

**ORDER FOR SUPPLIES OR SERVICES**

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

BPA NO.

1. DATE OF ORDER <b>JUL 25 2005</b>	2. CONTRACT NO. (if any) NRC-03-03-038	6. SHIP TO:	
3. ORDER NO. T016	MODIFICATION NO.	a. NAME OF CONSIGNEE U.S. Nuclear Regulatory Commission Ofc. of Nuclear Reactor Regulation	

5. ISSUING OFFICE (Address correspondence to) U.S. Nuclear Regulatory Commission Division of Contracts Contract Management Branch 2 Mail Stop T-7-I-2 Washington, DC 20555		b. STREET ADDRESS Attn: Lawrence Ruth MailStop: OWF 10A1	c. CITY Washington	d. STATE DC	e. ZIP CODE 20555
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7. TO:		I. SHIP VIA			
a. NAME OF CONTRACTOR INFORMATION SYSTEMS LABORATORIES		8. TYPE OF ORDER			

b. COMPANY NAME		<input type="checkbox"/> a. PURCHASE	<input checked="" type="checkbox"/> b. DELIVERY
c. STREET ADDRESS 11140 ROCKVILLE PIKE STE 500		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.	
d. CITY ROCKVILLE MD 208522310		Except for billing instructions on the reverse, this delivery/task 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.	

9. ACCOUNTING AND APPROPRIATION DATA 520-15-113-105 J-3209 252A 31X0200.520 FFS#: NRR03038016 OBLIGATE: \$70,000.00		10. REQUISITIONING OFFICE NRR Ofc. of Nuclear Reactor Regulation	
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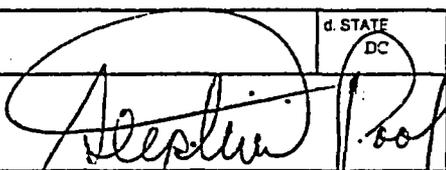
11. BUSINESS CLASSIFICATION (Check appropriate box(es))				12. F.O.B. POINT N/A	
<input type="checkbox"/> a. SMALL	<input checked="" type="checkbox"/> b. OTHER THAN SMALL	<input type="checkbox"/> c. DISADVANTAGED	<input type="checkbox"/> d. SERVICE-DISABLED VETERAN-OWNED		
<input type="checkbox"/> d. 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) SEE BELOW		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)
	<p>ISSUANCE OF TASK ORDER NO. 016 UNDER NRC-03-03-038</p> <p>TITLE: TECHNICAL SUPPORT FOR TRACG ESBWR AOO, STABILITY, AND ATWS LICENSING TOPICAL REPORT REVIEWS</p> <p>PERIOD OF PERFORMANCE: AWARD DATE THROUGH MAY 31, 2006</p> <p>ESTIMATED REIMBURSABLE COSTS: \$87,862.00 FEE: \$6,866.00 TOTAL COSTS AND FEE: \$94,728.00</p> <p>INCREMENTAL FUNDING IN THE AMOUNT OF \$70,000.00 IS PROVIDED.</p> <p>SEE ATTACHED PAGE 2 FOR DESCRIPTION OF TASK ORDER</p>					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		\$70,000.00	17(h) TOTAL (Cont. pages)
	21. MAIL INVOICE TO:							
	a. NAME U.S. Nuclear Regulatory Commission Division of Contracts							17(i) GRAND TOTAL
	b. STREET ADDRESS (or P.O. Box) MailStop: T-7-I-2							
c. CITY Washington		d. STATE DC	e. ZIP CODE 20555				N/A \$70,000.00	

22. UNITED STATES OF AMERICA BY (Signature)	 23. NAME (Typed) Stephen M. Pool Contracting Officer TITLE: CONTRACTING/ORDERING OFFICER
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AUTHORIZED FOR LOCAL REPRODUCTION  
PREVIOUS EDITION NOT USABLE  
**EXEMPT - ADM001**

**SISP REVIEW COMPLETE**

OPTIONAL FORM NO. 32 (Rev. 3/2005)  
PREPARED BY GSA FPMR (41 CFR) 101-11.6  
**ADM002**

In accordance with Section G.4, Task Order Procedures, of contract number NRC-03-03-038, this definitizes Task Order No. 016. The effort shall be performed in accordance with the enclosed Statement of Work.

Task Order No. 016 shall be in effect from the award date through May 31, 2006, with a cost ceiling of \$94,728.00. The amount of \$87,862.00 represents the estimated reimbursable costs, and the amount of \$6,866.00 represents the fixed fee.

Funds in the amount of \$70,000.00 are being obligated under this task order. The obligated amount shall, at no time, exceed the task order ceiling. When and if the amount(s) paid and payable to the Contractor hereunder shall equal the obligated amount, the Contractor shall not be obligated to continue performance of the work unless and until the Contracting Officer shall increase the amount obligated with respect to this task order. Any work undertaken by the Contractor in excess of the obligated amount specified above is done so at the Contractor's sole risk.

The following individual is considered to be essential to the successful performance of work hereunder: [REDACTED]. The Contractor agrees that such personnel shall not be removed from the effort under the task order without compliance with Contract Clause H.1, 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: Lawrence Ruth  
Project Officer  
(301) 415-1211

Contractual Matters: Mona Selden  
Sr. Contract Specialist  
(301) 415-7907

Acceptance of Task Order No. 016 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 below. You should retain the third copy for your records.

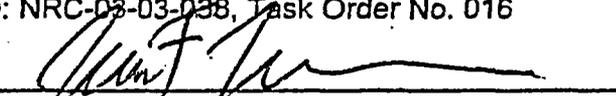
Enclosure: Statement of Work

ACCEPTED: NRC-03-03-038, Task Order No. 016

NAME

TITLE

DATE

  
V.P.  
7/26/05

**Statement of Work  
Task Order No. 16 Under JCN J-3209**

**TITLE:** Technical Support for TRACG ESBWR AOO, Stability, and ATWS Licensing Topical Report Reviews

**B&R NO.:** 520-15-113-105

**NRC ISSUING OFFICE:** Office of Nuclear Reactor Regulation

**PROJECT MANAGER:** L. Ruth, 301-415-1211

**TECHNICAL MONITOR:** V. Klein, 301-415-2888

**TAC NO.:** MC3288

**BACKGROUND**

General Electric (GE) has indicated that they will be submitting the Economic Simplified Boiling Water Reactor (ESBWR) for design certification in the summer of 2005. As preparation for this review, there has been an on-going pre-application review. A large portion of the pre-application review pertains to the approval of GE's TRACG code to perform ESBWR calculations. TRACG has been approved for ESBWR Loss-of-Coolant-Accident (LOCA) calculations. GE has submitted topical reports for licensing the TRACG Code for ESBWR anticipated operational occurrences (AOO) and stability analysis. GE plans to submit the TRACG Code for ESBWR anticipated transient without scram (ATWS) in spring of 2005.

**OBJECTIVE**

The objective of this task order is to obtain contractor assistance to perform a review of the TRACG code to determine with high confidence whether the TRACG code can conservatively evaluate important safety parameters related to AOO, stability and ATWS for ESBWR. The contractor shall review the licensing topical reports, identify requests for additional information (RAIs) and provide Technical Evaluation Reports for AOO, ATWS and stability topical reports.

**TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED**

The use of experienced personnel for this task order is essential to the success of the task. Key personnel cannot be changed without the prior approval of the NRC Contracting Officer.

Personnel with experience and knowledge of TRAC-BF1/TRAC-BD1 1-D and 3-D integration scheme and the implicit or explicit coupled fluid flow and conduction solver, kinetics and Boron transport. In addition, the expert shall have extensive knowledge of TRAC-BF1/TRAC-BD1 physics model.

It is the responsibility of the contractor to assign technical staff, employees, subcontractors, or specialists who have the required educational background, experience, or combination thereof to meet both the technical and regulatory objectives of the work specified in this statement of work. The NRC will rely on representations made by the contractor concerning the

qualifications of the personnel assigned to this work including assurance that all information contained in the technical cost proposals, including resumes, is accurate and truthful.

Personnel assigned to this task order shall be approved for handling and working with proprietary information of GE TRACG and ESBWR. Knowledge and information obtained during the process of this review shall only be used for the sole purpose of performing this review. Personnel shall not be involved in any code development work that would directly conflict with the review work he/she will be performing on TRACG.

#### WORK REQUIREMENTS AND SCHEDULE

The contractor shall perform a top-down review of the TRACG code by reviewing GE's topical reports and supporting documentation on TRACG applicability for ESBWR for (1) AOO, (2) Stability, and (3) ATWS. When performing the review for each of the three topical reports, the contractor shall focus on three major areas and their applicability to ESBWR. These are: (1) Thermal-Hydraulic Modeling, (2) Transient 3D Neutronics Modeling, and (3) Coupling between Thermal-Hydraulic and Neutronics Modeling. The contractor shall conclude with high confidence on whether the TRACG code can conservatively calculate the power oscillation amplitude and critical power ratio (CPR) for ESBWR for instability, AOO and ATWS events. In addition, the contractor shall provide technical assistance, if necessary, to facilitate ORNL's role in the TRACG for ESBWR Stability review.

#### Tasks:

#### Completion Schedule:

- |  |   |
|--|---|
| 1. Determine if there is any additional information necessary to complete the review on TRACG for ESBWR AOO, ATWS and Stability. Identify RAI's for the three topical reports. | RAIs for AOO and Stability topical reports are due on the date established by the NRC Technical Monitor; RAIs for ATWS topical report are due 45 days after receipt of topical report from GE, or on the date established by the NRC Technical Monitor. |
| 2. Review RAI responses.   | 30 days after GE submits responses, or on the date established by the NRC Technical Monitor.  |
| 3. Document the review. Write a Technical Evaluation Report for each of the three topical reports, AOO, ATWS and Stability.  | TERs for AOO and Stability topical reports are due on the date established by the NRC Technical Monitor; TER for ATWS topical report is due 120 days after receipt of topical report from GE, or on the date established by the NRC Technical Monitor.  |

The NRC Technical Monitor shall be notified if there are delays in the completion schedule.

#### PERIOD OF PERFORMANCE

The period of performance is from the award date through May 31, 2006.

## DELIVERABLES

There will be a monthly letter status report delivered as specified in the overall contract.

RAIs and TERs for three topical reports: TRACG application for ESBWR (1) AOO, (2) Stability, and (3) ATWS. RAIs will be documented in a letter and provided to the NRC Technical Monitor. TERs will document the work performed, conclusions reached regarding the acceptability of the topical reports, and the bases for the determination. These reports shall be provided to the NRC Technical Monitor with a copy sent to the NRC Project Officer.

## MEETINGS AND TRAVEL

Three, three day, one person trips are expected to NRC Headquarters in Rockville, MD or licensee sites.

## NRC-FURNISHED MATERIALS

The material to be used under this task order is Proprietary documentation and will be provided by the NRC in the form of CD-ROMs, and must be handled and protected consistent with the terms of the non-disclosure agreement between the NRC and ISL.

## License Fee Recovery

The work specified in this SOW is license fee recoverable.