

ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES
1 12

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

BPA NO.

1. DATE OF ORDER 4/13/12	2. CONTRACT NO. (if any) NRC-HQ-12-C-04-0058	6. SHIP TO:	
3. ORDER NO. NRC-HQ-12-T-04-0001	MODIFICATION NO.	4. REQUISITION/REFERENCE NO. RES-12-157	
5. ISSUING OFFICE (Address correspondence to) U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Adelis M Rodriguez, 301-492-3623 Mail Stop: TWB-01-B10M Washington, DC 20555		a. NAME OF CONSIGNEE U.S. Nuclear Regulatory Commission	
		b. STREET ADDRESS Attn: Amy D'Agostino Mail Stop: CSB C4 C7M	
		c. CITY Washington	d. STATE DC
		e. ZIP CODE 20555	
7. TO:		f. SHIP VIA	
a. NAME OF CONTRACTOR UNIVERSITY OF CENTRAL FLORIDA U C F		B. TYPE OF ORDER	
b. COMPANY NAME		<input type="checkbox"/> a. PURCHASE	<input checked="" type="checkbox"/> b. DELIVERY
c. STREET ADDRESS 4000 CNTRL FLORIDA BLVD		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 ORLANDO		e. STATE FL	f. ZIP CODE 328168005
9. ACCOUNTING AND APPROPRIATION DATA Obligate: \$30,000 B&R: 2012-60-11-6-182 Job: V6215 BOC:252A Approp.: C0200 Faimis: 121850 NAICS: 541712 PSC:AJ41		10. REQUISITIONING OFFICE RES	

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"/> d. WOMEN-OWNED	<input type="checkbox"/> e. HUBZone	
<input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED	<input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOMEN-OWNED SMALL BUSINESS PROGRAM		<input type="checkbox"/> h. ECONOMICALLY DISADVANTAGED WOMEN-OWNED SMALL BUSINESS (EDWOSB)		
13. PLACE OF		14. GOVERNMENT B/L NO.	15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)	16. DISCOUNT TERMS	
a. INSPECTION destination	b. ACCEPTANCE destination				

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>The contractor shall provide the services requested in the attached statement of work in accordance with the terms and conditions of this task order and of contract NRC-HQ-12-C-04-0058.</p> <p>Contract Type: Cost reimbursement No Fee Total Task Ceiling: \$470,895 Obligated Amount: \$30,000 Period of Performance: 20 months from effective date Contractor's Acceptance in Section A.2 of this order</p>					

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 Department of Interior / NBC NRCPayments@nbc.gov		PHONE: FAX:		
	b. STREET ADDRESS (or P.O. Box) Attn: Fiscal Services Branch - D2770 7301 W. Mansfield Avenue	c. CITY Denver	d. STATE CO	e. ZIP CODE 80235-2230	
22. UNITED STATES OF AMERICA BY (Signature) <i>Adelis M Rodriguez</i>				23. NAME (Typed) Adelis M Rodriguez Contracting Officer TITLE: CONTRACTING/ORDERING OFFICER	

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TASK ORDER TERMS AND CONDITIONS

A.1 GENERAL TASK ORDER TERMS

In accordance with Section G.4 2052.216-72 Task Order Procedures, of Contract No. NRC-HQ-11-C-04-0058 this definitizes Task Order No. NRC-HQ-11-T-04-0001. The effort shall be performed in accordance with Attachment #1: Statement of Work.

The Contractor agrees that the personnel proposed for this Task Order under University of Central Florida proposal dated 02/8/2012 shall not be removed from the effort under the Task Order without compliance with Contract Clause H.2 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 Matter: Amy D'Agostino
Human Factor's Analyst / Contracting Officer Representative
Email: amy.dagostino@nrc.gov
Phone: 301-415-7915


Contractual Matters: Adells M. Rodriguez
Sr. Contract Specialist
Email: Adells.Rodriguez@nrc.gov
Phone: 301-492-3623

A.2 CONTRACTOR ACCEPTANCE OF TASK ORDER NRC-HQ-11-T-04-0001

Acceptance of Task Order No. NRC-HQ-11-T-04-0001 should be made by having an official, authorized to bind your organization, execute two copies of this document in the space provided and return one copy to the Contracting Officer. You should retain the other copy for your records.


Accepted Task Order No. NRC-HQ-11-T-04-0001:

Josephine Combs
Contract Manager
Printed Name & Title


Signature

4/13/2012
Date

**A.3 CONSIDERATION AND OBLIGATION--COST REIMBURSEMENT--NO FEE (AUG 2011)
ALTERNATE I (AUG 2011)**

- (a) The total estimated cost to the Government for full performance under this contract is \$470,895.00.
- (b) The amount presently obligated by the Government with respect to this contract is \$30,000.00. This equates to approximately 848 hrs, therefore obligation satisfies the minimum warrantee for the base indefinite delivery indefinite quantity contract of 100 hrs.
- (c) It is estimated that the amount currently obligated will cover performance through 

(d) This is an incrementally-funded contract and FAR 52.232-22 - "Limitation of Funds" applies.

A.4 PACKAGING AND MARKING (AUG 2011)

(a) The Contractor shall package material for shipment to the NRC in such a manner that will ensure acceptance by common carrier and safe delivery at destination. Containers and closures shall comply with the Surface Transportation Board, Uniform Freight Classification Rules, or regulations of other carriers as applicable to the mode of transportation.

(b) On the front of the package, the Contractor shall clearly identify the contract number under which the product is being provided.

(c) Additional packaging and/or marking requirements are as follows:

A.4 BRANDING (AUG 2011)

The Contractor is required to use the official NRC branding logo or seal on any publications, presentations, products, or materials funded under this contract, to the extent practical, in order to provide NRC recognition for its involvement in and contribution to the project. If the work performed is funded entirely with NRC funds, then the contractor must acknowledge that information in its documentation/presentation.

Access the following websites for branding information and specifications:
<http://www.internal.nrc.gov/ADM/branding/> and Management Directive and Handbook 3.13 -

(internal NRC website): <http://www.internal.nrc.gov/policy/directives/toc/md3.13.htm>

(external public website): <http://pbadupws.nrc.gov/docs/ML1122/ML112280190.pdf>

A.5 TASK/DELIVERY ORDER PERIOD OF PERFORMANCE (AUG 2011)

This order shall commence on effective date and expire 20 months after.

A.6 ELECTRONIC PAYMENT (AUG 2011)

The Debt Collection Improvement Act of 1996 requires that all payments except IRS tax refunds be made by Electronic Funds Transfer. Payment shall be made in accordance with FAR 52.232-33, entitled "Payment by Electronic Funds- Central Contractor Registration".

To receive payment, the contractor shall prepare invoices in accordance with NRC's Billing Instructions. Claims shall be submitted on the payee's letterhead, invoice, or on the Government's Standard Form 1034, "Public Voucher for Purchases and Services Other than Personal," and Standard Form 1035, "Public Voucher for Purchases Other than Personal - Continuation Sheet." The preferred method of submitting invoices is electronically to the Department of the Interior at NRCPayments_NBCDenver@nbc.gov. If the contractor submits a hard copy of the invoice, it shall be submitted to the following address:

Department of the Interior
National Business Center
Attn: Fiscal Services Branch - D2770
7301 West Mansfield Avenue
Denver, CO 80235-2230

A.7 COMPLIANCE WITH U.S. IMMIGRATION LAWS AND REGULATIONS (AUG 2011)

NRC contractors are responsible to ensure that their alien personnel are not in violation of United States immigration laws and regulations, including employment authorization documents and visa requirements. Each alien employee of the Contractor must be lawfully admitted for permanent residence as evidenced by Permanent Resident Form I-551 (Green Card), or must present other evidence from the U.S. Department of Homeland Security/U.S. Citizenship and Immigration Services that employment will not affect his/her immigration status. The U.S. Citizenship and Immigration Services provides information to contractors to help them understand the employment eligibility verification process for non-US citizens. This information can be found on their website, <http://www.uscis.gov/portal/site/uscis>.

The NRC reserves the right to deny or withdraw Contractor use or access to NRC facilities or its equipment/services, and/or take any number of contract administrative actions (e.g., disallow costs, terminate for cause) should the Contractor violate the Contractor's responsibility under this clause.

A.8 SECURITY REQUIREMENTS RELATING TO THE PRODUCTION OF REPORT(S) OR THE PUBLICATION OF RESULTS UNDER CONTRACTS, AGREEMENTS, AND GRANTS (AUG 2011)

Review and Approval of Reports

(a) Reporting Requirements. The contractor/grantee shall comply with the terms and conditions of the contract/grant regarding the contents of the draft and final report, summaries, data, and related documents, to include correcting, deleting, editing, revising, modifying, formatting, and supplementing any of the information contained therein, at no additional cost to the NRC. Performance under the contract/grant will not be deemed accepted or completed until it complies with the NRC's directions. The reports, summaries, data, and related documents will be considered draft until approved by the NRC. The contractor/ grantee agrees that the direction, determinations, and decisions on approval or disapproval of reports, summaries, data, and related documents created under this contract/grant remain solely within the discretion of the NRC.

(b) Publication of Results. Prior to any dissemination, display, publication, or release of articles, reports, summaries, data, or related documents developed under the contract/grant, the contractor/grantee shall submit them to the NRC for review and approval. The contractor/ grantee shall not release, disseminate, display or publish articles, reports, summaries, data, and related documents, or the contents therein, that have not been reviewed and approved by the NRC for release, display, dissemination or publication. The contractor/grantee agrees to conspicuously place any disclaimers, markings or notices, directed by the NRC, on any articles, reports, summaries, data, and related documents that the contractor/grantee intends to release, display, disseminate or publish to other persons, the public, or any other entities. The contractor/grantee agrees, and grants, a royalty-free, nonexclusive, irrevocable worldwide license to the government, to use, reproduce, modify, distribute, prepare derivative works, release, display or disclose the articles, reports, summaries, data, and related documents developed under the contract/grant, for any governmental purpose and to have or authorize others to do so.

(c) Identification/Marking of Sensitive Unclassified Non-Safeguards Information (SUNSI) and Safeguards Information (SGI). The decision, determination, or direction by the NRC that information possessed, formulated or

produced by the contractor/grantee constitutes SUNSI or SGI is solely within the authority and discretion of the NRC. In performing the contract/grant, the contractor/grantee shall clearly mark SUNSI and SGI, to include for example, OIU-Allegation Information or OIU-Security Related Information on any reports, documents, designs, data, materials, and written information, as directed by the NRC. In addition to marking the information as directed by the NRC, the contractor shall use the applicable NRC cover sheet (e.g., NRC Form 461 Safeguards Information) in maintaining these records and documents. The contractor/grantee shall ensure that SUNSI and SGI is handled, maintained and protected from unauthorized disclosure, consistent with NRC policies and directions. The contractor/grantee shall comply with the requirements to mark, maintain, and protect all information, including documents, summaries, reports, data, designs, and materials in accordance with the provisions of Section 147 of the Atomic Energy Act of 1954 as amended, its implementing regulations (10 CFR 73.21), Sensitive Unclassified Non-Safeguards and Safeguards Information policies, and NRC Management Directives and Handbooks 12.5, 12.6 and 12.7.

(d) Remedies. In addition to any civil, criminal, and contractual remedies available under the applicable laws and regulations, failure to comply with the above provisions, and/or NRC directions, may result in suspension, withholding, or offsetting of any payments invoiced or claimed by the contractor/grantee.

(e) Flowdown. If the contractor/grantee intends to enter into any subcontracts or other agreements to perform this contract/grant, the contractor/grantee shall include all of the above provisions in any subcontracts or agreements.

A.9 WHISTLEBLOWER PROTECTION FOR NRC CONTRACTOR AND SUBCONTRACTOR EMPLOYEES (AUG 2011)

(a) The U.S. Nuclear Regulatory Commission (NRC) contractor and its subcontractor are subject to the Whistleblower Employee Protection public law provisions as codified at 42 U.S.C. 5851. NRC contractor(s) and subcontractor(s) shall comply with the requirements of this Whistleblower Employee Protection law, and the implementing regulations of the NRC and the Department of Labor (DOL). See, for example, DOL Procedures on Handling Complaints at 29 C.F.R. Part 24 concerning the employer obligations, prohibited acts, DOL procedures and the requirement for prominent posting of notice of Employee Rights at Appendix A to Part 24 entitled: "Your Rights Under the Energy Reorganization Act".

(b) Under this Whistleblower Employee Protection law, as implemented by regulations, NRC contractor and subcontractor employees are protected from discharge, reprisal, threats, intimidation, coercion, blacklisting or other employment discrimination practices with respect to compensation, terms, conditions or privileges of their employment because the contractor or subcontractor employee(s) has provided notice to the employer, refused to engage in unlawful practices, assisted in proceedings or testified on activities concerning alleged violations of the Atomic Energy Act of 1954 (as amended) and the Energy Reorganization Act of 1974 (as amended).

(c) The contractor shall insert this or the substance of this clause in any subcontracts involving work performed under this contract.

A.10 GREEN PURCHASING (JUN 2011)

(a) In furtherance of the sustainable acquisition goals of Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance" products and services provided under this contract/order shall be energy- efficient (Energy Star or Federal Energy Management Program (FEMP) designated), water-efficient, biobased, environmentally preferable (e.g., Electronic Product Environmental Assessment Tool (EPEAT) certified), non-ozone depleting, contain recycled content, or are non-toxic or less toxic alternatives, where such products and services meet agency performance requirements. <http://www.fedcenter.gov/programs/eo13514/>

(b) The contractor shall flow down this clause into all subcontracts and other agreements that relate to performance of this contract/order.

**A.11 USE OF AUTOMATED CLEARING HOUSE (ACH) ELECTRONIC PAYMENT/REMITTANCE
ADDRESS (AUG 2011)**

The Debt Collection Improvement Act of 1996 requires that all Federal payments except IRS tax refunds be made by Electronic Funds Transfer. It is the policy of the Nuclear Regulatory Commission to pay government vendors by the Automated Clearing House (ACH) electronic funds transfer payment system. Item 15C of the Standard Form 33 may be disregarded.

Attachment No. 001

STATEMENT OF WORK
Task Order No. 01

TITLE: Systematic Human Performance Data Collection

I. BACKGROUND

As described in the base contract, the nuclear industry is experiencing a resurgence and with this resurgence are proposals for Nuclear Power Plants (NPPs) with control rooms that include new designs, new technologies and new concepts of operations. The NRC staff is responsible for reviewing and determining the acceptability of new designs to ensure they support safe plant operations. The human operator is a vital part of plant safety, thus, the NRC staff must understand the potential impact of new designs on human performance in order to make sound regulatory decisions.

One way the NRC will assess the impact of new designs is by conducting human performance research (using the simulator described in the base contract). Currently, there is a need for empirical human performance data from the nuclear domain. Much of the basis for current NRC HFE guidance comes from data from other domains (e.g. aviation, defense), qualitative data from operational experience in NPPs, and a limited amount from empirical studies in a nuclear environment. As a first step in this data collection effort, the NRC intends to systematically collect human performance data for critical NPP tasks to establish a human performance baseline.

A. Tasks in NPP control rooms

In order to better understand the objective of this task order to "systematically collect human performance data for critical NPP tasks," one must have a basic understanding of the tasks undertaken in an NPP control room.

NPP's two primary goals are to produce power safely and efficiently. Both the machines and humans in NPPs serve these goals. In order to accomplish these goals, according to the task analysis of Nuclear Power Plant Control Room Crews completed for the NRC (NUREG/CR 3371), operators have 3 primary functions: 1) Supervising and controlling plant operations, 2) Maintaining plant systems and equipment and 3) Coordinating plant support activities. For each primary function, there are a variety of activities or *sub-functions* that address the primary functions (See Figure 1). The "supervising and controlling plant operations" function entails activities such as generating power, restoring the plant to a safe condition and mitigating consequences if an accident occurs. "Maintaining plant system and equipment" is accomplished through testing the equipment, performing necessary maintenance and improving upon equipment. "Coordinating plant activities" include those activities that require the operator to act as a component of plant support. Activities related to fire protection, plant security and administrative duties fall under this function.

Going one level deeper, there are many individual *tasks* that an operator must perform to address sub-functions. A task is a set of human behaviors necessary to accomplish a system goal (i.e. sub-function). For example, a task might include all those behaviors necessary to start a pump (e.g. walk to the control for pump, turn handle to start pump, verify pump start). The amount of tasks that operators perform as part of their job is well into the thousands.

Obviously, a sub-function such as "equipment maintenance" may require a series of tasks. For example, it may require stopping the pump (task 1), instructing plant personnel to make some repairs (task 2) and then restarting the pump (task 3). To address sub-functions, a series of specific tasks must be performed in a particular order. An *operating sequence* is the blueprint that designates which tasks are to be performed and in what order. Tasks (e.g. start pump A) can be performed in support of various sub-functions (e.g. test equipment, restore plant to safe condition), however, operating sequences are collections of tasks that support a specific sub-function (e.g. *operating sequence* to increase power serving *sub-function* "generate power").

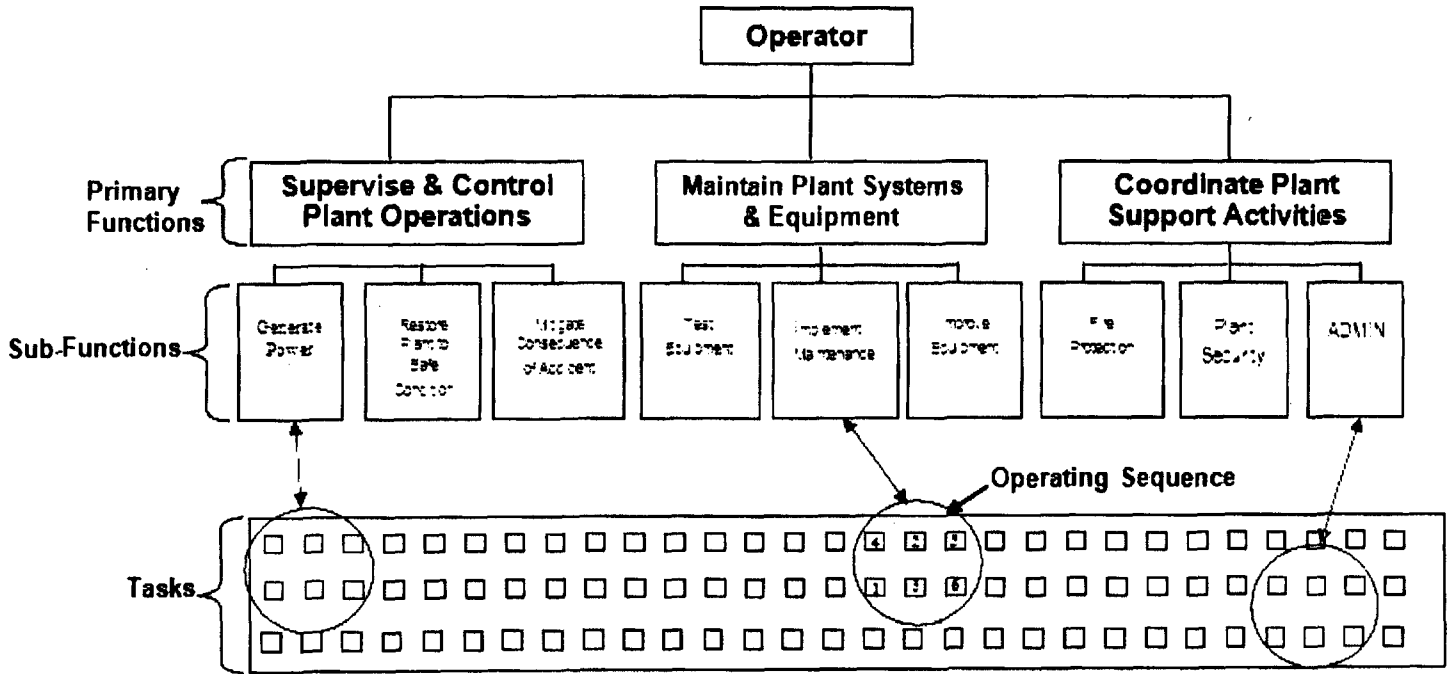


Figure 1. Hierarchical representation of operator's role (NUREG/CR 3371)

It is expected that examining human performance on critical tasks couched within operational scenarios will be the primary focus of this task order. The critical tasks along with the operational scenarios to be tested will be identified by the NRC.

II. OBJECTIVE

The NRC must assess the ability of new designs and technologies to support safe operations in NPP control rooms. The first step in that process is to collect baseline human performance data to serve as a control group. The primary objective of this task order is to systematically collect human performance data for critical tasks in NPP control rooms. The NRC and its contractor will work as a team to design human-in-the-loop experiments. The contractor site shall recruit novice participants (e.g. students) and use the NRC-provided simulator along with its own existing experimental infrastructure (e.g. personnel, equipment, facilities) to implement the experiments. The data collected can serve as a reference point for comparison (i.e., a control group) for future testing of new designs and technologies in order to determine their ability to support safe plant operations. The data will also allow comparison of nuclear and non-nuclear data furthering our discernment of those domains that do or do not closely correspond to the nuclear domain. This knowledge can be used to strategically examine findings from similar domains to understand the impact of new designs and technologies on human performance. The information gained will ultimately be utilized by the NRC to enhance the technical basis for the NRC's regulatory guidance in human factors engineering.

III. SCOPE OF WORK

Contractor shall perform Tasks 1-4 described in this section. Tasks shall be completed in sequential order. Prior to initiating subsequent task the contractor shall receive NRC project officer approval.

A. Task 1: Design experiments that simulate critical tasks performed by operators in NPPs

The purpose of this task is to determine the experimental design for this project. The contractor will first need to gain an understanding of NPP operations through knowledge transfer from the NRC PM and other NRC staff, attending NRC and simulator training, observing operations and reading pertinent documents. Next, the contractor will develop the experimental design based on input from the NRC and subject to NRC review and approval. The task includes developing the experimental protocol (e.g., number and length of experimental sessions, order of events, etc.), identifying measures (performance, covariate, etc.), and developing participant training.

Contractors shall perform the following subtasks to achieve this purpose:

1. Task 1a: Acquire an understanding of nuclear operations and critical tasks through knowledge transfer from the NRC project manager (PM) and other NRC staff, attending systems training (2 weeks at NRC headquarters; set up by PM) and simulator training (1 week at contractor site), site visits to nuclear facilities (set up by PM) and reviewing pertinent NRC documents.
2. Task 1b: Develop the experimental protocol based on input from the NRC and subject to NRC review and approval.
3. Task 1c: Identify measures based on input from the NRC and subject to NRC review and approval.
4. Task 1d: Design participant training based on input from the NRC and subject to NRC review and approval.
5. Task 1e: Write a technical report that details the experimental methodology. The contractor shall then deliver a draft, intermediate, and final report for NRC review and comment; the contractor shall revise the report based on the feedback received from the NRC.

Deliverables: Letter report to NRC 9 months after project start

B. Task 2: Designing and developing simulation scenarios and measurement integration

The purpose of Task 2 is to design and develop operational scenarios. This task will take place just slightly lagged in time behind Task 1. As the experimental specifications are determined in Task 1, the simulation engineer should be working closely with the research team to understand and develop the operational scenarios. The simulation engineer will also assist the NRC in loading the simulation scenarios onto the simulator housed at the NRC. Task 2 will also include configuring and integrating measurement tools with the NPP simulator to allow for recording and assessment of participant performance (e.g., eye-tracking, configuring data logging functions in simulator, heart-rate monitoring etc.).

Contractors shall perform the following subtasks to achieve this purpose:

1. Task 2a: Design and develop scenarios needed for experiments based on input from the NRC and subject to NRC review and approval.
2. Task 2b: Assist NRC in loading and running scenarios on simulator housed at NRC Office of Research.
3. Task 2c: Configure and integrate measurement tools to allow for recording and assessment of participant performance.

Milestones:	Completed simulation scenarios	10 months after project start
	Measurement tools integrated	11 months after project start

C. Task 3: Carry-out human performance data collection

The purpose of Task 3 is to carry out the experimental protocol developed in Task 1. In order to carry out the data collection, the contractor shall recruit novice participants (e.g students) to participate in the study. Furthermore, the contractor will complete all participants training according to the training protocol developed in Task 1. The contractor shall pilot test the experimental protocol and simulation scenarios in order to validate that all procedures are appropriate and that simulation scenarios are working correctly. Upon discussion of the results of pilot testing with the NRC PM, the contractor will make any necessary adjustments and proceed with data collection.

Contractors shall perform the following subtasks to achieve this purpose:

1. Task 3a: Recruit participants.
2. Task 3c: Train participants according to protocol developed in Task 1.
3. Task 3d: Pilot test experimental protocol, simulation scenarios and measures. The contractor shall report results of pilot testing to PM, discuss any necessary adjustments and make said adjustments.
4. Task 3e: Run experiments and collect data

Milestones:	Completion of Data Collection	16 months after project start
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D. Task 4: Data Analysis

The purpose of Task 4 is to organize and analyze the data collected in Task 3. This task will involve cleaning the data and compiling it in a usable format (SPSS or excel data files), creating a codebook to document the contents of the data files, developing a data analysis plan, analyzing the data and reporting the results.

Contractors shall perform the following subtasks to achieve this purpose:

1. 4a: Clean data and compile data files in excel or SPSS format. The contractor shall provide copies of all data files to the NRC.
2. 4b: Create codebook specifying the structure, contents, and layout of the data files. The contractor will determine the exact contents and format of the codebook based on discussions and input from the NRC.
3. 4c: Develop a data analysis plan based on input from the NRC and subject to NRC review and approval.
4. 4d: Analyze data according to plan developed in 4c.
5. 4e: Write a technical report that describes the data analysis approach and results.

Deliverables:	Cleaned data files	18 months after project start
	Codebook & Data analysis plan	19 months after project start
	Letter report to NRC	20 months after project start

Note: Throughout the performance period, the contractor shall have bi-weekly meetings with the NRC PM. Upon receiving task directions from the NRC PM at meetings, the contractors shall provide a brief e-mail acknowledging the directions and summarizing their understanding of the direction. Failure to provide the required email acknowledging directions and summary of understanding or deliverables in the time period set forth above or failure to comply with this email reporting requirement may result in a finding of poor past performance and may result in termination for failure to perform as required by the contract.

IV. RESEARCH QUALITY

The quality of NRC research programs are assessed each year by the Advisory Committee on Reactor Safeguards. Within the context of their reviews of RES programs, the definition of quality research is based upon several major characteristics:

Results meet the objectives (75% of overall score)
Justification of major assumptions (12%)
Soundness of technical approach and results (52%)
Uncertainties and sensitivities addressed (11%)

Documentation of research results and methods is adequate (25% of overall score)
Clarity of presentation (16%)
Identification of major assumptions (9%)

It is the responsibility of the contractor to ensure that these quality criteria are adequately addressed throughout the course of the research that is performed. The NRC project manager and technical monitor will review all research products with these criteria in mind. Failure to comply with these quality objective requirements may result in a finding of poor past performance and may result in termination for failure to perform as required by the contract.

V. REPORTING REQUIREMENTS

Monthly Letter Status Report.

A Monthly Letter Status Report (MLSR) is to be submitted to the NRC Project Manager by the 15th of the month following the month to be reported with copies provided to the following:

Resource Name: RESDRAMLSR.Resource@nrc.gov

The MLSR will identify the title of the project, the job code, the Principal Investigator, the period of performance, the reporting period, summarize each month's technical progress, list monthly spending, total spending to date, and the remaining funds and will contain information as directed in NRC Management Directive 11.1. Any administrative or technical difficulties which may affect the schedule or costs of the project shall be immediately brought to the attention of the NRC project manager.

VI. MEETINGS AND TRAVEL

The following travel is planned:

- 2 weeks systems/operations training at NRC headquarters
- 5 meetings (2 persons) with NRC staff for project meetings, simulator training or to observe operations at the NRC TTC simulators or possibly a nuclear power plant.
- 1 domestic trip to attend a workshop or technical meeting pertinent to the project

VII. NRC-FURNISHED MATERIAL

NRC will provide a desktop computer based nuclear simulator, on "loan" status, to the selected contractor. The simulator will be shipped to the contract site and will be installed and tested by the simulator vendor, GSE. In addition, any pertinent documents necessary to perform the work under this task order shall be identified and provided by the NRC PM.