

**ORDER FOR SUPPLIES OR SERVICES**

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

BPA NO.

1. DATE OF ORDER <b>JUN 15 2006</b>	2. CONTRACT NO. (If any) NRC-04-04-062	6. SHIP TO:	
3. ORDER NO. TASK ORDER 005	MODIFICATION NO.	4. REQUISITION/REFERENCE NO. RES-04-062 RES-C06-622	
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		a. NAME OF CONSIGNEE U.S. Nuclear Regulatory Commission Attn: Ronald Emrit	
		b. STREET ADDRESS Mail Stop: T10-K44 11555 Rockville Pike	
		c. CITY Rockville	d. STATE MD
		e. ZIP CODE 20852	

7. TO:	I. SHIP VIA
a. NAME OF CONTRACTOR INFORMATION SYSTEMS LABORATORIES, INC	8. TYPE OF ORDER

b. COMPANY NAME ATTN: DR. JAMES F. MEYER	<input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY
c. STREET ADDRESS 11140 ROCKVILLE PIKE, SUITE 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	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.
e. STATE MD	
f. ZIP CODE 20852	

9. ACCOUNTING AND APPROPRIATION DATA 66015-111-201 Y6912 252A 31x0200.660 Obligate: \$274,617.00 Contractors DUNS: 107928806	10. REQUISITIONING OFFICE RES
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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) N/A	16. DISCOUNT TERMS Net 30
a. INSPECTION	b. ACCEPTANCE			

17. SCHEDULE (See reverse for Rejections)

See CONTINUATION Page

ITEM NO. (A)	SUPPLIES OR SERVICES (B)	QUANTITY ORDERED (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)	QUANTITY ACCEPTED (G)
	Task Order No. 5 Entitled "Assistance for Developing and Integrating Security into Regulatory Structure for New Plant Licensing"  This confirms the verbal authorization provided to ISL on May 24, 2006 to begin work under the subject task order, effective May 24, 2006 with a temporary ceiling of \$50,000.00.  In accordance with Section G.3 entitled "Task Order Procedures" of the subject contract, this order definitizes Task Order No. 5. This effort shall be performed in accordance with the enclosed Statement of Work.  Task Order No. 5 shall be effective May 24, 2006 through December 31, 2006 with a total cost ceiling of \$274,617.00. The amount of \$254,327.00 represents the reimbursable costs the amount of \$20,290.00 represents the fixed fee.					

18. SHIPPING POINT	19. GROSS SHIPPING WEIGHT	20. INVOICE NO.	17(h) TOTAL (ConL pages)  17(i) GRAND TOTAL
21. MAIL INVOICE TO:			
a. NAME U.S. Nuclear Regulatory Commission Payment Team, Mail Stop <del>T-9-K4</del> T-7I2AMC			
b. STREET ADDRESS (or P.O. Box) Attn: (NRC-04-04-062-005)			
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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**ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION**

PAGE NO.  
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**IMPORTANT: Mark all packages and papers with contract and/or order numbers.**

DATE OF ORDER	CONTRACT NO. NRC-04-04-062	ORDER NO. TASK ORDER 005
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ITEM NO. (A)	SUPPLIES OR SERVICES (B)	QUANTITY ORDERED (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)	QUANTITY ACCEPTED (G)
	<p>The issuance of this task order does not amend any other terms or conditions of the subject contract.</p> <p>Please indicate your acceptance of this Task Order No. 5. Accepted</p> <p>Name <u><i>Janet F. [Signature]</i></u></p> <p>Title <u>V.P.</u></p> <p>Date <u>6/19/06</u></p>					

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))



**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  
NRC-04-04-062 TASK ORDER NO. 5  
JOB CODE Y6912**

**TITLE: Assistance for Developing and Integrating Security into Regulatory Structure for New Plant Licensing**

**I. BACKGROUND**

The Commission, in its Policy Statement on Regulation of Advanced Nuclear Power Plants, stated its intention to "improve the licensing environment for advanced nuclear power reactors to minimize complexity and uncertainty in the regulatory process."

The staff noted in its Advanced Reactor Research Plan to the Commission, that a risk-informed regulatory structure applied to license and regulate advanced (new) reactors, regardless of their technology, could enhance the effectiveness, efficiency, and predictability (i.e., stability) of new plant licensing.

The NRC's past LWR experience, especially the recent efforts to risk-inform and performance-base the regulations, has shown the potential value of a top-down approach to developing a regulatory structure. Such an approach could facilitate the implementation of performance-based regulation, as well as ensure a greater degree of coherence among the resulting regulations than found among current regulations.

The objective of this program is to develop and implement a risk-informed performance-based regulatory structure that can be applied to new reactor technologies. In developing the regulatory structure, the first part is development of the technical basis, and the second part is development and implementation of the associated regulations. In performing the technical basis, a framework which is risk-informed and performance-based, has been developed.

The objective of the framework is to provide an approach that will (1) enhance the regulatory structure effectiveness and efficiency, and (2) reduce unnecessary regulatory burden. The framework will provide the necessary guidance and criteria for developing a risk-informed performance-based regulatory structure that can be applied to any reactor technology. Therefore, insights gained from this regulatory structure can be applied to enhance the effectiveness and efficiency of the current regulatory structure and identify areas for potential reduction in unnecessary regulatory burden. To meet this objective, an integrated approach has been used. It is essential that this effort is coherently integrated with the other applicable parts of the current regulatory structure. A major interface is security.

Further, the Commission has requested the staff to integrate security and safety throughout the effort as noted in Staff Requirements Memorandum (SRM) SECY-05-0120, "Security Design Expectations for New Reactor Licensing Activities," SRM-COMSECY 05-0058, "Schedules and Resources for Security Rulemaking," and SECY 06-0019, "Semiannual Update of the Status of New Reactor Licensing Activities and Future Planning for New Reactors."

The NRC's strategic plan identifies goals to ensure protection of public health and safety and the environment, and to ensure the secure use and management of radioactive materials. One of

the strategies employed to meet these goals is the use of relevant intelligence information and security assessments to determine realistic and practical security requirements and mitigation measures. In implementing the strategies, the NRC staff will continue to assure the validity of the design basis threat (DBT), complete the assessments of security and mitigation strategies at licensed facilities, and revise requirements for additional protection where needed.

## **II. OBJECTIVE**

The objective of this task is to develop a regulatory structure where safety and security are integrated throughout which requires development of security expectations and guidance.

This work will support the agency's security goal of establishing expectations that encourage the use of innovative security approaches at the reactor design and combined operating license. By setting expectations for future applicants as early as possible in the licensing process, the proposed actions will provide timely feedback to reactor designers and the staff on design-related security issues. Such early feedback is consistent with the intent of the Commission Policy Statement on the Regulation of Advanced Nuclear Power Plants, and is intended to improve the effectiveness, efficiency, and predictability of the review process. These actions will also ensure that the industry considers security appropriately when moving from previously certified designs to the first of a kind engineering (FOAKE) design stage, when submitting design certification (DC) and combined operating licenses (COL) applications, and when constructing new facilities. Early consideration of design-related security issues is expected to be cost-beneficial because it would reduce reliance on operational security programs to ensure the security of new reactors.

## **III. SCOPE OF WORK**

### **SUBTASK 1: Security Assessments**

#### **Subtask 1-1: Plan**

The contractor will support the staff in developing guidance on security assessments such that new plant designers and applicants will be required to assess and incorporate security aspects in the DC and COL stage, instead of postponing to the construction stage. Early consideration is expected to result in a more effective and efficient regulatory process. This guidance is expected to be developed in three stages (as described in the following three subtasks):

1. Establish the high level security expectations
2. Identify and define the necessary performance standards for meeting the expectations
3. Develop the guidance to be used to accomplish the defined performance standards.

To ensure that the overall work in developing the security guidance proceeds in an efficient manner, in this first task, the contractor will develop their approach to be followed in performing the work described in the next three tasks (Subtasks 1-2 thru 1-4). The plan developed by the contractor will also describe the objectives, scope, approach, key milestones that need to be accomplished for each subtask, products to be produced, and due dates for each milestone. The due date for each milestone shall be consistent with the overall schedule required to complete the development of the guidance (see Section V).

In developing the plan and performing Subtasks 1-2 thru 1-4, the contractor shall use NUREG-1345, "Nuclear Power Plant Design Concepts for Sabotage Protection" as one of the references. NUREG-1345 shall be furnished as governmental furnished information.

The contractor shall schedule a "kick-off" meeting with the NRC staff technical manager within 10 days of contract placement. The contractor will present a proposed "outline" or "strawman" plan at this meeting. A draft plan is to be submitted to the NRC technical manager within 10 business days of the kickoff meeting and a final plan within 5 business days of receipt of comments on the draft plan from the NRC technical manager.

The plan must be approved in writing by the NRC staff technical manager before any work can proceed on the other subtasks (1-2 thru 1-4).

### **Subtask 1-2: Security Expectations**

The contractor shall support the staff in defining the Commission's security expectations. This definition will establish, at a high level, what expectations need to be met in order to ensure the physical protection system shall be designed to protect against the DBT of radiological sabotage as stated in 10 CFR 73.1(a). It is envisioned that these expectations, based on Commission approval, will ultimately be codified in a revision to the Commission Policy Statement on the Regulation of Advanced Nuclear Power Plants (59 FR 45461; July 12, 1994) which will explicitly encourage design and construction of new reactors that result in enhanced security.

Specifically, the contractor will support the staff in:

- o Defining, at a high level, the security expectations that need to be met for new reactors. These expectations will provide the goal for the level of security needed for the physical protection strategy and defense-in-depth principle.
- o Identify issues (policy or technical) where public input is particularly needed.
- o Reviewing public input.
- o Developing final recommendation for Commission approval.

### **Subtask 1-3: Security Standards**

The contractor shall support the staff in developing security performance standards for integrating security into the DC and COL aspects of future reactors. These standards define the criteria that establish how the security expectations (developed above) are met. Further, these performance standards will establish the necessary attributes and characteristics for acceptable security assessments.

Specifically, the contractor will support the staff in:

- o Establishing security performance standards. These standards will address scope of the security assessment, the elements of the assessment, and the attributes and characteristics of each element.
- o Identify issues (policy or technical) where public input is particularly needed.
- o Reviewing public input.
- o Developing final recommendation for Commission approval.

#### **Subtask 1-4: Security Guidance**

The contractor shall support the staff in developing guidance for security assessments. The guidance document will implement the expectations and standards defined in the above tasks, and meet the expectations in the revised Policy Statement. It would also provide criteria for the NRC to use in evaluating decisions for DC and COL applications that are in the regulatory approval process prior to completion of the rulemaking. Applicants and prospective applicants would be requested to identify and describe design features or built-in capabilities that would substantially improve a reactor design's ability to cope with or mitigate potential consequences of loss of large portions of the plant due to explosions or fires. This is consistent with the Commission's Policy Statement on Severe Accidents regarding "The issues of both insider and outsider sabotage threats will be carefully analyzed and, to the extent practicable, will be emphasized as special consideration in the design and in the operating procedures developed for new plants."

Specifically, the contractor will support the staff in:

- o Developing draft guidance
- o Reviewing public input
- o Finalizing the guidance for issuance

#### **Subtask 1-5: Overall Technical Support**

As the associated security rulemakings are further developed, the contractor will attend the technical meetings and participate in technical discussions. As a result of the meetings and discussions, the contractor may be assigned action items that are related to and in support of the above tasks. The contractor will only work on items authorized in writing by the technical manager.

#### **SUBTASK 2: Regulatory Structure**

The framework, using a hierarchal approach, provides the guidance and criteria to be used to develop a risk-informed, performance-based regulatory structure that can be applied to any reactor technology. In developing the framework, safety, security and preparedness are integrated throughout. The TNF, at the highest level, defines the safety, security and preparedness expectations that are to be met in order to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment. A defense-in-depth approach is established to ensure an adequate treatment of uncertainties. Safety fundamentals are defined for which requirements for design, construction and operation are established. Risk criteria are defined so that there is a focus on the risk significant concerns. Since risk and security are integrated throughout, criteria for acceptable risk assessments and security assessments are a fundamental aspect of the framework.

#### **Subtask 2-1: Framework**

The contractor has assisted the staff in developing a framework that provides high level decision criteria to be applied on reactor technology-specific basis. As part of this assistance, the contractor has tested the risk criteria (licensing basis event (LBE) identification and selection and safety classification of structures, systems and components (SSCs)) of the



framework against a current operating LWR. The insights from this test have been factored into the framework and will be used in applying the framework on a technology-specific basis for a new reactor.

Subtask 2-1a: The contractor will assist staff in completion of the draft framework in the following areas:

- support stakeholders meetings,
- assist in the resolution of stakeholder comments,
- assist in issuance of Revision 0 of the framework working

Subtask 2-1b: The contractor will also assist the staff is applying the lessons learned from the test case to develop technology-specific guidance for the identification and selection of LBEs and SSC safety classification for a new technology-specific reactor. The reactor technology is to be specified by the NRC Technical Manager. The contractor is not start work on Subtask 2-1b until authorized in writing by the NRC Technical Manager.

### **Subtask 2-2: Integration of Security**

Security (i.e., physical protection) is one of the protective strategies identified in the framework. Protective strategies are the safety, security and preparedness fundamentals identified for nuclear power plant design, construction, and operation and provide the foundation for developing the requirements for new reactor technologies. The physical protection strategy is integrated with the safety strategy to ensure a coherent approach to the safety and security of future reactors. Performance standards are established for security which are an integral part of the framework and the requirements to be developed for the design, construction, and operation of the next generation of reactors. The performance standards developed are based on the level of security expected for future reactors. The work performed under Subtasks 1-2 thru 1.4 is to be used in identifying the performance standards in the framework.

Specifically, the contractor will assist the staff in incorporating the work developed above (Subtask 1) on defining security expectations, security performance standards and the associated security guidance into the framework.

## **IV. REPORTING REQUIREMENTS**

Refer to Section F.5 "PLACE OF DELIVERYCREPORTS (JUNE 1988)" under the Contract and replace paragraph (a) with the following (applies only for this task):

"(a) Ronald Emrit  
Division of Risk Analysis and Special Projects  
Office of Nuclear Regulatory Research  
Mail Stop: T-10-E50  
Washington, DC 20555

Mary Drouin  
Division of Risk Analysis and Special Projects  
Office of Nuclear Regulatory Research  
Mail Stop: T-10-E50

Washington, DC 20555

Douglas Huyck  
Division of Security Policy  
Office of Nuclear Security and Incident Response  
Mail Stop: T-4-D8  
Washington, DC 20555"

NOTE: The NRC has implemented a new document management system, Agency wide Documents Access and Management System (ADAMS). For the present, contractors= mail will not be placed in ADAMS. All documents mailed to the NRC (e.g., letters, technical reports, monthly letter reports, and other mail) should have "Addressee Only" on the envelope to keep it from being entered into ADAMS. Send mail for the addressee and cc's as separate mailings.

#### **V. DELIVERABLES AND DELIVERY SCHEDULE**

At the completion of each subtask, when requested by the NRC Technical Monitor, the contractor will submit to the NRC a letter report of the contractor's input.

The work shall meet the following schedule:

- |   |               |
|---|---------------|
| o security performance standards into framework | June 2006     |
| o framework NUREG                               | June 2006     |
| o security assessment guidance                  | December 2006 |
| o draft technology-specific guidance            | December 2006 |

#### **VI. MEETINGS AND TRAVEL REQUIREMENTS**

The contractor will travel to NRC headquarters for the meetings, as needed. Technical meetings will include the following:

- (1) team meetings (average of 2-days per month)
- (2) public meetings (three 1-day meetings)
- (3) ACRS briefings (two half-day Full Committee and two 1-day Subcommittee meetings)

#### **VII. PERIOD OF PERFORMANCE**

The period of performance for this task order is from May 24, 2006 through December 31, 2007.

#### **VIII. TECHNICAL DIRECTION**

Technical direction will be provided by the following NRC staff:

Mary Drouin 301-415-6675  
Doug G. Huyck 301-415-5992

## IX. PUBLICATIONS

RES encourages the publication of the scientific results from RES-sponsored programs in *refereed scientific and engineering journals as appropriate*. If the laboratory proposes to publish in the open literature or present the information at meeting in addition to submitting the required technical reports, approval of the proposed article or presentation should be obtained from the NRC Technical Manager. The RES Technical Manager shall either approve the material as submitted, approve it subject to NRC suggested revisions, or disapprove it. In any event, the RES Technical Manager may disapprove or delay presentation or publication of papers on information that is subject to Commission approval that has not been ruled upon or which has been disapproved. Additional information regarding the publication of NRC sponsored research is contained in NRC Management Directives 3.8, "Unclassified Contractor and Grantee Publications in the NUREG Series," and 3.9, "NRC Staff and Contractor Speeches, Papers, and Journal Articles on Regulatory and Technical Subjects."

If the presentation or paper is in addition to the required technical reports and the RES Technical Manager determines that it will benefit the RES project, the Technical Manager may authorize payment of travel and publishing costs, if any, from the project funds. If the Technical Manager determines that the article or presentation would not benefit the RES project, the costs associated with the preparation, presentation, or publication will be borne by the contractor. For any publication or presentations falling into this category, the NRC reserves the right to require that such presentation or publication will not identify the NRC's sponsorship of the work.

### NEW STANDARDS FOR CONTRACTORS WHO PREPARE NUREG-SERIES MANUSCRIPTS

The NRC will begin to capture its official records electronically on January 1, 2000. The NRC will capture each final NUREG-series publication in its native application. Therefore, commencing January 1, 2000, please submit your final manuscript that has been approved by your NRC Project Officer in both electronic and camera-ready copy.

All format guidance, as specified in NUREG-0650, Revision 2, will remain the same with one exception. You will no longer be required to include the NUREG-series designator on the bottom of each page of the manuscript. The NRC will assign this designator when we send the camera-ready copy to the printer and will place the designator on the cover, title page, and spine. The designator for each report will no longer be assigned when the decision to prepare a publication is made. The NRC's Publishing Services Branch will inform the NRC Project Officer for the publication of the assigned designator when the final manuscript is sent to the printer.

For the electronic manuscript, prepare the text in WordPerfect 10, and use any of the following file types for charts, spreadsheets, and the like.

<b>File Types to be Used for NUREG-Series Publications</b>	
<b>File Type</b>	<b>File Extension</b>
WordPerfect	.wpd
Microsoft PowerPoint	.ppt

Corel QuattroPro	.wb3
Corel Presentations	.shw
Lotus 1-2-3	.wk4
Portable Document Format	.pdf

This list is subject to change if new software packages come into common use at NRC or by our licensees or other stakeholders that participate in the electronic submission process. If a portion of your manuscript is from another source and you cannot obtain an acceptable electronic file type for this portion (e.g., an appendix from an old publication), the NRC can, if necessary, create a tagged image file format (file extension .tif) for that portion of your report. Note that you should continue to submit original photographs, which will be scanned, since digitized photographs do not print well.

If you chose to publish a compact disk (CD) of your publication, place on the CD copies of the manuscript in both (1) a portable document format (PDF); (2) a WordPerfect 10 file format, and (3) an Adobe Acrobat Reader, or, alternatively, print instructions for obtaining a free copy of Adobe Acrobat Reader on the back cover insert of the jewel box.

#### **X. QUALITY ASSURANCE**

Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-554) directs the Office of Management and Budget (OMB) to issue government-wide guidelines (Federal Register, Volume 67, No. 36, pp. 8452 - 8460) that "provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by federal agencies." NRC Information Quality Guidelines are provided in the Federal Register, Vol. 67, No. 190, pp. 61695 - 61699.

#### **XI. NRC-FURNISHED MATERIAL**

Materials to be furnished by the NRC during the performance of the work required by this Task Order include: NUREG-1345, "Nuclear Power Plant Design Concepts for Sabotage Protection."

#### **XII. TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED**

Assigned individuals must satisfy the requirements of 10 CFR 73.21, 73.56, and 73.57 for authorized access to unclassified-sensitive Safeguards Information (SGI), prior to assignment of any duties or responsibilities associated with this statement of work for Subtask 1. Assigned individuals must be knowledgeable of security concepts and terms and be familiar with writing and editing security related regulatory guidelines for the nuclear power industry. Assigned individuals should be familiar with regulatory processes and requirements and have the ability to become familiar with the requirements of the proposed rule.

The contractor shall provide personnel that have detailed knowledge and understanding of the NRC risk-informed regulatory structure, as applied to the licensing and regulation of advanced (new) reactors. It is the responsibility of the contractor to assign its technical staff, employees, subcontractors, or specialists who have the required educational background, experience, or combination thereof to meet both the technical 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 Task Order, including assurance that all information contained in the technical and cost proposal, including resumes, is accurate and truthful. In addition, the contractor and personnel assigned to this work must be approved for handling and working with proprietary information.