

ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES
1 9

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

BFA NO.

1. DATE OF ORDER JUN 07 2007		2. CONTRACT NO. (If any) NRC-03-07-041		6. SHIP TO:	
3. ORDER NO. T001		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: Jeffrey R. Mitchell, 301-415-6465 Mail Stop T-7-1-2 Washington, DC 20555		4. REQUISITION/REFERENCE NO. NRC-03-07-041-001		b. STREET ADDRESS Attn: Rachel Glaros Mail Stop: O5-H4 11555 Rockville Pike	
7. TO:		c. CITY Rockville		d. STATE MD	e. ZIP CODE 20852

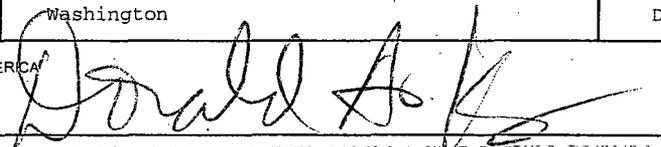
a. NAME OF CONTRACTOR ENVIRONMENTAL MANAGEMENT SUPPORT INC E M S			f. SHIP VIA		
b. COMPANY NAME ATTN: N. Jay Bassin			8. TYPE OF ORDER		
c. STREET ADDRESS 8601 GEORGIA AVE STE 500			<input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY Except for billing instructions on 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.		
d. CITY SILVER SPRING	e. STATE MD	f. ZIP CODE 209103439	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 SEE BELOW IN BLOCK 17C. Transfer funds in the amount of \$30,000 from the base award. Contractor DUNS: 106741598			10. REQUISITIONING OFFICE NRR		

11. BUSINESS CLASSIFICATION (Check appropriate box(es))				12. F.O.B. POINT N/A	
<input checked="" type="checkbox"/> a. SMALL	<input 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 SMALLBUSINESS			
13. PLACE OF		14. GOVERNMENT B/L NO.	15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) As Stated	16. DISCOUNT TERMS Net 30	
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)
	REFER TO THE ATTACHED DEFINITIZED ORDER FOR TASK ORDER NO. 001.					
	ACCOUNTING AND APPROPRIATION DATA: Note: \$30,000 previously obligated as part of the minimum guarantee under the basic contract is to be allotted for Task Order No. 1 (ACCT transfer the funds) 720-15-111-112E J4087 252A 31x0200.720 Obligate \$30,000					

18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
21. MAIL INVOICE TO:						
a. NAME U.S. Nuclear Regulatory Commission Payment Team, Mail Stop T-7-I-2						17(i) GRAND TOTAL
b. STREET ADDRESS (or P.O. Box) Attn: (NRC-03-07-041 Task Order No. 001)						
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
---	--

This confirms the verbal authorization that was provided to Environmental Management Support, Inc., on 6/7/2007, to begin work under the subject task order, with a temporary ceiling of \$15,000.00.

In accordance with Section G.4, Task Order Procedures, of contract no. NRC-03-07-041 this definitizes Task Order No. 001. The effort shall be performed in accordance with the attached Statement of Work.

Task Order No. 001 shall be in effect from June 7, 2007 through March 31, 2008, with a cost ceiling of \$42,008.00. The amount of \$39,537.00 represents the estimated reimbursable costs, and the amount of \$2,471.00 represents the fixed fee.

The amount currently obligated by the Government with respect to this contract is \$30,000.00 of which the sum of \$25,236.00 represents the estimated reimbursable costs, and \$1,764.00 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:	Rachel Glaros Project Officer 301-415-3672	John Burke Technical Monitor 301-415-1529
Contractual Matters:	Jeffrey R. Mitchell Contract Specialist 301-415-6465	

Acceptance of Task Order No. 001 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

President

TITLE

6/29/07

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
TASK ORDER NO. 1 UNDER
NRC-03-07-041, JCN J-4087**

**DEVELOPMENT OF DRAFT REVIEW GUIDANCE FOR NRC FOR REVIEWING
LICENSEE CHEMICAL EFFECTS EVALUATIONS SUBMITTED IN RESPONSE TO
RESOLVING GENERIC SAFETY ISSUE (GSI) 191**

1. BACKGROUND

The Nuclear Regulatory Commission (NRC) established Generic Safety Issue (GSI) 191 in September 1996 to determine whether the transport and accumulation of debris in Pressurized Water Reactor (PWR) containment following a loss-of-coolant accident (LOCA) could impede the operation of any PWR's emergency core cooling system (ECCS) or containment spray system (CSS). To resolve NRC GSI-191, "Pressurized Water Reactor Emergency Recirculation Sump Performance," the NRC issued Generic Letter (GL) 2004-02 in September 2004 outlining schedules for licensees to complete PWR sump performance evaluations and necessary sump modifications and procedure changes. The NRC requested licensees to complete and submit evaluations to the NRC and complete sump modifications, if necessary, by the end of December 2007. The NRC has granted extensions beyond 2007 for the completion of some activities for some licensees. The PWR sump performance methodology (NEI Guidance Report as supplemented by the NRC staff safety evaluation) requires the evaluation of chemical effects, including the potential consequences on head loss across the sump strainer, on a plant-specific basis.

Licensees are performing plant specific strainer performance tests that include simulated chemical products that may be based on the WCAP-16530-NP chemical model, to evaluate their affect on pressure drop across a debris-covered screen or strainer segment surface. Licensee's plant-specific chemical effects evaluations are expected to demonstrate that any chemical products formed do not result in either unacceptable head loss across the strainer surface or unacceptable degradation of downstream components. NRC staff will be reviewing licensee chemical effects evaluations as part of the GL 2004-02 review to support resolution of GSI-191.

2. OBJECTIVE

The objective of this task order is to obtain the technical expertise of EMS to assist the NRC staff in developing draft internal procedures and guidance for NRC for reviewing licensee chemical effects evaluations submitted in response to resolving GSI-191.

3. SCOPE OF WORK

Task 1 Project Planning Meeting

EMS shall participate in a project planning meeting expected to last two days, with NRC staff and Argonne National Laboratory (ANL) personnel at either NRC Headquarters in Rockville, Maryland, or at Argonne National Laboratory (ANL) in Illinois, to discuss the chemical effects knowledge base review process and objectives for the draft review guidance for NRC for licensee chemical effects evaluations submitted in response to resolving GSI-191. NRC staff will present at the meeting a description of ongoing sump

strainer testing by industry vendors. The location, time and date of the meeting shall be mutually agreed upon between the NRC technical monitor (TM) and EMS. EMS shall be provided, via email from the TM, a meeting summary that contains the significant highlights of the meeting, including questions raised and answers provided, and any follow-up action items. EMS shall provide any comments on the meeting summary content no later than one week after receipt. If EMS has no comments, a negative response is required.

Task 2 Knowledge Base Review

Based upon nuclear chemical plant expertise and specific knowledge of GSI-191 chemical effects testing, EMS shall develop a chemical effects knowledge base document that will be part of the technical basis for draft review guidance. This shall involve a collaborative effort with NRC Staff and ANL. EMS **shall have lead responsibility** for review and synopsis of the following NRC-sponsored and industry-sponsored chemical effects tests : (1) Southwest Research Institute technical letter report, "Supplementary Leaching Tests of Insulation and Concrete For GSI-191 Chemical Effects Program," (2) WCAP-16530-NP Revision 0, "Evaluation of Post-Accident Chemical Effects in containment Sump Fluids to Support GSI-191," (3) WCAP-16596-NP Revision 0, "Evaluation of Alternative Emergency Core Cooling System Buffering Agents," and (4) A refinement report that describes tests intended to support removal of some conservatism in the WCAP-16530-NP chemical model. EMS shall prepare a technical letter report, due five weeks after award of task order, that includes: (1) summary of work performed; (2) summary of key test results; (3) adequacy and limitations of the tests; and (3) recommendations on how to incorporate the key test results into the draft review guidance.

EMS shall also participate with NRC staff and ANL in the review, but **shall not have the lead review responsibility**, for the following NRC-sponsored and industry-sponsored chemical effects tests: (1) NUREG/CR-6913, (2) NUREG/CR-6914, (3) NUREG/CR-6915 and (4) Two ANL Technical Letter Reports dated February 15, 2007 related to GSI-191. For these tests, EMS shall review summaries prepared by the NRC staff and/or ANL and identify questions, concerns, or recommended changes that shall be discussed at a second project meeting described in Task 3 below. The summaries shall be provided to EMS by the TM at least one week prior to the project meeting.

Task 3 Follow-up Project Meeting

EMS shall participate in a second project meeting expected to last two days, with NRC staff and ANL at NRC Headquarters in Rockville, Maryland or at ANL in Illinois, to discuss the results from Task 2 above including incorporation of the knowledge base results into the draft guidance for reviewing chemical effects evaluations. The location, time and date of the meeting shall be mutually agreed upon between the TM and EMS. EMS shall be provided, via email from the TM, a meeting summary. EMS shall provide any comments on the meeting summary content no later than one week after receipt. If EMS has no comments, a negative response is required.

If required, EMS shall participate in a follow-up telephone call(s) to discuss any open items remaining from the meeting. Telephone calls shall be held within two weeks after the meeting.

Task 4 Prepare Draft Review Guidance Document

Using the information discussed and compiled under Tasks 1, 2 and 3, develop draft guidance for NRC for reviewing licensee chemical effects evaluations. The draft review guidance shall contain a knowledge base section that incorporates the information contained in the knowledge base review technical letter report prepared under Task 2 and the knowledge base review technical letter report prepared by ANL. In general, the draft review guidelines shall identify key technical areas related to licensee chemical effect analyses and provide recommendations for the NRC evaluation, including acceptance criteria, when appropriate.

The draft review guidance document is due four weeks after the second project meeting. The draft review guidance document shall be reviewed by NRC staff and ANL. EMS shall incorporate comments provided by the TM into the draft review guidance and provide a final draft review guidance document one week after receipt of all comments.

Task 5 Update Draft Review Guidance Document

EMS shall participate in a telephone call with the NRC in early December 2007 to discuss the latest information available from ongoing or recently completed chemical effects testing. During the telephone call, an assessment will be made concerning the need to revise the draft review guidance developed in Task 4 based on the latest available information. If a revision is deemed necessary by the TM, EMS shall revise the draft review guidance document based on updated information, such as test results, and provide a draft revised review guidance document no later than four weeks after the telephone call. EMS shall incorporate any comments provided by the TM and provide a final revised draft review guidance document within one week of receipt of comments.

4. REPORTING REQUIREMENTS

NOTE: All reports are to be submitted to the Technical Monitor electronically with a copy provided to the Project Officer. These reports shall be prepared in WordPerfect X3 or compatible format. The transmittal letter and cover page shall contain the job code number (JCN), contract number, the task order number, title and NRC technical assignment control (TAC) number(s). Care should be taken to avoid the inclusion of any proprietary information in reports, if possible, with all necessary proprietary information clearly identified in the reports.

- Task 1: Comments on Project Meeting Summary
Due: One week after receipt of Project Meeting Summary
- Task 2: Knowledge Base Review Technical Letter Report
Due: Five weeks after award of task order
- Task 3: Comments on Project Meeting Summary
Due: One week after receipt of Project Meeting Summary

Task 4: Draft Review Guidance Document
Due: Four weeks after the Second Project Meeting

Final Draft Review Guidance Document
Due: One week after receipt of comments on Draft Review Guidance Document

Task 5: Revised Draft Review Guidance Document
Due: Four weeks after Telephone Call in December 2007

Final Revised Draft Review Guidance Document
Due: One week after receipt of comments on Draft Review Guidance Document

5. MEETING AND TRAVEL

One, one-person, two-day trip to NRC Headquarters in Rockville, Maryland, for a project meeting.

One, one-person, two-day trip to ANL in Illinois for a project meeting.

6. PERIOD OF PERFORMANCE

The period of performance for this task order shall be from June 7, 2007 through March 31, 2008.

7. NRC FURNISHED MATERIALS

1. A CD containing the following documents shall be mailed to the contractor upon task order award:
 - Southwest Research Institute technical letter report, "Supplementary Leaching Tests of Insulation and Concrete For GSI-191 Chemical Effects Program"
 - WCAP-16530-NP Revision 0, "Evaluation of Post-Accident Chemical Effects in containment Sump Fluids to Support GSI-191," and chemical model spreadsheet
 - WCAP-16596-NP Revision 0, "Evaluation of Alternative Emergency Core Cooling System Buffering Agents"
 - A refinement report that describes tests intended to support removal of some conservatism in the WCAP-16530-NP chemical model.
 - NUREG/CR-6913
 - NUREG/CR-6914
 - NUREG/CR6915
 - Two ANL Technical Letter Reports dated February 15, 2007 related to GSI-191
2. The NRC staff will be providing a presentation related to vendor strainer testing

at

the first project meeting (Task 1) and the electronic file shall be provided to EMS at the meeting.

The following reference documents can also be located at <http://www.nrc.gov/reactors/operating/ops-experience/pwr-sump-performance.html>

3. NRC Safety Evaluation, "GSI-191 SE, Revision 0, "Pressurized Water Reactor Containment Sump Evaluation Methodology," dated December 6, 2004.
4. GL-2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," dated September 13, 2004

8. OTHER APPLICABLE INFORMATION

License Fee Recovery

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

Assumptions and Understandings

The level of effort for Task 1 is based on 8 hours for travel and meeting documentation review and 16 hours for the meeting.

Under Task 2, a small number of hours are required for review of WCAP-16530-NP, since Dr. Litman has reviewed this document previously for NRC under a contract with the Office of Nuclear Regulatory Research.

The level of effort for Task 3 is based on 8 hours for travel and meeting documentation review, 16 hours for the meetings, and 8 hours for follow-on phone-calls to the second project meeting.

It is anticipated that any revisions to the evaluation guidance under Task 5 would be minor.