Where differences exist, the evaluation should discuss or provide references to the FSAR section that describes how the proposed alternative provides an acceptable method of complying with the Commission's regulations that underlie the corresponding acceptance criteria. [Note that the regulations specify that this evaluation is made against the SRP in effect 6 months before the docket date of the application; however, as a practical matter the evaluation should be performed against the guidance in effect 6 months before the submittal date (November 27, 2007) of the application.]

2. Generic Issues and Three Mile Island requirements

Review the table that identifies proposed technical resolutions for those Unresolved Safety Issues and medium- and high-priority generic safety issues that are identified in the version of NUREG-0933 current on the date up to 6 months before the submittal date of the application and that are technically relevant to the design and identifies FSAR section references where the resolutions are addressed is reviewed. The table also identifies Three Mile Island requirements set forth in 10 CFR 50.34(f).

3. Operational Experience (Generic Communications)

Review information from the applicant that demonstrates how operating experience insights from generic letters and bulletins issued after the most recent revision of the applicable standard review plan and 6 months before the docket date of the application, or comparable international operating experience, have been incorporated into the plant design is reviewed.

4. Documentation of Review (Tasks #1 – 3 above)

Document the results of Tasks #1, 2, and 3 in the form of a draft TER for Chapter 1 using the format of the SER template.

References:

- * Standard Review Plan (SRP) Chapter 1 - Introduction and General Description of Plant
- * Regulatory Guide 1.206, C.III.2 Information Needed for a Combined License Application Referencing a Certified Design and an Early Site Permit
- * South Texas Final Safety Analysis Report: Chapter 1 Introduction and General Description of the Plant

- **1.9 Conformance with Standard Review Plan and Applicability of Codes and Standards**
 - **1.11 Technical Resolutions of Task Action Plan Items, New Generic Issues, New Generic Safety Issues and Chernobyl Issues**
 - **Appendix 1A Response to TMI Related Matters**
- Appendix 1C Industry Operating Experience**

Attachment 1

List of Appendices

A - Chronology

B - References

C - Abbreviations

D - Principal Contributors

E - Chronology of NRC'S Request for Additional Information (RAI)

F - Combined License Action Items

G - ITAAC Cross-Reference

H - Technical Specifications Cross-Reference

I - Initial Test Program Cross-Reference

J - 10 CFR 20.1406, Minimization of Contamination Cross- Reference

K - Generic Issues Cross-Reference

L - Report on Advisory Committee on Reactor Safeguards (ACRS)

Note: For items D, E, G, H, I, J, and L the NRC will provide the information to the contractor.