

ORDER FOR SUPPLIES OR SERVICES


PAGE 1 OF 16 PAGES

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

BPA NO.

1. DATE OF ORDER 4/23/13		2. CONTRACT NO. (if any) NRC-HQ-11-C-03-0047		3. SHIP TO:	
3. ORDER NO. NRC014		4. REQUISITION/REFERENCE NO. NRR-13-162 4/11/2013		5. NAME OF CONSIGNEE U.S. Nuclear Regulatory Commission	
5. ISSUING OFFICE (Address correspondence to) U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Daniel App Mail Stop: TWB-01-B10M Washington, DC 20555		6. STREET ADDRESS 11555 Rockville Pike Attn: Naeem Iqbal Mail Stop: 010C15		7. CITY Rockville	
7. TO:		8. STATE MD		9. ZIP CODE 20852	
a. NAME OF CONTRACTOR SOUTHWEST RESEARCH INSTITUTE S W R I		DUNS: 007936842		10. SHIP VIA	
b. COMPANY NAME		11. TYPE OF ORDER <input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY		12. 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.	
c. STREET ADDRESS 6220 CULEBRA RD		d. CITY SAN ANTONIO		e. STATE TX	
f. ZIP CODE 782385166		13. ACCOUNTING AND APPROPRIATION DATA obligate:\$25,000 FADKIS:131814 B&R:20-11-4-149 , JC:J-4640 , BOC:252A Approp. No.: 31X0200.320, NAICS: 541690 PSC:R499		14. REQUISITIONING OFFICE NRR	
15. BUSINESS CLASSIFICATION (Check appropriate box(es)) <input type="checkbox"/> a. SMALL <input checked="" 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		16. F.O.B. POINT N/A		17. DISCOUNT TERMS N/A	
18. PLACE OF a. INSPECTION b. ACCEPTANCE		19. GOVERNMENT B/L NO.		20. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)	

17. SCHEDULE (See schedule for Rejection)

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 Statement of Work, entitled: "Review of NFPA 805 LAR for Arkansas Nuclear One Unit 2."</p> <p>Total CPFF Amount: \$200,338.00 Total Obligation Amount: \$25,000.00 Period of Performance: 5/1/2013 through 10/31/2014</p> <p>NRC COR: Naeem Iqbal 301-415-3346</p> <p>DUNS: 007936842</p> <p>ACCEPTED: </p> <p>Signature: Print Name/Title: R.B. Kalmbach Executive Director, Contracts April 23, 2013</p>					

18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		21. MAIL INVOICE TO:		22. TOTAL (Cont. pages)	
SEE BILLING INSTRUCTIONS ON REVERSE		a. NAME Department of Interior / NBC NRCPayments_NBCDenver@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		f. PHONE FAX		g. ZIP CODE 80235-2230		23. NAME (Typed) Valerie Whipple Contracting Officer, NSA TITLE: CONTRACTING/ORDERING OFFICER	

22. UNITED STATES OF AMERICA
BY (Signature)

SUNSI REVIEW COMPLETE

OPTIONAL FORM 347 (REV. 2/2012)
PRESCRIBED BY GSA/FAR 48 CFR 53.213(f)

TEMPLATE - ADM001

APR 24 2013

ADM002

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DELIVERY ORDER TERMS AND CONDITIONS NOT SPECIFIED IN THE CONTRACT

A.1 BRIEF PROJECT TITLE AND WORK DESCRIPTION (AUG 2011)

(a) The title of this project is: "Review of License Amendment Request for Arkansas Nuclear One Unit 2"

(b) Summary work description:

The objective of this task order is to obtain technical expertise from the CNWRA/SWRI to assist the staff in determining the safety adequacy of the ANO2, 10CFR 50.48 (c) LAR in the technical review area of nuclear power plant fire modeling and fire protection programmatic portion of LAR so the NRC staff can make a licensing decision regarding whether or not the LAR is in accordance with 10 CFR 50.48 (c).

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 contract is \$200,338, of which the sum of \$185,608.00 represents the estimated reimbursable costs, and of which \$14,730.00 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 \$25,000.00, of which the sum of \$23,162.00 represents the estimated reimbursable costs, and of which \$1,838 represents the fixed-fee.

(d) It is estimated that the amount currently obligated will cover performance through 06-30-2013.

(e) This is an incrementally-funded contract and FAR 52.232-22 - "Limitation of Funds" applies.

(f) 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 \$2,209.00.

A.3 PACKAGING AND MARKING (AUG 2011)

(a) The Contractor shall package material for shipment to the NRC in such a manner that will ensure acceptance by common carrier and safe delivery at destination. Containers and closures shall comply with the Surface Transportation Board, Uniform Freight Classification Rules, or regulations of other carriers as applicable to the mode of transportation.

(b) On the front of the package, the Contractor shall clearly identify the contract number under which the product is being provided.

(c) Additional packaging and/or marking requirements are as follows: None.

A.4 PLACE OF DELIVERY--REPORTS (AUG 2011)

The items to be furnished hereunder shall be delivered, with all charges paid by the Contractor, to:

- a. Electronic copies to:
- b. Name: NAEEM IQBAL Email: Naeem.Iqbal@nrc.gov
Contracting Officer's Representative (COR)
- c. Name: Daniel App Email: Daniel.App@nrc.gov
Contracting Officer (CS)

A.5 TASK/DELIVERY ORDER PERIOD OF PERFORMANCE (AUG 2011)

This order shall commence on 05-01-2013 and will expire on 10-31-2014.

A.6 2052.215-70 KEY PERSONNEL (JAN 1993)

(a) The following individuals are considered to be essential to the successful performance of the work hereunder:

Dr. Debashis Basu
Robert Fosdick
Jason Huczek
Eric Nette

Senior Research Engineer
Principal Engineer
Senior Research Engineer
Engineer

The contractor agrees that personnel may not be removed from the contract work or replaced without compliance with paragraphs (b) and (c) of this section.

(b) If one or more of the key personnel, for whatever reason, becomes, or is expected to become, unavailable for work under this contract for a continuous period exceeding 30 work days, or is expected to devote substantially less effort to the work than indicated in the proposal or initially anticipated, the contractor shall immediately notify the contracting officer and shall, subject to the concurrence of the contracting officer, promptly replace the personnel with personnel of at least substantially equal ability and qualifications.

(c) Each request for approval of substitutions must be in writing and contain a detailed explanation of the circumstances necessitating the proposed substitutions. The request must also contain a complete resume for the proposed substitute and other information requested or needed by the contracting officer to evaluate the proposed substitution. The contracting officer and the project officer shall evaluate the contractor's request and the contracting officer shall promptly notify the contractor of his or her decision in writing.

(d) If the contracting officer determines that suitable and timely replacement of key personnel who have been reassigned, terminated, or have otherwise become unavailable for the contract work is not reasonably forthcoming, or that the resultant reduction of productive effort would be so substantial as to impair the successful completion of the contract or the service order, the contract may be terminated by the contracting officer for default or for the convenience of the Government, as appropriate. If the contracting officer finds the contractor at fault for the condition, the contract price or fixed fee may be equitably adjusted downward to compensate the Government for any resultant delay, loss, or damage.

A.7 2052.215-71 PROJECT OFFICER AUTHORITY (NOVEMBER 2006)

(a) The contracting officer's authorized representative (hereinafter referred to as the project officer) for this contract is:

Name: Naeem Iqbal

Address: Mail Stop OWFN 10-C15
Washington, DC 20555

Telephone Number: 301-415-3346

(b) Performance of the work under this contract is subject to the technical direction of the NRC project officer. The term "technical direction" is defined to include the following:

(1) Technical direction to the contractor which shifts work emphasis between areas of work or tasks, authorizes travel which was unanticipated in the Schedule (i.e., travel not contemplated in the Statement of Work (SOW) or changes to specific travel identified in the SOW), fills in details, or otherwise serves to accomplish the contractual SOW.

(2) Provide advice and guidance to the contractor in the preparation of drawings, specifications, or technical portions of the work description.

(3) Review and, where required by the contract, approval of technical reports, drawings, specifications, and technical information to be delivered by the contractor to the Government under the contract.

(c) Technical direction must be within the general statement of work stated in the contract. The project officer does not have the authority to and may not issue any technical direction which:

(1) Constitutes an assignment of work outside the general scope of the contract.

(2) Constitutes a change as defined in the "Changes" clause of this contract.

(3) In any way causes an increase or decrease in the total estimated contract cost, the fixed fee, if any, or the time required for contract performance.

(4) Changes any of the expressed terms, conditions, or specifications of the contract.

(5) Terminates the contract, settles any claim or dispute arising under the contract, or issues any unilateral directive whatever.

(d) All technical directions must be issued in writing by the project officer or must be confirmed by the project officer in writing within ten (10) working days after verbal issuance. A copy of the written direction must be furnished to the contracting officer. A copy of NRC Form 445, Request for Approval of Official Foreign Travel, which has received final approval from the NRC must be furnished to the contracting officer.

(e) The contractor shall proceed promptly with the performance of technical directions duly issued by the project officer in the manner prescribed by this clause and within the project officer's authority under the provisions of this clause.

(f) If, in the opinion of the contractor, any instruction or direction issued by the project officer is within one of the categories as defined in paragraph (c) of this section, the contractor may not proceed but shall notify the contracting officer in writing within five (5) working days after the receipt of any instruction or direction and shall request the contracting officer to modify the contract accordingly. Upon receiving the notification from the contractor, the contracting officer shall issue an appropriate contract modification or advise the contractor in writing that, in the contracting officer's opinion, the technical direction is within the scope of this article and does not constitute a change under the "Changes" clause.

(g) Any unauthorized commitment or direction issued by the project officer may result in an unnecessary delay in the contractor's performance and may even result in the contractor expending funds for unallowable costs under the contract.

(h) A failure of the parties to agree upon the nature of the instruction or direction or upon the contract action to be taken with respect thereto is subject to 52.233-1 -Disputes.

(i) In addition to providing technical direction as defined in paragraph (b) of the section, the project officer shall:

(1) Monitor the contractor's technical progress, including surveillance and assessment of performance, and recommend to the contracting officer changes in requirements.

(2) Assist the contractor in the resolution of technical problems encountered during performance.

(3) Review all costs requested for reimbursement by the contractor and submit to the contracting officer recommendations for approval, disapproval, or suspension of payment for supplies and services required under this contract.

(4) Assist the contractor in obtaining the badges for the contractor personnel.

(5) Immediately notify the Security Branch, Division of Facilities and Security (SB/DFS) (via e-mail) when a contractor employee no longer requires access authorization and return of any NRC issued badge to SB/DFS within three days after their termination.

(6) Ensure that all contractor employees that require access to classified Restricted Data or National Security Information or matter, access to sensitive unclassified information (Safeguards, Official Use Only, and Proprietary information) access to sensitive IT systems or data, unescorted access to NRC controlled buildings/space, or unescorted access to protected and vital areas of nuclear power plants receive approval of SB/DFS prior to access in accordance with Management Directive and Handbook 12.3.

(7) For contracts for the design, development, maintenance or operation of Privacy Act Systems of Records, obtain from the contractor as part of closeout procedures, written certification that the contractor has returned to NRC, transferred to the successor contractor, or destroyed at the end of the contract in accordance with instructions provided by the NRC Systems Manager for Privacy Act Systems of Records, all records (electronic or paper) which were created, compiled, obtained or maintained under the contract.

A.8 2052.215-78 TRAVEL APPROVALS AND REIMBURSEMENT -ALTERNATE 1 (OCT 1999)

(a) Total expenditure for travel may not exceed \$6,041 without the prior approval of the contracting officer.

(b) All foreign travel must be approved in advance by the NRC on NRC Form 445, Request for Approval of Official Foreign Travel, and must be in compliance with FAR 52.247-63 Preference for U.S. Flag Air Carriers. The contractor shall submit NRC Form 445 to the NRC no later than 30 days prior to the commencement of travel.

(c) The contractor will be reimbursed only for those travel costs incurred that are directly related to this contract and which are allowable subject to the limitations prescribed in FAR 31.205-46.

(d) It is the responsibility of the contractor to notify the contracting officer in accordance with the FAR Limitations of Cost clause of this contract when, at any time, the contractor learns that travel expenses will cause the contractor to exceed the travel ceiling amount identified in paragraph (a) of this clause.

(e) Reasonable travel costs for research and related activities performed at State and nonprofit institutions, in accordance with Section 12 of Pub. L. 100-679, shall be charged in accordance with the contractor's institutional policy to the degree that the limitations of Office of Management and Budget (OMB) guidance are not exceeded. Applicable guidance documents include OMB Circular A-87, Cost Principles for State and Local Governments; OMB Circular A-122, Cost Principles for Nonprofit Organizations; and OMB Circular A-21, Cost Principles for Educational Institutions.

A.9 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, OUO-Allegation Information or OUO-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.

A.10 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 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.

A.11 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.

A.12 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.

A.13 Statement of Work

Statement of Work for
Task Order 14 under Contract NRC-HQ-11-C-03-0047
(JCN J-4640)

Title: Review of License Amendment Request for the Arkansas Nuclear One, Unit, 2 Transition to National Fire Protection Association Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2011 Edition

BACKGROUND

The United States Nuclear Regulatory Commission (NRC), Office of Nuclear Reactor Regulation (NRR) is currently implementing a new risk-informed, performance-based rule under Section 50.48(c) of Title 10 of the *Code of Federal Regulations* (10 CFR). This rule endorses the National Fire Protection Association Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition.

Florida Power & Light Company (FPL), the licensee of the Arkansas Nuclear One, Unit 2 (ANO2), has submitted a license amendment request (LAR) to adopt 10 CFR 50.48(c) (NFPA 805), and this project-level description of work outlines the requirements for technical assistance to be provided by the Center for Nuclear Waste Regulatory Analysis (CNWRA)/South West Research Institute (SwRI) to the Fire Protection Branch (AFPB) in the Division of Risk Assessment (DRA), NRR, to complete the technical review and develop the safety evaluation for the ANO2 LAR.

This project will require coordination between CNWRA/SwRI, the Pacific Northwest National Laboratory (PNNL), and the NRC staff. For the ANO2 LAR, PNNL (under a separate contract) will be providing technical expertise in nuclear power plant fire protection and fire protection engineering (FPE), safe-shutdown/circuit analysis (SSD/CA), and probabilistic risk assessment (PRA). The NRC technical staff will perform review of the radiological release portion of the LAR.

OBJECTIVE

The objective of this task order is to obtain technical expertise from the CNWRA/SwRI to assist the staff in determining the safety adequacy of the ANO2, 10 CFR 50.48(c) (NFPA 805) LAR in the technical review area of nuclear power plant fire modeling and fire protection programmatic portion of LAR so the NRC staff can make a licensing decision regarding whether or not the LAR is in accordance with 10 CFR 50.48(c); NFPA 805, 2001 Edition; and the guidance provided in the NUREG-0800, Standard Review Plan (SRP) Section 9.5.1.2, "Risk-Informed, Performance-Based Fire Protection Program."

TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

One senior-level Fire Protection or Mechanical Engineer on an intermittent, part-time basis to serve as the Principal Investigator (PI) who has background and experience in nuclear power plant design and operations to include procedures related to operations at full-power conditions and shutdown modes. The PI should also be knowledgeable in the application of NUREC/CR-6850 methods which pertain to nuclear power plant fire protection PRA models. The PI must be able to ensure that the LAR reviews performed by the domain experts (e.g., FPE, PRA, SSD/CA) are integrated and address areas that cross-cut domains, i.e., that the review by one domain expert is integrated with the review by other domain experts). The PI must also ensure that the PRA model that is reviewed by the PRA expert makes assumptions about the fire protection program and that the review of the fire protection program assumptions in the PRA model must be a coordinated/integrated review by both the PRA and FPE experts.

One senior-level Fire Protection Engineer on an intermittent, part-time basis who is knowledgeable of nuclear power plant fire protection programs and has in-depth experience in fire modeling and fire hazard analysis; has in-depth knowledge and experience in the design and operation of nuclear power plant fire protection systems; and experience in the application of Appendix R compliance.

One senior-level Mechanical or Nuclear Engineer on an intermittent, part-time basis who is knowledgeable of nuclear power plant design and operation to include procedures related to operations at full-power conditions and shutdown

modes and who has in-depth knowledge and experience in the design and operation of fire protection systems and programs implemented at nuclear power plants, and experience in the application of Appendix R regulations.

All three individuals should be knowledgeable in the preparation of input to NRC safety evaluation reports.

The engineers must be able to satisfy the escorted access requirements for the Owner Controlled Area and Protected Area of ANO2, site. ANO2 located on Lake Dardanelle in Russellville, Arkansas. Its single Combustion Engineering pressurized-water reactor nuclear steam supply system.

WORK REQUIREMENTS AND SCHEDULE

<u>Tasks</u>	<u>Scheduled Completion</u>
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1. Based on 10 CFR 50.48(c); NFPA 805, 2001 Edition and the guidance provided in the SRP Section 9.5.1.2., review and evaluate the ANO2 10 CFR 50.48(c), (NFPA 805) LAR in the areas of nuclear power plant fire modeling and fire protection programmatic and determine the safety adequacy in the areas listed below to enable the staff to make a licensing decision regarding whether or not the LAR is in accordance with the regulations.

- Fire Modeling;
- Fire Protection Programmatic Review

<u>Tasks</u>	<u>Scheduled Completion</u>
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Identify areas where any additional information is needed to determine if the LAR is in accordance with the applicable regulatory requirements and develop questions for the applicant to obtain the additional information. Prepare a technical letter report.

May 17, 2013¹

- a. Draft.

One week after receipt of NRC comments.

- b. Incorporate NRC comments and prepare the final report.

2. Prepare for and travel to the ANO2 site to participate in the an on-site audit of the NFPA 805 LAR in accordance with LIC111, "Regulatory Audits" to review the same areas of nuclear power plant fire protection and fire protection engineering as described in Task 1 and identify the need for more information (Request for Additional Information (RAIs)). Prepare a technical letter report.

- a. Prepare on-site RAIs.

June 21, 2013²

- b. Prepare a trip report.

June 21, 2013³

¹ This date assumes the on-site audit will be during the week of June 17, 2013.

² This date assumes the on-site audit will be during the week of June 17, 2013.

³ This date assumes the on-site audit will be during the week of June 17, 2013.

(1) Draft.

(2) Incorporate NRC comments and submit the final report.

One week after receipt of NRC comments.

3. Based on the work performed to date, determine the adequacy of the areas evaluated above (see Task 1 listing) and prepare a Technical Evaluation Report (TER) utilizing the template and guidance supplied by the NRC.

a. Draft.

Sixteen weeks after the on-site audit or as mutually agreed upon between the Project Officer and the PI

b. Incorporate NRC Comments and Prepare the final report.

As mutually agreed upon between the Project Officer and the PI.

Tasks

Scheduled Completion

4. Review and evaluate the RAI responses and determine if the response(s) adequately addressed the open items. If the response(s) is not acceptable, discuss the RAI response(s) with the Project Officer who may determine that a conference call is needed to discuss the RAI response(s) with the licensee in which case the PI will be notified and expected to participate in the conference call. If the response is deemed inadequate, prepare an RAI. If the response is deemed to be adequate, incorporate the results in the TER prepared under Task 3.

As mutually agreed upon between the Project Officer and the PI.

5. Review and evaluate any additional RAI responses and determine if the response(s) adequately addressed the open items. If the response(s) is not acceptable, discuss the RAI response(s) with the Project Officer who may determine that a conference call is needed to discuss the RAI response(s) with the licensee in which case the PI will be notified and expected to participate in the conference call. If the response is deemed inadequate, list the issue as an open item in the TER. If the response is deemed to be adequate, incorporate the results in the TER and prepare the updated TER.

a. Draft.

As mutually agreed upon between the Project Officer and the PI.

- | | | |
|----|--|---|
| b. | Incorporate NRC comments and prepare the final TER. | One week after receipt of NRC comments. |
| 6. | Prepare for and travel to NRC Headquarters to participate in a Safety Evaluation Report Review Team meeting to provide the team with comments on the draft SER in the listed in Task 1 above. Prepare a trip report. | One week after the meeting. |

LEVEL OF EFFORT

The level of effort to complete this task is 1,038 hrs.

DELIVERABLES

Technical Reporting Requirements

NOTE: All reports are to be prepared in Microsoft Word 2007 or compatible format and submitted electronically to the Project Officer. The transmittal letter and cover page shall contain the Job Code Number (JCN), the Task Order Number, and Title.

DELIVERABLES (CONTINUED)

Technical Reporting Requirements

1. At the completion of Task 1, submit a technical letter report, draft and final as appropriate, that contains the list of preliminary questions which clearly articulates the bases for the need for further information or discussion. See Attachment 1 for guidance in the preparation of RAIs.
2. At the completion of Task 2, submit a technical letter report that contains the audit RAIs. In addition, submit a technical letter report, draft and final as appropriate, that contains a summary of the activities performed during the audit and a summary of significant highlights, observations, insights, and findings. Include the title and description of any documents, slides, or other materials reviewed on the trip. As appropriate, describe possible resolution of the findings/observations, noting disposition responsibility (if appropriate) of the items presented and reviewed.

Also at the completion of Task 2, submit on-site audit review activities in an audit report in accordance with the example format provided. The Project Officer will provide a current copy of the writing guidelines and a recently-issued audit report. The CNWRA/SwRI should provide qualified professional technical staff to prepare and review the audit report. The CNWRA should ensure the report is technically correct and complete. The CNWRA/SwRI should incorporate comments from the peer review, comments from the NRC staff into the final audit report.

3. At the completion of Task 3, submit a Technical Evaluation Report that contain an assessment of the adequacy of the applicant's LAR in the areas evaluated following the template and guidance for ANO2 SER provided by the Project Officer.
4. At the completion of review of each RAI response under Task 4, provide a verbal response for those responses found not to be adequate on a schedule mutually agreed upon with the Project Officer. If the RAI response is deemed to be inadequate, submit a technical letter report that contains the additional RAI(s) on a time-frame mutually agreed upon with the Project Officer. If the RAI response(s) is deemed to be adequate, update the TER.

5. At the completion of review of any additional RAI responses under Task 5, on a schedule mutually agreed upon with the Project Officer, submit the updated TER, draft and final as appropriate; any inadequate response(s) from the licensee is considered an open item and is to be reflected as such in the TER.
6. At the completion of Task 6, submit a trip report that contains a summary of the work performed and any highlights of the review team meeting.

Monthly Letter Status Reporting (MLSR) Requirements

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

Monthly Letter Status Reporting Requirements (Continued)

Authorized Cost Ceiling: \$ _____		Funds Obligated to date: \$ _____		
Tasks	Planned Budget	Expenditures for the Period	Task Expenditures Cumulative	Percentage vs. Budget
1.	\$	\$	\$	%
2.	\$	\$		\$ %
3.	\$	\$		\$ %
4.	\$	\$		\$ %
5.	\$	\$		\$ %
6.	\$	\$		\$ %
7.	\$	\$		\$ %
Total	\$ _____	\$ _____	\$ _____	_____ %

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

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

MEETINGS AND TRAVEL

One two-person, five-day audit trip (fire modeling review) and one one-person, three-day audit trip (fire protection programmatic review) to the ANO2 site located in Russellville, Arkansas.

One two-person, three-day trip to NRC Headquarters located in Rockville, Maryland.

NRC-FURNISHED MATERIALS

All relevant plant specific documentation, including the Individual Plant Examination (IPE) and Individual Plant Examination of External Events (IPEEE) submittals and staff evaluation reports, has already been provided to CNWRA/SwRI within two weeks of the of the time-frame needed to perform the work.

NOTE: Some of these documents contain proprietary information and must be safeguarded against unauthorized disclosure. After completion of work, the documents should either be destroyed or returned to NRC. If they are destroyed, please confirm this in an E-mail to the Project Officer and include the date and manner in which the documents were destroyed.

NRC-FURNISHED MATERIAL (CONTINUED)

The NRC Contract Officer Representative (COR) will provide those NRC documents related to licensing activities (for example, any Non-Publicly available SERs, audit reports, and related documents) that are readily available. The NRC COR will provide access to training material pertinent to the NFPA 805 LAR reviews or other NRC documents and docketed correspondence on related issues. The CNWRA/SwRI staff shall identify any additional NRC documentation that is needed and the COR will determine whether these will be provided by the NRC or obtained directly by the CNWRA/SwRI from Agency-Wide Documents Access and Management System (ADAMS), NRC public document room or the NRC website at www.nrc.gov.

For this task order the NRC will provide to or provide access to CNWRA/SwRI (not an all inclusive listing) the following materials:

1. Arkansas Nuclear One, Unit 2, License Amendment Request Transition to 10 CFR 50.48(c) - NFPA 805 Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition, ADAMS Accession No. ML12353A041.
2. Regulatory Guide 1.205, "Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants."
3. NUREG-0800, Standard Review Plan, Section 9.5.1.2, "Risk-Informed, Performance-Based Fire Protection Program."
4. Office of Nuclear Reactor Regulation, Office Instruction, Revision 0 of LIC-111, "Regulatory Audits."
5. Office of Nuclear Reactor Regulation, Office Instruction, Revision 3 of LIC-101, "License Amendment Review Procedures."
6. NEI 04-02, Guidance for Implementing a Risk-Informed, Performance-Based Fire Protection Program Under 10 CFR 50.48(c), Revision 2, Nuclear Energy Institute, Washington, DC, April 2008.
7. NFPA 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition, National Fire Protection Association, Quincy MA.
8. NUREG/CR-6850, "EPRI/NRC-RES, Fire PRA Methodology for Nuclear Power Facilities," Volumes 1 and 2, USNRC, September 2005.
9. Regulatory Guide 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," ML070240001 (Clarification to RG 1.200, Revision 1, ML071940235) (Draft Revision 1 was issued as DG-1161, 09/2006, ML062480134) (Revision 0, 02/2004, ML040630078, was issued with SRP Chapter 19.1, ML040630300) (Draft Revision 0 was issued as DG-1122, 11/02, ML023360076)
10. NUREG-1824, "Verification and Validation of Selected Fire Models for Nuclear Power Plant Applications," U.S. Nuclear Regulatory Commission, Washington, DC, May 2007.

11. Regulatory Guide 1.174, Revision 1, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis".

NRC-FURNISHED MATERIAL (CONTINUED)

12. NRC NUREG 0800, Standard Review Plan, Chapter 19.2, "Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance," Revision 0, June 2007.

13. NEI 00-01, "Guidance for Post Fire Safe Shutdown Analysis," Revisions 1 & 2, Nuclear Energy Institute, Washington, DC.

14. Templates for development of various technical review related documents including but not limited to Audit Reports, RAIs, Safety Evaluations, Technical Specifications, etc.

15. Other NRC guidance such as Frequently Asked Questions (FAQs), historical documents related to previous 10 CFR 50.48(c) reviews, etc.

OTHER APPLICABLE INFORMATION

License Fee Recovery

The work specified in this SOW is license fee recoverable.

Assumptions and Understandings

It is understood that the level of effort for each Subtask, as appropriate, contains sufficient effort to conduct telephone conference calls with the NRC COR. Such phone calls, for example, might be arranged by the NRC ANO2 Project Manager (PM) with the NRC COR to discuss the RAIs and to reach an understanding with the applicant. Comments might be provided to CNWRA/SwRI such that the RAIs may have to be resubmitted by CNWRA/SwRI. (Note: In some cases, based on the additional information obtained from the applicant on the conference call, the RAI may not need to be issued.)

The level of effort assumption for the audit under Task 2 is based eight hours for preparation and travel to the site, 40 hours to participate in the audit and return travel and 37 hours for documentation for each traveler.

It is understood that the RAI responses under Tasks 4 and 5 may not be received all at once, but intermittently and that draft responses may be available for review. The level of effort for Task 4 assumes there will be about 50 RAI responses to be addressed and it will take, on the average, two hours to address an RAI response including documentation. Task 5 assumes there will be 10 additional RAI responses and it will take, on the average, two hours to address a response including documentation.

The level of effort assumption for Task 6 is based on eight hours for preparation and travel, sixteen hours for the meeting and eight hours for return travel and preparation of the report for each traveler.

Unless otherwise approved by Letter of Technical Direction or by a Modification, the level of effort among the Tasks cannot be exceeded by more than 15 percent.

It is understood that this project will require coordination between CNWRA/SwRI and the NRC staff since all two will be providing technical expertise and