

ORDER FOR SUPPLIES OR SERVICES

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

BPA NO. DR-03-07-040

1. DATE OF ORDER SEP 5 2007		2. CONTRACT NO. (If any) GS23F0113L		6. SHIP TO:			
3. ORDER NO. NRC TO2		MODIFICATION NO.		a. NAME OF CONSIGNEE U.S. Nuclear Regulatory Commission			
4. REQUISITION/REFERENCE NO. NRC-03-07-040		b. STREET ADDRESS Attn: Matt Johnson, 301-415-2267 M/S: 05-H4				c. CITY Washington	
5. ISSUING OFFICE (Address correspondence to) U.S. Nuclear Regulatory Commission Div of Contracts Two White Flint North - MS T-7-I-2 Attn: Jennifer A. DeFino, (301) 415-6714 Washington, DC 20555		7. TO:		d. STATE DC		e. ZIP CODE 20555	
a. NAME OF CONTRACTOR ARES CORPORATION		b. COMPANY NAME		f. SHIP VIA			
c. STREET ADDRESS 1440 CHAPIN AVE STE 390		d. CITY BURLINGAME		e. STATE CA		f. ZIP CODE 940104058	
9. ACCOUNTING AND APPROPRIATION DATA B&R: 720-15-111-104 Job Code: J-4043 BOC: 252A Apprn. No. 31X020.720 Obligate: \$44,000.00 Contractor DUNS No. 807721980		10. REQUISITIONING OFFICE NRR		8. TYPE OF ORDER			
11. BUSINESS CLASSIFICATION (Check appropriate box(es))		12. F.O.B. POINT N/A		<input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY 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. Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.			
<input type="checkbox"/> a. SMALL <input type="checkbox"/> d. WOMEN-OWNED		<input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> e. HUBZone		<input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> f. EMERGING SMALL BUSINESS		<input type="checkbox"/> g. SERVICE-DISABLED VETERAN-OWNED	
13. PLACE OF		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)		16. DISCOUNT TERMS N/A	
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. 002 TITLE: EVALUATIONS OF HEAD LOSS TESTING TECHNICAL DOCUMENTS ASSOCIATED WITH LICENSEE RESPONSES TO GENERIC LETTER (GL) 2004-02 TOTAL ESTIMATED COST: \$67,188.98 PERIOD OF PERFORMANCE: 08/30/2007 through 04/30/2008 CONTRACTOR SIGNATURE REQUIRED ON PAGE 2 OF 2					

18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
21. MAIL INVOICE TO:						
SEE BILLING INSTRUCTIONS ON REVERSE		a. NAME U.S. Nuclear Regulatory Commission Division of Contracts				17(i) GRAND TOTAL
		b. STREET ADDRESS (or P.O. Box) Mail Stop: T-7-I-2 ATTN: DR-03-07-040 T2				
		c. CITY Washington	d. STATE DC	e. ZIP CODE 20555		

22. UNITED STATES OF AMERICA BY (Signature) 	23. NAME (Typed) Donald A. King Contracting Officer TITLE: CONTRACTING/ORDERING OFFICER
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ADMO02

In accordance with Section A.10, Task Order Procedures, of blanket purchase agreement number DR-03-07-040, this definitizes verbal authorization given on August 30, 2007, for Task Order No. 002. The effort shall be performed in accordance with the enclosed Statement of Work.

Task Order No. 002 shall be in effect from August 30, 2007 through April 30, 2008, with a cost ceiling of \$67,188.98. The amount currently obligated by the Government with respect to this task order is \$44,000.00.

The following individual is considered to be essential to the successful performance for work hereunder: [REDACTED]
[REDACTED] The Contractor agrees that such personnel shall not be removed from the effort under the task order without compliance with Contract Clause A.8, Key Personnel.

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 Matters: Matt Johnson
Project Officer
(301) 415-2267

Contractual Matters: Jennifer DeFino
Contract Specialist
(301) 415-6714

Acceptance of Task Order No. 002 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. You should retain the third copy for your records.

ACCEPTED: Task Order No. 002

Kathryn Naassan
KATHRYN NAASSAN
NAME

SR. VICE PRESIDENT
TITLE

9/11/07
DATE

TASK ORDER TERMS AND CONDITIONS

NOT SPECIFIED IN THE CONTRACT

A.1 NRC Acquisition Clauses - (NRCAR) 48 CFR Ch. 20

A.2 Other Applicable Clauses

See Addendum for the following in full text (if checked)

52.216-18, Ordering

52.216-19, Order Limitations

52.216-22, Indefinite Quantity

52.217-6, Option for Increased Quantity

52.217-7, Option for Increased Quantity Separately Priced Line Item

52.217-8, Option to Extend Services

52.217-9, Option to Extend the Term of the Contract

A.3 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.

Statement of Work for
Task Order 2 under DR-03-07-040

Title: Resolution of Generic Safety Issue (GSI)-191, Assessment of Debris Accumulation on PWR Sump Performance, in the Task Area # 3 - Regulatory Improvement Activities; Generic Issues/Topical Reports/Review Guidance; Evaluations of Head Loss Testing Technical Documents Associated with Licensee Responses to Generic Letter (GL) 2004-02

Technical Monitor: Ralph Architzel, Office: 301/415-2804; E-mail: REA@nrc.gov

BACKGROUND

In June, 2003, the NRC identified Generic Safety Issue (GSI)-191, involving the potential for clogging of recirculation sump screens in pressurized water reactors (PWRs). Based on the findings of the GSI-191 (Assessment of Debris Accumulation on PWR Sump Performance) study conducted by the NRC Office of Nuclear Regulatory Research on ECCS suction/containment sump clogging in PWRs, the NRC staff issued a Safety Evaluation (SE) and a Generic Letter (GL) 2004-02 pertaining to the PWR sump design guideline report developed by the Nuclear Energy Institute (NEI) in conjunction with the PWR Owners group. Through this GL and using the guidance approved by the SE, licensees are requested to proceed to resolve the GSI-191 issue for each PWR plant. The NRC staff, is reviewing implementation of the GL, specifically of the new sump designs in accordance with NRC requirements.

The staff has conducted audits of licensee approaches to resolving GSI-191, has held meetings to discuss test methods and adequacy, and has visited vendor facilities to observe and comment on test methods and adequacy. As follow-on to these activities various licensee strainer vendors have supplied test reports and plans for NRC information and review.

OBJECTIVE

The objective of this task order is to obtain engineering expertise from ARES Corporation to assist the staff in determining the technical adequacy of proposed testing plans and methods to be used for resolution of the GSI-191 Sump Clogging Issue analysis for nuclear power plants.

TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

One senior level mechanical engineer with extensive experience on strainer head loss testing for PWR LOCA analyses and containment analysis. This includes areas such as debris generation, debris characteristics, debris transport (including the emerging area of sump and containment pool, near-field effects), recirculation water hold-up volumes, strainer design and performance, strainer head-loss and vortexing.

WORK REQUIREMENTS

Based on requirements defined in the NRC safety evaluation and based on guidance defined in the NRC SER and GL 2004-02, ARES shall review and evaluate the set of vendors test plans and reports, and determine the technical adequacy of the proposed methods. Emphasis of the review should be on adequacy of head loss testing procedures and the testing configuration, as well as related issues such as scaling. Work scope does not include review of chemical effects aspects of test procedures.

Specifically:

- a) Review and evaluate the testing procedures and set up for appropriateness; review and evaluate the appropriateness of the test data interpretation following Appendix I in the Safety Evaluation;
- b) Assess the conservatism in the proposed approach.

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- c) Identify potential deficiencies and as needed develop a request for additional or clarifying information.
- d) Participate in conference calls with the vendor to discuss and clarify the identified issues. Review and evaluate the licensee's responses and determine if they adequately address the identified issues. Perform any additional limited analysis or calculations as may be necessary to verify that the response adequately addresses the issue.

Tasks

Completion Schedule

- | | |
|---|---|
| I. Task 1 - Evaluation of Test Plans and Procedures for documents submitted by CCI. | Five Weeks after task order award* |
| a) Analysis of MFTL Solutions Report No. 680/41389
Received: 6/6/07 | |
| b) Chemical Effect Head Loss Test Specification
Q.003.84.779 & Q.003.84.780; Received: 7/12/07 | |
| c) Chemical Laboratory Bench Top Test (Palo Verde) CCI Test Spec Q.003.84.779
Received: 7/12/07 | |
| II. Task 2 - Evaluation of Test Plans and Procedures for documents submitted by Alion. | Eleven Weeks after task order award* |
| a) ALION-CAL-SONGS-4194-03 R2 (SONGS Design Input Calc); Received: 7/10/07 | |
| b) ALION-REP-ALION-1002-01 R0 (Scaling);
Received: 7/10/07 | |
| c) ALION-REP-ALION-1002-02 R1 (Surrogates);
Received: 7/10/07 | |
| d) ALION-TS-ALION-1002-01R2 (Test Specification);
Received: 7/10/07 | |
| e) VUEZ-TP-ALION-1593R0 (Test Plan SONGS);
Received: 7/10/07 | |
| f) VUEZ-TPRO-ALION-1593-01R0 (test Proc SONGS); Received: 7/10/07 | |
| III. Task 3 - Evaluation of Test Plans and Procedures for documents submitted by PCI. | Twelve Weeks after task order award* |
| a) Sure-Flow Suction Strainer - Suction Flow Control Device (SFCD) Principles and Clean Strainer Head Loss Design Procedures SFSS-TD-2007-002;
Received: 6/11/07 | |
| b) Sure-Flow Suction Strainer - Vortex Issues SFSS-TD-2007-003; Received: 6/11/07 | |
| c) Sure-Flow Suction Strainer - Testing Debris Preparation & Surrogates SFSS-TD-2007-004;
Received: 6/11/07 | |
| d) Refinements To The Areva/ Alden/PCI Strainer Test Protocol (Areva); Received: 3/9/07 | |
| e) One-page diagram of proposed modeling of two (2) four-module strainers; Received: 7/24/07 | |
| IV. Task 4 - Evaluation of Test Plans and Procedures for documents submitted by Fauske. | Seventeen Weeks after task order award* |

* Completion schedule can be modified by modification to the Task Order by the NRC Contracting Officer.

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- a) FAI/07-72 Test Plan for ANO 1 and 2 Debris Loading Head Loss Tests For Replacement Sump Strainers; Received: 7/9/07

V. Task 5 - Evaluation of Test Plans and Procedures for documents submitted by AECL (Contingency). Four weeks after receipt of test documents from NRC.
 a) Headloss test documents; Receipt contingent

VI. Task 6 - Evaluation of Test Plans and Procedures for documents submitted by GE (Contingency). Four weeks after receipt of test documents from NRC.
 a) Headloss test documents; Receipt contingent

VII. Task 7 - Prepare and submit a technical letter report

Prepare an overall technical adequacy evaluation of each vendor's test methods and procedures, including the bases for the conclusions. Discuss the review conducted for each set of vendor test documents and evaluate test methods and procedures. Provide basis for conclusions reached.

- a) Draft

Three weeks after completion of tasks 1, 2, 3, 4, and 5 and 6 (if assigned).

- b) Final

One week after receipt of NRC comments.

LEVEL OF EFFORT

The estimated level of effort in professional staff hours apportioned among the tasks are as follows:

Tasks	Level of Effort (hours)[contingent hours]
1.	40
2.	80
3.	20
4.	40
5.	[80]
6.	[40]
7.	60
Total	240 [120]

PERIOD OF PERFORMANCE

The projected period of performance is from August 30, 2007 until April 30, 2008.

DELIVERABLES

Technical Reporting Requirements

NOTE: All reports are to be prepared using WordPerfect X3 (Font Arial regular 11 point) or Microsoft Word 2003 and submitted electronically to the Technical Monitor with a copy provided to the Project Officer. In all correspondence, include the following information: the JCN No. J4043, the task order number (2), the vendor (ARES Corporation), and the NRC/NRR Branch (Safety Issue Resolution Branch (SSIB)).

1. For each set of test documents¹, at the completion of the initial reviews for Tasks 1, 2, 3 and 4 [Tasks 5 and/or 6 if contingency removed], inform the Technical Monitor via telephone of specific technical areas that need to be discussed with the licensee/vendor (if any) in order to complete the review. Provide a summary containing the work performed and results attained in the Monthly Business Letter Report under the "Work Performed during the Period" section.
2. For each set of test documents, at the completion of the review and following any necessary interaction with the vendor/licensee submit a summary of the review completed and the assessment by e-mail in the form of bulleted lists of areas reviewed, identification of issues addressed or remaining, and conclusions/recommendations for staff actions regarding the set of test procedures and methods. Include a short description of any outstanding issues and associated basis. Provide a summary containing the work performed and results attained in the Monthly Business Letter Report under the "Work Performed during the Period" section.
3. For the complete set of test documents, at the completion of Tasks 1, 2, 3 and 4 [Tasks 5 and/or 6 if contingency removed], submit a technical letter report, draft and final, that contains an overall technical adequacy evaluation of each vendor's test methods and procedures, including the bases for the conclusions. Discuss the review conducted for each set of vendor test documents in the evaluations. Include a list of any outstanding issues with the basis or bases clearly articulated, including the significance of these outstanding issues relative to acceptability of the test methods to support NRC staff determination of licensee GL 2004-02 corrective action adequacy.

MEETINGS AND TRAVEL

Three two-day trips to vendor facilities (Tasks 1, 2 and 4 only) to observe the conduct of head loss tests are anticipated. No other meetings are required.

NRC-FURNISHED MATERIALS

Copies of the head loss testing documents related to the GSI-191 referenced in Table 1 will be provided to the Principal Investigator at the start of the Task Order.

The NRC Safety Evaluation Report, GSI-191 SE, Revision 0, "Pressurized Water Reactor Containment Sump Evaluation Methodology" dated December 6, 2004, and GL-2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," dated September 13, 2004, can be found at the following web site:

<http://www.nrc.gov/reactors/operating/ops-experience/pwr-sump-performance.html>

NOTE: Some of these documents contain licensee or vendor information which is provided for audit purposes, may be proprietary, and they must be safeguarded against unauthorized disclosure. After completion of work, such licensee/vendor document(s) should either be destroyed or returned to NRC. If they are destroyed, please confirm this in an E-mail to the Technical Monitor with a copy to the Project Officer and include the date and manner in which the document(s) was destroyed.

OTHER APPLICABLE INFORMATION

License Fee Recovery

The work to be performed under this task order is not licensee fee recoverable.

¹ For Task 3, PCI test plans and procedures, only a limited review is to be performed under this Task Order (to consolidate documentation of reviews of all major vendors) as the contractor and staff have previously reviewed this vendor's test plans under a separate.

Assumptions and Understandings

The level of effort assumption for Task 1 is based on NRC's judgment of what it should take to perform a thorough review of the available documentation related to head loss testing aspects. Because these documents relate to chemical effects testing for the most part, and not head loss aspects which are subject of this task order; the level of effort is less than for other sets of testing documents.

The level of effort assumption for Task 2 is based on a more complete set of testing documents that relate to head loss testing which has not previously been reviewed by the staff nor ARES personnel.

The level of effort assumption for Task 3 is based on NRC's judgment of what it should take to complete and document the evaluation, considering that both the staff and ARES personnel have performed limited prior reviews of PCI testing methods.

The level of effort on Task 4 reflects the limited scope of testing with this vendor.

The level of effort on Tasks 1, 2 and 4 includes the (3) two-day trips discussed under meetings and travel section above.

The estimates for contingency Tasks 5 and 6 are based on limited information considering the expectations of testing documents that are expected to be submitted in the early fall of CY08.

The level of effort in Task 7 considers the effort needed to consolidate the various sets of reviews into a single document, identifying significant issues identified, writing the report and addressing NRC comments.