

ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1 2

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

BPA NO.

1. DATE OF ORDER JAN 11 2008		2. CONTRACT NO. (If any) NRC-42-07-036		8. SHIP TO:	
3. ORDER NO. 0006		MODIFICATION NO.		a. NAME OF CONSIGNEE /U.S. Nuclear Regulatory Commission	
5. ISSUING OFFICE (Address correspondence to) U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Kala Shankar 301-415-6310 Mail Stop T-7-I-2 Washington, DC 20555		4. REQUISITION/REFERENCE NO. NRC-42-07-036(06)		b. STREET ADDRESS Attn: Jayne Halverson, 301-415-6001 Mail Stop: T6-C34	
7. TO:		c. CITY Washington	d. STATE DC	e. ZIP CODE 20555	
a. NAME OF CONTRACTOR INFORMATION SYSTEMS LABORATORIES, INC ISL		f. SHIP VIA			
b. COMPANY NAME ATTN: DR. JAMES F. MEYER		8. TYPE OF ORDER			
c. STREET ADDRESS 11140 ROCKVILLE PIKE, SUITE 500		<input type="checkbox"/> a. PURCHASE		<input checked="" type="checkbox"/> b. DELIVERY	
d. CITY ROCKVILLE		e. STATE MD	f. ZIP CODE 20852	REFERENCE YOUR Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
9. ACCOUNTING AND APPROPRIATION DATA Attention NRC Accounting Office - see Block 17B for appropriation data Contractor DUNS: 107928806		10. REQUISITIONING OFFICE NRO			

11. BUSINESS CLASSIFICATION (Check appropriate box(es))					12. F.O.B. POINT Destination
<input type="checkbox"/> a. SMALL	<input checked="" type="checkbox"/> b. OTHER THAN SMALL	<input type="checkbox"/> c. DISADVANTAGED	<input type="checkbox"/> g. SERVICE-DISABLED VETERAN-OWNED		
<input type="checkbox"/> d. WOMEN-OWNED	<input type="checkbox"/> e. HUBZone	<input type="checkbox"/> f. EMERGING SMALL BUSINESS			
13. PLACE OF		14. GOVERNMENT B/L NO.	15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)		16. DISCOUNT TERMS
a. INSPECTION	b. ACCEPTANCE				

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	Issuance of Task Order No. 6 under Contract No. NRC-42-07-036 Title: "Technical Assistance in Support of COL Reviews of Balance of Plant SRP Systems for Westinghouse AP1000 License Applications" Period of Performance: 01/11/2008-07/10/2010 Estimated Reimbursable Cost: \$303,339.00 Fixed Fee: \$17,050.00 Total Cost Plus Fixed Fee: \$320,389 SEE CONTINUATION PAGES Funding in the amount of \$138,737.70 is being provided ***Note to NRC Accounting Office*** ACCOUNTING AND APPROPRIATION DATA \$138,737.70 previously obligated under the base contract (NRC-42-07-036) is to be transferred to this Task Order. 72515171111 Q4014 252A 31X0200					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT	19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages) 17(i) GRAND TOTAL
	21. MAIL INVOICE TO:					
	a. NAME U.S. Nuclear Regulatory Commission Payment Team, Mail Stop T-9-H-4					
	b. STREET ADDRESS (or P.O. Box) Attn: (NRC-42-07-036 Task Order No. 6)					
c. CITY Washington		d. STATE DC	e. ZIP CODE 20555			

22. UNITED STATES OF AMERICA
BY (Signature)

Kala Shankar

23. NAME (Typed)
Kala Shankar
Contracting Officer
TITLE: CONTRACTING/ORDERING OFFICER

AUTHORIZED PERSONNEL ONLY
PREPARED BY: [Signature]

SUNSI REVIEW COMPLETE

JAN 18 2008

OPTIONAL FORM NO. 346 (2006)
PRESCRIBED BY GSA FPMR (41 CFR) 101-11.6

ADMIN002

TASK In accordance with Section G.4, Task Order Procedures, of Contract No. NRC-42-07-036, this definitizes Task Order No. 06. The effort shall be performed in accordance with the attached Statement of Work.

Task Order No. 06 shall be in effect from January 11, 2008 through July 10, 2010, with a cost ceiling of \$320,389. The amount of \$303,339 represents the estimated reimbursable costs, and the amount of \$17,050 represents the fixed fee.

The amount obligated by the Government with respect to this task order is \$138,737.70, of which \$130,270.70 represents the estimated reimbursable costs, and the amount of \$8,467 represents the fixed fee.

The issuance of this task order does not amend any terms or conditions of the subject contract.

Your contacts during the course of this task order are:

Technical Matter: Jayne Halverson
Project Officer
301-415-6001

Contractual Matters: Kala Shankar
Contract Specialist
301-415-6310

Acceptance of Task Order No. 06 should be made by having an official, authorized to bind your organization, execute three copies of this document in the space provided and return two copies to the Contract Specialist at the address identified in Block No. 5 of the OF 347. You should retain the third copy for your records.

ACCEPTANCE:



NAME

V.P.

TITLE

1/11/08

DATE

TASK ORDER STATEMENT OF WORK

JCN Q4014 (COL)	Contractor Information Systems Laboratories, Inc.	Task Order No. 6
Applicant Duke	Design/Site AP1000/Lee Station	Docket No. Project No. 742
Title/Description Technical Assistance in Support of Combined License (COL) Reviews of Balance of Plant (BOP) SRP Systems for Westinghouse AP1000 Licensing Applications		
TAC Nos. Lee Station – RXX006	B&R Number 825-15-171-111	SRP Section(s) BOP SRP Sections (see Section 2)
NRC Technical Assistance Project Manager (TAPM) Jayne Halvorsen (301) 415-6001 Jxh3@nrc.gov		
NRC Technical Monitor (TM) Angelo Stubbs (301) 415-4013 Axs8@nrc.gov		

REQUEST FOR PROPOSAL

A proposal is requested to perform the work described in this Statement of Work. The due date for your proposal is 2 p.m. (Washington, DC, local time), January 4, 2008, and shall consist of two parts: a technical approach and a cost estimate.

As a minimum, the technical approach shall substantiate your understanding of the requirements of the work, note any anticipated problem areas or deviations from the Statement of Work, identify key personnel who will perform the work, include resumes of those personnel not already in the contract, and address any potential conflict of interest issues. The following certification must also be submitted with your proposal: "I represent to the best of my knowledge and belief that the award to Information Systems Laboratories, Incorporated of Task Order No. 6 under Contract No. NRC-42-07-036 does // or does not // involve situations or relationships of the type set forth in NRCAR 2009.570-3.

The contractor shall provide a staffing plan that specifically reflects services to be provided. Examples of the staffing plan are provided in Section J, Attachment 2 of the basic contract award document.

You are also required to identify any current/former NRC employees who have or will be involved, directly or indirectly, in developing the proposal, or in negotiating on behalf of your firm or in managing, administering or performing any purchase orders, contracts, consultant agreement or subcontract resulting from this proposal (list name, title and date individual left NRC and provide brief description of individual's role under this proposal.) If there are no current/former NRC employees involved, a negative statement is required.

The second part of your proposal shall be your cost estimate. Submit your cost estimate in accordance with the Federal Acquisition Regulation (FAR). Your proposal format along with supporting information in your own format (information such as proposed labor hours and labor

rates, cost of equipment and materials, etc.) which supports your estimated costs must be submitted.

CAUTION - It should be noted that this request for proposal does not commit the Government to pay any costs incurred in the submission of proposals or make necessary studies or designs for the preparation thereof, nor to procure or contract for the services in the enclosed Statement of Work. It is also brought to your attention that the Contracting Officer is the only individual who can legally commit the Government to the expenditure of public funds in connection with this proposed task order.

Your response to the subject RFP should be sent electronically to KXS4@nrc.gov with a copy to with a courtesy copy to JXH3@NRC.GOV.

The proposal shall be signed by an official authorized to bind the company, and it shall contain a statement indicating a proposal acceptance period of not less than 30 days.

1.0 BACKGROUND

The purpose of this Task Order is to obtain the necessary technical assistance to support the NRC staff in determining whether or not the subject COL application meets appropriate regulatory requirements.

Standard design certification (DC) and combined license (COL) applications are submitted pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants." The U.S. Nuclear Regulatory Commission (NRC) reviews these requests based on information furnished by, DC and COL applicants pursuant to 10 CFR 52.79, "Contents of Applications Technical Information." The staff publishes the results of these reviews in a Safety Evaluation Report (SER).

The balance of plant (BOP) branch is responsible for performing systems-related safety evaluations of DC and COL applications for proposed new reactors. The branch reviews and evaluates the design and functional performance requirements of essential auxiliary support and balance of plant systems. This includes the review of various BOP fluid systems, protection against internal hazards (such as flooding, pipe breaks, and internally generated missiles), the design of new and spent fuel storage (including load handling systems), the turbine generator and the support systems for the emergency diesel generator. The branch also performs reviews of reactor coolant pressure boundary leakage detection, and is specified as a secondary review branch for radioactive waste systems (system design review only).

This task order is for assistance in support of the review of revisions to the Westinghouse AP1000 design certification and review of combined license application expected to reference this design. Each application will be considered a separate work item, and will be provided upon receipt of the application. The applicants and their planned schedules are listed in Table 1 of Attachment 1, which are subject to change. Additional background information may be found in the Information Systems Laboratories, inc. (ISL) basic task ordering agreement.

2.0 OBJECTIVE

The objective of this task order is to obtain technical expertise from ISL to assist the NRC staff in determining if specific COL/DC application meets appropriate regulatory requirements. The review will be conducted in accordance with 10CFR Part 52, and will be guided primarily by NUREG-0800 "Standard Review Plans for the review of Safety Analysis Reports for Nuclear Power Plants LWR edition." ISL will provide assistance to the staff by developing letter reports that identify needed request for additional information (RAIs) and technical evaluation reports (TER) that provide technical input to the staff in the staff's development of the preliminary safety evaluation reports (SER), SER with open items, and SER with no open items.

The primary deliverable, or output of this regulatory review, shall be the TER. The TER will serve as input to the NRC staff's SER which will document the NRC's technical, safety, and legal basis for approving the COL application. The TER must provide sufficient information to adequately explain the NRC staff's rationale for why there is *reasonable assurance* that public health and safety is protected. The TER, and ultimately the SER, should be written in a manner whereby a person with a technical (non-nuclear) background and unfamiliar with the applicant's request could understand the basis for the staff's conclusions. The TER format is to be provided by NRC.

ISL shall utilize NUREG-0800 as necessary to conduct the safety reviews of the COL/DC applications for the Balance-of-Plant Branch (SBPA/SBPB) for some or all of the following SRP sections as specified for a particular application:

- 3.4.1 Internal Flood Protection for Onside Equipment Failures
- 3.6.1 Plant Design for Protection against Postulated Piping Failures in Fluid Systems
Outside Containment
- 9.3.1 Compressed Air System
- 9.3.3 Equipment and Floor Drainage System
- 3.5.1.1 Internally Generated Missiles (Outside Containment)
- 3.5.1.2 Internally Generated Missiles (Inside Containment)
- 3.5.1.4 Missiles Generated by Tornadoes and Extreme Winds
- 3.5.2 Structures, Systems, and Components to be Protected from Externally-Generated Missiles
- 5.2.5 Reactor Coolant Pressure Boundary Leakage Detection
- 9.1.2 New and Spent Fuel Storage
- 9.1.3 Spent Fuel Cooling and Cleanup System
- 9.1.4 Light Load Handling System (Related to Refueling)
- 9.1.5 Overhead Heavy Load Handling systems
- 9.2.1 Station Service Water System
- 9.2.2 Reactor Auxiliary Cooling Water System
- 9.2.5 Ultimate Heat Sink
- 9.2.4 Potable and Sanitary Water Systems
- 9.2.6 Condensate Storage Facilities
- 10.4.7 Condensate and Feedwater System
- 10.4.9 Auxiliary Feedwater System (PWR)
- 10.2 Turbine generator
- 10.3 Main Steam Supply System
- 10.4.1 Main Condensers
- 10.4.2 Main condenser Evacuation System

- 10.4.3 Turbine Gland Sealing System
- 10.4.4 Turbine Bypass System
- 10.4.5 Circulating Water System
- 9.5.4 Emergency Diesel Engine Fuel Oil Storage and Transfer System
- 9.5.5 Emergency Diesel Engine Cooling Water System
- 9.5.6 Emergency Diesel Engine Starting System
- 9.5.7 Emergency Diesel Engine Lubrication System
- 9.5.8 Emergency Diesel Engine Combustion Air Intake and Exhaust System
- 14.3.7 Applicable Groups of Plant systems – Inspections, Tests, Analyses, and Acceptance Criteria (Tier 1)

ISL will also review the applications for following SRP sections as the secondary review branch specified in the SRPs:

- 11.2 Liquid Waste Management System (only system design and performance)
- 11.3 Gaseous Waste Management System (only system design and performance)
- 11.4 Solid Waste Management System (only system design and performance)
- 14.2 Initial Plant Test Program for applicable balance-of-plant systems
- 16 Technical Specifications for applicable balance-of-plant systems

In addition, ISL will review BOP related generic issues including NRC Bulletins and Generic Letters, TMI action Items, Task Action Plan, New Generic Issues. ISL will also review BOP related Regulatory Treatment of Non-Safety Systems (RTNSS).

3.0 WORK REQUIREMENTS, SCHEDULE, AND DELIVERABLES

Subtask Description	Due Date Or Days	Deliverables
1. Become familiar with applicable SRP Sections (see Section 2) and applicable references (e.g., RG 1.206 and others).	* Define time period after authorization of work	N/A
2. Participate in a kick-off meeting with the NRC staff to discuss the scope of the work, expectations and task order management for each application.	* Define time after receipt of each application (see Attachment 2)	N/A
3. Support staff's acceptance review to identify major deficiencies in the application that might impact the review or affect the planned resource and schedule. The Input will be provided in email/conference calls.	* 15 days from the receipt of the application	EMAIL/Conference Call

Subtask Description	Due Date Or Days	Deliverables
<p>4. Review the COL application applicable sections (see Section 2) to determine the adequacy of the application. Determine if the methods and approach proposed by the applicant meet the appropriate review guidance. Identify issues and those aspects of the application that need additional or clarifying information. Prepare a Technical Evaluation Report (TER) providing</p> <p>a. the draft Request for Additional Information (RAIs), and</p> <p>b. the draft preliminary safety evaluation report (PSER).</p>	* 90 days from the receipt of the application	Technical Evaluation Report providing staff with RAIs and PSER
<p>5. Review responses to the RAI questions to determine if they adequately resolve the outstanding issues. Prepare a TER providing the input to the SER with open items (SER/OI).</p>	* 20 days after receipt of the RAI responses	Technical Evaluation Report providing the input to the SER with open items (SER/OI).
<p>6. Review the applicant's response to the open items identified in the SER/OI. Identify any unresolved issues. Prepare a technical evaluation report (TER) providing the input to the final SER describing the resolution to the open items..</p>	* 20 days after receipt the responses to the open items	Technical Evaluation Report (TER) providing the input to the final SER describing the resolution to the open items
<p>7. <i>As needed and</i> requested by the staff, provide technical support to the staff during related ACRS meetings and hearing proceedings.</p>	TBD	TBD

* See projected application date in Table 1 of Attachment 1. These work schedules are subject to change by the NRC project manager (NRC PM) to support the needs of the NRC Licensing Project Plan Integrated Schedule. However, the deliverables shall be in accordance with the original contract criteria. As a result of Subtask 3 for each application, changes of the above table and the level of effort and contract costs may be needed.

The contractor shall submit a cost estimate, staffing plan, and project plan with a schedule for deliverables within 10 days of receipt of this task order, unless otherwise directed by the NRC technical assistance project manager (TAPM). The NRC technical monitor (TM) will review the plan based on the forecast of the NRC LPP Integrated Schedule. Resource estimate is provided in the basic task ordering agreement statement of work (see Attachments 1).

ISL shall provide the following information prior to initiation of a task order:

- A staffing plan that specifically reflects services to be provided

- A quality control plan which outlines the procedures and system that ISL will use for document version and configuration control, technical input tracking, change management, and technical and editorial reviews. ISL shall organize, track, and manage changes in a structured, systematic, and transparent manner, throughout the production of each task order deliverable.
- ISL shall also provide a statement of professional qualifications for staff proposed to work under this task order.

4.0 TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

As specified in the basic task ordering agreement, ISL shall provide individuals who have the required educational background and work experience to meet the objectives of the work specified in this task order. The personnel specified to perform the reviews (engineers/scientists) shall possess experience in technical areas related to U.S. nuclear reactor design, construction, operation, maintenance, and inspection of nuclear power plants. Emphasis is placed on experience that is related to safety where judgments are made as to whether applicable codes and federal regulations are being, or have been, and/or followed. Specific qualifications for these efforts include:

- Engineers/Scientists who are cognizant of nuclear plant designs and are capable of performing detailed design and safety reviews addressing the adequacy of plant protection from internal hazards including, floods, pipe failures, and missiles.
- Engineers/Scientists who are cognizant of nuclear plant designs and are capable of performing detailed design and safety reviews of balance of plant fluid systems including service water, component cooling water, compressed air, circulating water, ultimate heat sink and condensate storage.
- Engineers/Scientist who are cognizant of nuclear plant designs and are capable of performing detailed design and safety reviews of balance of plant steam and power conversion systems including main steam, main condensers, turbine bypass, condensate and feedwater, and auxiliary feedwater systems.
- Engineers/Scientist who are cognizant of nuclear plant designs and are capable of performing detailed design and safety reviews of spent fuel storage, cooling, and cleanup, and review of light and heavy load handling systems.
- Engineers/Scientist who are cognizant of nuclear plant designs and are capable of performing detailed design and safety reviews of emergency diesel support systems including diesel fuel oil storage & transfer, diesel cooling water, diesel starting, diesel lubrication, diesel combustion air intake & exhaust systems.
- Engineers/Scientist who are cognizant of nuclear plant designs and are capable of performing detailed design and safety reviews of radioactive waste management systems and reactor coolant boundary leakage detection.

ISL shall provide a 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 ISL 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 (principal investigators, technical staff, employees, consultants, specialists or subcontractors) 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 task order is subject to the NRC technical monitor's (TM's) approval. This includes any proposed changes to key personnel during the life of the task order.

5.0 REPORTING REQUIREMENTS

Task Order Progress Report

The contractor shall provide a bi-weekly progress report summarizing accomplishments, expenditures, contractor staff hours expended, percent completed for each task under this task order, and any problems encountered by the contractor. The report shall be sent via e-mail to the NRC TM, TAPM and CO. Please refer to Section F of the basic contract award document for contract reporting requirements.

Technical reporting requirements

Unless otherwise specified above, the contractor shall provide all deliverables as draft products.

The NRC TM will review all draft deliverables (and coordinate any internal NRC staff review, if needed) and provide comments back to the contractor. The contractor shall revise the draft deliverable based on the comments provided by the TM, and then deliver the final version of the deliverable. When mutually agreed upon between the contractor and the TM, the contractor may submit preliminary or partial drafts to help gauge the contractor's understanding of the particular work requirement.

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

In all correspondence, include identifying information: JCN No.: Q-4014; Task Order No: 6; the applicant: Duke; and, the site: Lee Station.

6.0 MEETINGS AND TRAVEL

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

- One-person, two-day working meeting to kickoff project
- One- person, two-day meetings, if needed, for hearing or ACRS meeting.

At the discretion of the NRC TM, quarterly progress meetings may be conducted at the contractor or via telephone or video conference

7.0 NRC FURNISHED MATERIAL

The NRC TM will provide those NRC documents related to the applicable portions of the application that are readily available. The NRC TM will provide access to the applicant’s safety analysis report, pertinent sections of the COL, DC, or other NRC safety documents and docketed correspondence on related issues. The contractor staff will identify any additional NRC documentation that is needed and the TM will determine whether is will be provided by the NRC or obtained directly by the contractor, NUDOCS, ADAMS, NRC public document room or the NRC website at www.nrc.gov.

8.0 LEVEL OF EFFORT

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

Task(s)	Labor Category	Level of Effort (hours)
1	See Attachment 1, Table 2	See Attachment 1, Table 2
2	See Attachment 1, Table 2	See Attachment 1, Table 2
3	See Attachment 1, Table 2	See Attachment 1, Table 2
4	See Attachment 1, Table 2	See Attachment 1, Table 2
5	See Attachment 1, Table 2	See Attachment 1, Table 2
6	See Attachment 1, Table 2	See Attachment 1, Table 2
7	See Attachment 1, Table 2	See Attachment 1, Table 2
All	Project Manager	See Attachment 1, Table 2
Total	See Attachment 1, Table 1	See Attachment 1, Table 2

9.0 PERIOD OF PERFORMANCE

The projected period of performance is 30 months for each application from the application date.

10.0 OTHER APPLICABLE INFORMATION

License Fee Recovery

- All work under this task order is fee-recoverable under 10 CFR Part 170 and shall be charged to the appropriate TAC number(s).

Expected Classification or Sensitivity

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

Assumptions and Understandings:

- The level of effort for Tasks 4 and 5 is based on the assumption that the contractor is familiar with the review procedures of SRP Sections.
- The level of effort in Task 7 is based on requiring one trip to NRC headquarters.
- It is assumed that the ISL will have access to the NRC furnished material available on the Internet.
- It is understood that the scope of the review consists of conference calls with the NRC staff, and with the NRC staff and the applicant, to discuss open items in an attempt to obtain additional information or reach resolution.

Attachments

Attachment 1: Projected Application Dates and Resource Estimates (Table 1)
Level of Effort (Table 2)