

ORDER FOR SUPPLIES OR SERVICES

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

BPA NO.

1. DATE OF ORDER <i>See Clause A.4</i>		2. CONTRACT NO. (if any) NRC-HQ-12-C-04-0065		6. SHIP TO:	
3. ORDER NO. NRC-HQ-12-T-04-0003		4. REQUISITION/REFERENCE NO. RES-12-334 Dated: 07/17/2012		a. NAME OF CONSIGNEE U.S. Nuclear Regulatory Commission	
5. ISSUING OFFICE (Address correspondence to) U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Claudia G. Melgar, 301-492-3487 Mail Stop: TWB-01-B10M Washington, DC 20555		7. TO:		b. STREET ADDRESS Attn: Anders Gilbertson, 301-251-7592 Mail Stop: CSB 04-C07M 11555 Rockville Pike	
a. NAME OF CONTRACTOR ENERGY RESEARCH, INC.		b. COMPANY NAME		c. CITY Washington	
c. STREET ADDRESS 6189 EXECUTIVE BLVD		d. STATE DC		e. ZIP CODE 20555	
d. CITY ROCKVILLE		e. STATE MD		f. ZIP CODE 208523901	
9. ACCOUNTING AND APPROPRIATION DATA B&R: 2012-60-11-6-182; JCN: V6038; BOC: 252A; APPN: 31X0200 FAIMIS: 122980 DUNS: 621211259 NAICS: 541330 OBLIGATE: \$51,000.00		10. REQUISITIONING OFFICE RES		8. TYPE OF ORDER	
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. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB		12. F.O.B. POINT		REFERENCE YOUR _____ Please furnish the following on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
13. PLACE OF a. INSPECTION b. ACCEPTANCE		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)	
16. DISCOUNT TERMS		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 Number NRC-HQ-12-T-04-0003 under contract number NRC-HQ-12-C-04-0065. Title: "Documentation Review and On-Call Technical Support for the Full-Scope Site Level 3 PRA" Current Task Order Cost Ceiling: \$80,281.31 Total Obligated Amount: \$51,000.00 Period of Performance: Six months from date of award See Attachment 1 for Statement of Work See Clause A.4 for Contractor Acceptance					

18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.								
21. MAIL INVOICE TO												
SEE BILLING INSTRUCTIONS ON REVERSE						17(h) TOTL (Cont page)						
							a. NAME Department of Interior / NBC NRCPayments@nbc.gov				PHONE:	
							b. STREET ADDRESS (or P.O. Box) Attn: Fiscal Services Branch - D2770 7301 W. Mansfield Avenue				FAX:	
c. CITY Denver		d. STATE CO		e. ZIP CODE 80235-2230		17(i) GRAND TOTAL						
22. UNITED STATES OF AMERICA BY (Signature) <i>Adelis M. Rodriguez</i>				23. NAME (Typed) Adelis M. Rodriguez Contracting Officer TITLE: CONTRACTING/ORDERING OFFICER								

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SECTION A -

A.1 PRICE/COST SCHEDULE

BASE PERIOD - Date of award through 6 Months				
CLIN NO.	DESCRIPTION OF SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL CPFF
001	Documentation Review: For each aspect of the Level 1 portion of the full-scope site Level 3 PRA project which the contractor is involved, such as those listed in Section 3.0, the contractor shall participate in the review of relevant documentation of the licensee's PRA model, as provided by the NRC.			
Subtotal For Task 1				\$41,223.35

BASE PERIOD - Date of award through 6 Months				
CLIN NO.	DESCRIPTION OF SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL CPFF
002	On-Call Technical Support: For each such emergent or outstanding issue identified, the contractor shall provide technical input or advice to NRC staff to achieve resolution of the issue.			
Subtotal For Task 2				\$39,057.96
Total for Task 1 and Task 2				\$80,281.31

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**A.2 CONSIDERATION AND OBLIGATION—COST-PLUS-FIXED-FEE (AUG 2011)
ALTERNATE I (AUG 2011)**

(a) The total estimated cost to the Government for full performance of this task order is \$80,281.30, of which the sum of \$75,330.19 represents the estimated reimbursable costs, and of which \$4,951.11 represents the fixed-fee.

(b) There shall be no adjustment in the amount of the Contractor's fixed fee.

(c) The amount currently obligated by the Government with respect to this contract is \$51,000.00, of which the sum of \$47,838.00 represents the estimated reimbursable costs, and of which \$3,162.00 represents the fixed-fee.

(d) It is estimated that the amount currently obligated will cover performance through 6 months.

(e) In accordance with FAR 52.216-8 - Fixed Fee, it is the policy of the NRC to withhold payment of fee after payment of 85 percent of the fee has been paid in order to protect the Government's interest. The amount of fixed-fee withheld from the contractor will not exceed 15 percent of the total fee or \$100,000, whichever is less. Accordingly, the maximum amount of fixed-fee that may be held in reserve is \$742.67.

A.3 TASK/DELIVERY ORDER PERIOD OF PERFORMANCE (AUG 2011)

The period of performance for this order shall be six months from the date of this award.

A.4 CONTRACTOR ACCEPTANCE OF TASK ORDER NRC-HQ-12-T-04-0002

Acceptance of Task Order No. NRC-HQ-12-T-04-0003 should be made by having an official, authorized to bind your organization, execute two copies of this document in the space provided and return one copy to the Contracting Officer. You should retain the other copy for your records.

Accepted Task Order No. NRC-HQ-12-T-04-0003:

John K. R. R. R.

Name

President

Title

8/14/12

Date

SECTION B

B.1 COMPLIANCE WITH U.S. IMMIGRATION LAWS AND REGULATIONS (AUG 2011)

NRC contractors are responsible to ensure that their alien personnel are not in violation of United States immigration laws and regulations, including employment authorization documents and visa requirements. Each alien employee of the Contractor must be lawfully admitted for permanent residence as evidenced by Permanent Resident Form I-551 (Green Card), or must present other evidence from the U.S. Department of Homeland Security/U.S. Citizenship and Immigration Services that employment will not affect his/her immigration status. The U.S. Citizenship and Immigration Services provides information to contractors to help them understand the employment eligibility verification process for non-US citizens. This information can be found on their website, <http://www.uscis.gov/portal/site/uscis>.

The NRC reserves the right to deny or withdraw Contractor use or access to NRC facilities or its equipment/services, and/or take any number of contract administrative actions (e.g., disallow costs, terminate for cause) should the Contractor violate the Contractor's responsibility under this clause.

B.2 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.

B.3 SECURITY REQUIREMENTS RELATING TO THE PRODUCTION OF REPORT(S) OR THE PUBLICATION OF RESULTS UNDER CONTRACTS, AGREEMENTS, AND GRANTS (AUG 2011)

Review and Approval of Reports

(a) Reporting Requirements. The contractor/grantee shall comply with the terms and conditions of the contract/grant regarding the contents of the draft and final report, summaries, data, and related documents, to include correcting, deleting, editing, revising, modifying, formatting, and supplementing any of the information contained therein, at no additional cost to the NRC. Performance under the contract/grant will not be deemed accepted or completed until it complies with the NRC's directions. The reports, summaries, data, and related documents will be considered draft until approved by the NRC. The contractor/ grantee agrees that the direction, determinations, and decisions on approval or disapproval of reports, summaries, data, and related documents created under this contract/grant remain solely within the discretion of the NRC.

(b) Publication of Results. Prior to any dissemination, display, publication, or release of articles, reports, summaries, data, or related documents developed under the contract/grant, the contractor/grantee shall submit them to the NRC for review and approval. The contractor/ grantee shall not release, disseminate, display or publish articles, reports, summaries, data, and related documents, or the contents therein, that have not been reviewed and approved by the NRC for release, display, dissemination or publication. The contractor/grantee agrees to conspicuously place any disclaimers, markings or notices, directed by the NRC, on any articles, reports,

summaries, data, and related documents that the contractor/grantee intends to release, display, disseminate or publish to other persons, the public, or any other entities. The contractor/grantee agrees, and grants, a royalty-free, nonexclusive, irrevocable worldwide license to the government, to use, reproduce, modify, distribute, prepare derivative works, release, display or disclose the articles, reports, summaries, data, and related documents developed under the contract/grant, for any governmental purpose and to have or authorize others to do so.

(c) Identification/Marking of Sensitive Unclassified Non-Safeguards Information (SUNSI) and Safeguards Information (SGI). The decision, determination, or direction by the NRC that information possessed, formulated or produced by the contractor/grantee constitutes SUNSI or SGI is solely within the authority and discretion of the NRC. In performing the contract/grant, the contractor/grantee shall clearly mark SUNSI and SGI, to include for example, OIU-Allegation Information or OIU-Security Related Information on any reports, documents, designs, data, materials, and written information, as directed by the NRC. In addition to marking the information as directed by the NRC, the contractor shall use the applicable NRC cover sheet (e.g., NRC Form 461 Safeguards Information) in maintaining these records and documents. The contractor/grantee shall ensure that SUNSI and SGI is handled, maintained and protected from unauthorized disclosure, consistent with NRC policies and directions. The contractor/grantee shall comply with the requirements to mark, maintain, and protect all information, including documents, summaries, reports, data, designs, and materials in accordance with the provisions of Section 147 of the Atomic Energy Act of 1954 as amended, its implementing regulations (10 CFR 73.21), Sensitive Unclassified Non-Safeguards and Safeguards Information policies, and NRC Management Directives and Handbooks 12.5, 12.6 and 12.7.

(d) Remedies. In addition to any civil, criminal, and contractual remedies available under the applicable laws and regulations, failure to comply with the above provisions, and/or NRC directions, may result in suspension, withholding, or offsetting of any payments invoiced or claimed by the contractor/grantee.

(e) Flowdown. If the contractor/grantee intends to enter into any subcontracts or other agreements to perform this contract/grant, the contractor/grantee shall include all of the above provisions in any subcontracts or agreements.

B.4 WHISTLEBLOWER PROTECTION FOR NRC CONTRACTOR AND SUBCONTRACTOR EMPLOYEES (AUG 2011)

(a) The U.S. Nuclear Regulatory Commission (NRC) contractor and its subcontractor are subject to the Whistleblower Employee Protection public law provisions as codified at 42 U.S.C. 5851. NRC contractor(s) and subcontractor(s) shall comply with the requirements of this Whistleblower Employee Protection law, and the implementing regulations of the NRC and the Department of Labor (DOL). See, for example, DOL Procedures on Handling Complaints at 29 C.F.R. Part 24 concerning the employer obligations, prohibited acts, DOL procedures and the requirement for prominent posting of notice of Employee Rights at Appendix A to Part 24 entitled: "Your Rights Under the Energy Reorganization Act".

(b) Under this Whistleblower Employee Protection law, as implemented by regulations, NRC contractor and subcontractor employees are protected from discharge, reprisal, threats, intimidation, coercion, blacklisting or other employment discrimination practices with respect to compensation, terms, conditions or privileges of their employment because the contractor or

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subcontractor employee(s) has provided notice to the employer, refused to engage in unlawful practices, assisted in proceedings or testified on activities concerning alleged violations of the Atomic Energy Act of 1954 (as amended) and the Energy Reorganization Act of 1974 (as amended).

(c) The contractor shall insert this or the substance of this clause in any subcontracts involving work performed under this contract.

B.5 GREEN PURCHASING (JUN 2011)

(a) In furtherance of the sustainable acquisition goals of Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance" products and services provided under this contract/order shall be energy- efficient (Energy Star or Federal Energy Management Program (FEMP) designated), water-efficient, biobased, environmentally preferable (e.g., Electronic Product Environmental Assessment Tool (EPEAT) certified), non-ozone depleting, contain recycled content, or are non-toxic or less toxic alternatives, where such products and services meet agency performance requirements.
<http://www.fedcenter.gov/programs/eo13514/>

(b) The contractor shall flow down this clause into all subcontracts and other agreements that relate to performance of this contract/order.

B.6 USE OF AUTOMATED CLEARING HOUSE (ACH) ELECTRONIC PAYMENT/REMITTANCE ADDRESS (AUG 2011)

The Debt Collection Improvement Act of 1996 requires that all Federal payments except IRS tax refunds be made by Electronic Funds Transfer. It is the policy of the Nuclear Regulatory Commission to pay government vendors by the Automated Clearing House (ACH) electronic funds transfer payment system. Item 15C of the Standard Form 33 may be disregarded.

SECTION C

CONTRACT NO: NRC-HQ-12-C-04-0065
TASK ORDER NO: NRC-HQ-12-T-04-0002
TITLE: Investigation of Site Risk Issues
JCN: V6038
B&R NUMBER: 2012-60-11-6-182
NRC PROJECT OFFICER: Anders Gilbertson, 301-257-7592
Anders.Gilbertson@nrc.gov
NRC CONTRACT SPECIALIST: Claudia Melgar, 301-492-3487
Claudia.Melgar@nrc.gov

1.0. BACKGROUND

A full-scope site Level 3 probabilistic risk assessment (PRA) for a nuclear power plant site can provide valuable insights into the relative importance of various risk contributors by assessing accidents involving one or more reactor cores as well as other site radiological sources (i.e., spent fuel pools and dry storage casks). These insights can be used to further enhance regulatory decisionmaking and to help focus limited agency resources on issues most directly related to the agency's mission to protect public health and safety.

Although Level 3 PRAs have since been performed to some extent within both the United States and international nuclear industries, the U.S. Nuclear Regulatory Commission (NRC) has not sponsored development of a Level 3 PRA for a nuclear power plant site since NUREG-1150. In the more than two decades that have passed since the NUREG-1150¹ Level 3 PRAs were performed, numerous technical advances have been made that were not reflected in the NUREG-1150 PRA models. The staff has also identified additional scope considerations not previously considered that could be addressed by performing a new full-scope site Level 3 PRA.

During the Annual Commission Meeting on Research Programs, Performance, and Future Plans on February 18, 2010, the staff proposed a scoping study to evaluate the feasibility of performing a new full-scope site Level 3 PRA for a nuclear power plant site. On March 19, 2010, the Commission expressed conditional support² for Level 3 PRA related activities and directed the staff to provide the Commission with various options for proceeding with this work that included costs and perspectives on future regulatory uses for Level 3 PRAs. On July 7, 2011, the NRC staff responded³ to the SRM by providing three proposed options for proceeding with the Level 3 PRA development project. These three options consisted of (1) maintaining the status quo (i.e., continuing with evolutionary development of PRA

¹ NUREG-1150, "Severe Accident Risk: An Assessment for Five U.S. Nuclear Power Plants," December 1990.

² SRM 100218, "Staff Requirements—Briefing on Research Programs, Performance, and Future Plans," dated March 19, 2010 (ADAMS Accession No ML100780578).

³ SECY-11-0089, "Options for Proceeding with Future Level 3 Probabilistic Risk Assessment Activities," dated July 7, 2011 (ADAMS Accession No ML11090A039).

technology); (2) conducting focused research to address identified gaps in existing PRA technology before performing a full-scope site Level 3 PRA; and (3) conducting a full-scope site Level 3 PRA. On September 21, 2011, the Commission approved⁴ a modified version of the third option which extended the completion schedule from three years to four years.

2.0 OBJECTIVE

The objectives of this task order are to obtain (1) technical support on the review of documentation associated with the licensee's PRA model for certain technical aspects of the model and (2) on-call technical support to get input or advice on emergent and outstanding technical issues associated with the development of the full-scope site Level 3 PRA project that are related to the modeling of the Level 1 portion of the PRA.

3.0 SCOPE OF WORK

This task order provides support for certain aspects of the Level 1 portion of the full-scope site Level 3 PRA project. These aspects may include, but are not limited to the following:

- initiating event analysis
- event tree development and analysis
- system reliability model (e.g., fault tree) development and analysis
- human reliability analysis
- data analysis
- accident sequence quantification
- uncertainty analysis
- external events (e.g., internal fires, internal floods, seismic events)
- low power and shutdown operating mode
- non-reactor sources of radiological material (e.g., spent fuel pools and dry storage casks)
- multi-unit effects
- interface to Level 2 PRA

During the NRC's review of the subject plant site documentation, support may be needed for determining the adequacy of the documentation for the support of the development of the NRC's full-scope site Level 3 PRA. Additionally, during the course of the development of the NRC's full-scope site Level 3 PRA, there will be emergent and/or outstanding issues for which the NRC may seek additional technical input and/or advice beyond that of the NRC staff. The scope of work for this task order includes providing support for these activities.

4.0 TASKS

4.1 Task 1- Documentation Review

Requirement: For each aspect of the Level 1 portion of the full-scope site Level 3 PRA project which the contractor is involved, such as those listed in Section 3.0, the contractor shall

⁴ SRM-SECY-11-0089, "Staff Requirements—SECY-11-0089—Options for Proceeding with Future Level 3 Probabilistic Risk Assessment (PRA) Activities," dated September, 21, 2011 (ADAMS Accession No ML112640419).

participate in the review of relevant documentation of the licensee's PRA model, as provided by the NRC. The relevant documentation will be provided to the contractor, as described in the section on NRC-Furnished Materials. During this review, the contractor shall identify additional information, if any, that the Full-Scope Site Level 3 PRA Project team should have in support the project as well as any recommended walkdown areas. Additionally, the contractor may need to participate in at least one plant site visit, as described in the section on Meetings and Travel. The contractor's participation in the plant site visit shall consist of providing support for activities such as plant walkdowns, personnel interviews, on-site documentation review. If the NRC determines that the contractor's participation is required, the NRC will provide written notice (e.g., via email) to the contractor no less than two-weeks prior to the start of the trip.

Standard(s): The contractor shall submit all deliverables on time to the NRC contracting officer representative (COR) and NRC contracting officer (CO) and the deliverable shall be technically acceptable and in the specified format.

Deliverable: Following the completion of the documentation review, the contractor shall provide, via email correspondence, a final list of any additional information needed by the Full-Scope Site Level 3 PRA Project team as well as recommended walkdown areas at the subject plant site. This final report shall be provided no more than 15 days after the completion of the documentation review. Additionally, if the contractor participates in the plant site visit, the contractor shall provide a two-page final trip report summarizing the support activities performed during the trip. This final trip report shall be provided no more than 15 days after the conclusion of the plant site visit and shall be in the form of an MS Word document.

4.2 Task 2 - On-Call Technical Support

Requirement: For each such emergent or outstanding issue identified, the contractor shall provide technical input or advice to NRC staff to achieve resolution of the issue. It is anticipated that the technical input or advice should be relatively informal (i.e., verbal discussions, email correspondence) and any investigation or research performed by the contractor is intended to be relatively minimal and should not constitute a significant effort. This technical support also includes support for NRC meetings and briefings with the Advisory Committee on Reactor Safeguards, NRC Commission Technical Assistants, and senior NRC management.

Standard(s): The contractor shall submit all deliverables on time to the NRC contracting officer representative (COR) and NRC contracting officer (CO) and the deliverable shall be technically acceptable and in the specified format.

Deliverable: Following the resolution of each emergent or outstanding issue and at the request of the COR, the contractor shall provide a final summary report not to exceed two pages in length which, at a minimum, briefly describes the subject issue, the NRC's support request, and the contractor's response to the request. This report should be provided no more than 15 days after the resolution of the subject issue and should be in the form of a MS Word document.

5.0 DELIVERABLES/SCHEDULES AND/OR MILESTONES

Milestone/Deliverable	Due Date	Standard
Final Information Needs and Walkdown Areas List	No more than 15 days after the completion of the documentation review	The contractor shall provide, via email correspondence, a final list of any additional information needed by the Full-Scope Site Level 3 PRA Project team as well as recommended walkdown areas at the subject plant site.
Final Trip Report	No more than 15 days after the completion of the documentation review	The contractor shall provide a two-page final trip report summarizing the support activities performed during the trip.
Letter Summary Reports	No more than 15 days after the resolution of the subject issue and at the request of the COR	The contractor shall produce a final summary report not to exceed two pages describing the subject issue, the NRC's support request, and the contractor's response to the request.
Monthly Letter Status Report (MLSR)	On the 20 th of each month following the award of the contract	<p>A Monthly Letter Status Report (MLSR) is to be submitted to the NRC COR by the 20th of the month following the month to be reported with copies provided to the following:</p> <p>Resource Name: <u>RESDRAMLSR.Resource@nrc.gov</u></p> <p>The MLSR will identify the title of the project, the job code, the Principal Investigator, the period of performance, the reporting period, summarize each month's technical progress, list monthly spending, total spending to date, and the remaining funds and will contain information as directed in NRC Management Directive 11.1. Any administrative or technical difficulties which may affect the schedule or costs of the project shall be immediately brought to the attention of the NRC COR.</p>

6.0 KEY PERSONNEL

The following individuals included in this section are considered essential to the successful performance of work hereunder and are key personnel: Senior Engineer/Analyst and Engineer/Analyst.

<u>Name</u>	<u>Key Personnel</u>
Dr. M. Khatib-Rahbar	Project Management
Dr. R. Karimi	Lead Analyst
Dr. A. Azarm	Support Analyst

7.0 RESEARCH QUALITY

The quality of NRC research programs are assessed each year by the Advisory Committee on Reactor Safeguards. Within the context of their reviews of RES programs, the definition of quality research is based upon several major characteristics:

- Results meet the objectives (75% of overall score)
- Justification of major assumptions (12%)
- Soundness of technical approach and results (52%)
- Uncertainties and sensitivities addressed (11%)

- Documentation of research results and methods is adequate (25% of overall score)
- Clarity of presentation (16%)
- Identification of major assumptions (9%)

It is the responsibility of the contractor to ensure that these quality criteria are adequately addressed throughout the course of the research that is performed. The NRC project manager and technical monitor will review all research products with these criteria in mind.

8.0 TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

This task requires in-depth knowledge and expertise in the development and analysis of PRA modeling aspects associated with the development of a Level 3 PRA. This includes, but is not limited to, in-depth knowledge and expertise in the development of initiating event analysis; event tree development and analysis; system reliability model (e.g., fault tree) development and analysis; human reliability analysis, data analysis, accident sequence quantification, uncertainty analysis; and PRA modeling of internal fires and floods, external events, and low power and shutdown modes of reactor operation. This task also requires familiarity with PRA modeling of non-reactor sources of radiological material (i.e., spent fuel pools and dry storage casks).

As part of this task, the contractor shall interface with the team performing the Level 2 and 3 PRA aspects of the study. However, specific expertise in Level 2 and 3 PRA is not required for performance of this contract.

Additionally, the contractors shall also be technically creditable to respond to technical questions during presentations to the Advisory Committee on Reactor Safeguards (ACRS).

The contractor's technical credibility will be based on their in-depth knowledge of PRA resulting from their education and work experience.

The labor categories required for this project are listed below including their descriptions:

Senior Engineer/Analyst (or equivalent)

Individuals that are proposed to work under this labor category shall possess a minimum of 15 years of technical experience and 5 years of project management experience. The minimum educational requirements are a Ph.D. or Master's degree in a recognized engineering or scientific field from an accredited program of study. Equivalent experience in a science or engineering field may be considered. These individuals shall also have multiple scientific publications and have extensive peer recognition as an authority in his/her field of study.

Technical experience shall consist largely of the in-depth knowledge and expertise discussed in the first paragraph of this section, and should also include technical experience with applied research, technical analysis, technical support activities, and independent problem solving. Project management experience shall include experience with directing work under technical projects and with multiple personnel. Experience with directing PRA-type projects is preferred.

Engineer/Analyst (or equivalent)

Individuals that are proposed to work under this labor category shall possess a minimum of 3 years of technical experience and a Master's or a minimum of 5 years of technical experience and a Bachelor's degree. The academic degree shall be for a recognized engineering or scientific field from an accredited program of study. An Engineer/Analyst is expected to perform detailed PRA analyses with some direction from the Senior Engineer/Analyst, but should possess enough understanding of the development of PRAs to make independent technical decisions.

Technical experience shall, at a minimum, consist of familiarity with developing models and performing analyses for a PRA. Specifically, this familiarity should include a significant understanding of the aspects of a PRA discussed in the first paragraph of this section.

9.0 PUBLICATIONS NOTE

RES encourages the publication of the scientific results from RES sponsored programs in refereed scientific and engineering journals as appropriate. If the laboratory proposes to publish in the open literature or present the information at meeting in addition to submitting the required technical reports, approval of the proposed article or presentation should be obtained from the NRC Project Manager. The RES Project Manager shall either approve the material as submitted, approve it subject to NRC suggested revisions, or disapprove it. In any event, the RES Project Manager may disapprove or delay presentation or publication of papers on information that is subject to Commission approval that has not been ruled upon or which has been disapproved. Additional information regarding the publication of NRC sponsored research is contained in NRC Management Directives 3.7, "NUREG Series Publications," and 3.9, "NRC Staff and Contractor Speeches, Papers, and Journal Articles on Regulatory and Technical Subjects."

If the presentation or paper is in addition to the required technical reports and the RES Project Manager determines that it will benefit the RES project, the Project Manager may authorize payment of travel and publishing costs, if any, from the project funds. If the Project Manager determines that the article or presentation would not benefit the RES project, the costs associated with the preparation, presentation, or publication will be borne by the contractor. For any publication or presentations falling into this category, the NRC reserves the right to require that such presentation or publication will not identify the NRC's sponsorship of the work.

NEW STANDARDS FOR CONTRACTORS WHO PREPARE NUREG-SERIES MANUSCRIPTS

The U.S. Nuclear Regulatory Commission (NRC) began to capture most of its official records electronically on January 1, 2000. The NRC will capture each final NUREG-series publication in its native application. Therefore, please submit your final manuscript that has been approved by your NRC Project Manager in both electronic and camera-ready copy.

All format guidance, as specified in NUREG-0650, Revision 2, will remain the same with one exception. You will no longer be required to include the NUREG-series designator on the bottom of each page of the manuscript. The NRC will assign this designator when we send the camera-ready copy to the printer and will place the designator on the cover, title page, and spine. The designator for each report will no longer be assigned when the decision to prepare a publication is made. The NRC's Publishing Services Branch will inform the NRC Project Manager for the publication of the assigned designator when the final manuscript is sent to the printer.

For the electronic manuscript, the Contractor shall prepare the text in Microsoft Word, and use any of the following file types for charts, spreadsheets, and the like.

File Types to be Used for NUREG-Series Publications	
File Type	File Extension
Microsoft®Word®	.doc
Microsoft® PowerPoint®	.ppt
Microsoft®Excel	.xls
Microsoft®Access	.mdb
Portable Document Format	.pdf

This list is subject to change if new software packages come into common use at NRC or by our licensees or other stakeholders that participate in the electronic submission process. If a portion of your manuscript is from another source and you cannot obtain an acceptable electronic file type for this portion (e.g., an appendix from an old publication), the NRC can, if necessary, create a tagged image file format (file extension.tif) for that portion of your report. Note that you should continue to submit original photographs, which will be scanned, since digitized photographs do not print well.

If you choose to publish a compact disk (CD) of your publication, place on the CD copies of the manuscript in both (1) a portable document format (PDF); (2) a Microsoft Word file format, and (3) an Adobe Acrobat Reader, or, alternatively, print instructions for obtaining a free copy of Adobe Acrobat Reader on the back cover insert of the jewel box.

10.0 MEETINGS AND TRAVEL

Due to the proximity of the contractor offices to the NRC Headquarters buildings, in-person or teleconference meetings will be held on an as-needed basis.

The anticipated travel requirements include:

- One two-person trip for five days to the Vogtle Electric Generating Plant site outside of Augusta, Georgia for the purpose of information gathering, plant walk-downs, and interviews of licensee personnel.

Hotel reservations, estimated cost for travel, rental car and, any other expenses that may be incurred in connection with the tasks shall be made by the contractor and will be reimbursed for actual plus allowable negotiated General and Administration, with back up documentation/receipts attached to the invoice. Actual expenses will be reimbursed up to the established ceiling for travel.

11.0 NRC-FURNISHED MATERIAL

Upon initiation of work under the Task Order, the NRC COR will provide all available and necessary plant documentation relevant to the identified technical aspect for which the NRC is requesting support. For example, this information may include, but may not be limited to the FSAR, EOPs, Technical Specifications, and licensee-provided information such as system descriptions, piping and instrumentation diagrams, AC and DC electrical one-line diagrams, control wiring diagrams, design drawings, plant procedures, PRA supporting calculations, maintenance rule scoping documentation. When necessary for the performance of work under this Task Order, documentation of past or ongoing studies will be provided. Similarly, access to the TRACE and MELCOR computer codes and the relevant models will be granted within the normal operating constraints for providing this information (e.g., a non-disclosure agreement may be necessary).

In addition, NRC will provide access to agency PRA tools as necessary, and within the constraints placed upon dissemination of the information. The contractor, and any authorized subcontractors, may use NRC SPAR models and the NRC SAPHIRE PRA computer code to evaluate scenarios. Any problems encountered using the SAPHIRE code or the SPAR models shall be discussed with the NRC COR and documented in the MLSR. The documentation should describe in detail the problem or difficulty encountered and the steps taken to resolve the problem.

The NRC will provide access to the SPAR models and the NRC SAPHIRE PRA computer code. The contractor, and any authorized subcontractors, will use their own personal computers for running SAPHIRE and the SPAR models. The contractor, and any authorized subcontractors, will provide the names, phone numbers, company affiliation, title, mailing address and citizenship of any staff that will need access to the SPAR models. The SPAR models are being provided only for the contractor/subcontractor's use and are not to be distributed further without the written consent of the Nuclear Regulatory Commission. Due to the sensitivity of the information contained in the

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models, they are not publicly available. Additionally, a non-disclosure agreement must be completed in order to obtain the SAPHIRE computer code. The NRC will also provide Web access to the Accident Sequence Precursor and operating event databases, if necessary. The use of these materials and SPAR models is limited to the basic contract period of performance and to the individuals approved by NRC for access.

12.0 TECHNICAL DIRECTION

Technical direction will be provided by the Contracting Officer Representative. However, if the contractor determines that the technical direction is out of scope, they are not to proceed. Under this situation, a conference call is required between the contractor, COR and the contracting officer to ensure no out of scope costs are incurred.

SECTION D

CONTRACTOR SPENDING PLAN – TASK ORDER NRC-HQ-12-T-04-0003

Period of Performance: September 1, 2012 through March 31, 2013
 Solicitation No.: NRC-HQ-12-C-04-0065, Task Order NRC-HQ-12-T-04-0003
 Total Estimated Costs: \$80,281.31
 Offeror Name: Energy Research, Inc.

Cost Details by Month: Cost Elements	1st Month	2nd Month	3rd Month	4th Month	5th Month	6th Month
Direct Costs	\$7,997.85	\$7,997.85	\$7,997.85	\$7,997.85	\$7,997.85	\$7,997.85
Indirect Costs	\$3,470.91	\$3,470.91	\$3,470.91	\$3,470.91	\$3,470.91	\$3,470.91
Total Estimated Costs	\$11,468.76	\$11,468.76	\$11,468.76	\$11,468.76	\$11,468.76	\$11,468.76
Project Completion	14%	28%	43%	57%	71%	86%
Cost Elements	7th Month	8th Month	9th Month	10th Month	11th Month	12th Month
Direct Costs	\$7,997.85					
Indirect Costs	\$3,470.91					
Total Estimated Costs	\$11,468.76					
Project Completion	100%					