

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>			1. CONTRACT ID CODE	PAGE OF PAGES 1   3
2. AMENDMENT/MODIFICATION NO. <b>A060</b>	3. EFFECTIVE DATE <b>See Block 16.c</b>	4. REQUISITION/PURCHASE REQ. NO. <b>28-07RW12152.004</b>	5. PROJECT NO. (If applicable) <b>QA:NA</b>	
6. ISSUED BY <b>U.S. Department of Energy 1551 Hillshire Drive, M/S 523 Las Vegas, NV 89134</b>		7. ADMINISTERED BY (If other than Item 6) <b>U.S. Department of Energy 1551 Hillshire Drive, M/S 523 Las Vegas, NV 89134</b>		
8. NAME AND ADDRESS OF CONTRACTOR (No, Street, county, State and ZIP Code) <b>Booz-Allen &amp; Hamilton, Inc 8283 Greensboro Drive McLean, Virginia 22102-3838</b>			(✓) 9A. AMENDMENT OF SOLICITATION NO.	
			9B. DATED (SEE ITEM 11)	
			X 10A. MODIFICATION OF CONTRACT/ORDER NO. <b>DE-AC28-02RW12152</b>	
			10B. DATED (SEE ITEM 11) <b>June 16, 2002</b>	

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended,  is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning one (1) copy of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegm which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATA SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and data specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**SEE PAGE 2**

**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS,  
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

(✓) A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).

C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

D. OTHER Specify type of modification and authority)  
**Bilateral modification IAW clauses B.8 "FAR 52.217-9 "Option to Extend the term of the contract"**

E. IMPORTANT: Contractor  is not,  is required to sign this document and return  copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

**SEE PAGE 2**

**EXECUTED COPY**

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) <b>David C. Aldrich, Ph.D. Senior Vice President</b>		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) <b>Birdie Hamilton-Ray Contracting Officer</b>	
15B. CONTRACTOR/OFFEROR <b>David C. Aldrich</b>	15C. DATE SIGNED <b>1/31/07</b>	16B. UNITED STATES OF AMERICA BY <b>Birdie Hamilton-Ray</b> (Signature of Contracting Officer)	16C. DATE SIGNED <b>1/31/07</b>

The purpose of this modification is to extend the contract's period of performance, incrementally fund the contract, issue new tasks and extend the period of performance for base support tasks "YM07-01 and HQ07-01." Accordingly,

1. In accordance with contract clause B.7 "FAR 52.217-9 Option(s) to Extend the Term of the Contract (Mar 2000)," the contract's period of performance is extended through June 15, 2007. Option 2 was exercised 6 months earlier than originally scheduled. This modification extends the contract's period of performance to the full sixty months as stipulated in paragraph (c) of this clause. As a result, the period of performance is extended as follows:

From: 6/16/02 through 1/31/07

To: 6/16/02 through 6/15/07

2. As a result of extending the period of performance the estimated amount of the Contract, Clause B.3 "ESTIMATED COST, BASE FEE AND AWARD FEE," is revised as follows:

From:

B.3 ESTIMATED COST, BASE FEE, AND AWARD FEE

Period of Performance: June 16, 2002 through January 31, 2007

Estimated Cost:	\$105,911,752.73
Base Fee (Not to Exceed 2% of the Estimated Cost)	\$ 0.00
<u>Maximum Available Award Fee:</u>	<u>\$ 5,813,317.53</u>
Total Estimated Cost, Base Fee and Maximum Available Award Fee:	\$111,725,070.26

To:

B.3 ESTIMATED COST, BASE FEE, AND AWARD FEE

Period of Performance: June 16, 2002 through June 15, 2007

Estimated Cost:	\$106,679,416.73
Base Fee (Not to Exceed 2% of the Estimated Cost)	\$ 0.00
<u>Maximum Available Award Fee:</u>	<u>\$ 5,813,317.53</u>
Total Estimated Cost, Base Fee and Maximum Available Award Fee:	\$112,492,734.26

3. As a result of incremental funding the following changes are made to the contract:
  - a. The total amount obligated to this contract is increased as follows:

From:	\$110,742,734.26
Increase:	<u>1,750,000.00</u>
To:	\$112,492,734.26

- b. Standard form 1449, Block 25, "Accounting and Appropriation Data" reads as follows:

Approp. Symbol	B&R No.	Dollar Amount	Obj. Class	ADS/TTP	AFP
89X5227.91 WD	DB0953100	\$1,750,000.00	25.100	NS 77-91	CC:0000

STAR Strings:

02800.2007.01.100298.61000000.25100.2823470.0000000.0000000.0000000.0000000 - \$1,750,000.00

- c. Incremental funding identified in Clause B.5 "Incremental Funding" is revised to read as follows:

#### B.5 INCREMENTAL FUNDING

Total funds in the amount of \$112,492,734.26 have been allotted for obligation and are available for payment of costs and fee to be incurred from the effective date of this contract through the period estimated to end June 15, 2007.

3. The attached tasks, YM07-01 "Licensing" and HQ07-01 "Transportation" are being issued under contract clause H.20 "Ordering Procedure." Please prepare a task plan, for each task, in accordance with contract clause H.20 for the period of February 1, 2007 through June 15, 2007. As a supplemental to your task plans, please separately identify your costs and fee for the additional period of June 16, 2007 through Jan 31, 2008. This information will be used in preparing any supplemental extensions.
4. The period of performance for base support tasks YM07-01 and HQ07-01 extended as follows:

From: 10/01/06 through 1/31/07

To: 10/01/06 through 3/31/07

Note: The purpose in extending base support tasks YM07-01 and HQ07-01 is to ensure the smooth transition of support services to the recently awarded "General Support Services Contract" DE-AT28-07RW12382 to the Legion Group. Please ensure that there are no "double billing" of services between the two contracts. If the possibility exists, that services could be double billed, please notify the contracting officer in writing as soon as possible.

5. The period of performance for Task HQ06-02 is extended through June 15, 2007 at no additional cost.

\_\_\_\_\_  
End of Modification\_\_\_\_\_

**U.S. DEPARTMENT OF ENERGY  
TASK ORDER**

<b>CONTRACTOR NAME AND ADDRESS:</b>  Richard L. Toft, General Manager Booz-Allen & Hamilton, Inc. 1551 Hillshire Drive Las Vegas, NV 89134	<b>CONTRACT NUMBER:</b> DE-AC28-02RW12152  <b>CONTROL NUMBER:</b>  <b>TASK ORDER NUMBER:</b> HQ07-01
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<b>Sub Service Manager</b>  X: _____ Name: _____ Date: _____ Service Area: _____ 702-794-_____	<b>Sub Service Manager</b>  X: _____ Name: _____ Date: _____ Service Area: _____ 702-794-_____	<b>Service Manager</b>  X: _____ Name: _____ Date: _____ Service Area: _____ Tele: (702) 794-_____	<b>Contracting Officer's Rep</b>  X: _____ Name: _____ Date: _____ Service Area: All Tele: (702) 794-1301
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**TITLE OF TASK ORDER:** Base Task for Management and Technical Support Services

**DESCRIPTION OF WORK TO BE PERFORMED:** HQ07-01 initiates work for FY07 in accordance with the attached base support tasks.

**SCHEDULE OF PERFORMANCE/DELIVERABLES LIST AND DUE DATES:** SEE ATTACHED PAGES.

NOTE: For each deliverable required by this Task Order, the Contractor shall submit to the Contracting Officer (CO) and to the Contracting Officer's Representative (COR) a copy of the transmittal letter which evidences timely receipt of the deliverable by the Department of Energy. A separate deliverable entitled "Final Task Status Report" shall provide totals of the cost, fee, and hours expended under this Task Order, and shall be provided to the CO, COR, and Service Manager within three months after the completion date of this Task Order.

**PERIOD OF PERFORMANCE:** This Task Order covers the period of performance from February 1, 2007 through January 31, 2008.

**THIS TASK ORDER IS ISSUED PURSUANT TO THE ORDERING PROCEDURES CLAUSE OF THE SUBJECT CONTRACT.**

THE CONTRACTOR SHALL NOT BE PAID FOR WORK PERFORMED OR COSTS INCURRED UNDER THIS TASK ORDER PRIOR TO THE DATE OF THE CO'S SIGNATURE BELOW. IN ADDITION, THE CONTRACTOR IS NOT AUTHORIZED TO PROCEED BEYOND THE PERFORMANCE PERIOD OF THIS TASK ORDER, NOR WILL THE CONTRACTOR BE PAID FOR ANY COSTS INCURRED BEYOND THIS PERIOD, UNLESS THIS TASK ORDER IS REVISED BY THE CONTRACTING OFFICER TO AUTHORIZE ADDITIONAL PERFORMANCE AND PAYMENT.

_____ SIGNATURE OF CONTRACTING OFFICER	_____ DATE	Birdie V. Hamilton-Ray TYPE NAME OF CONTRACTING OFFICER
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## TASK ORDER HQ07-01

### Performance Objective C.4.11 - Transportation

Provide support to the Office of Logistics Management for ~~the development and implementation of a final RFP on national transportation~~; develop technical materials regarding cask design and contract holder cask requirements; provide analyses on support facilities requirements and functions; support activities associated with all the rolling stock; National and Nevada based transportation documents; assist in transportation institutional activities as well as support for section 180 (c) grants; provide support and technical input for all documents and activities associated with the Nevada Rail Line Project; provide integration activities and products to coordinate the different contractors currently working for OLM. MRP 1/31/07

The Contractor must:

- ~~Provide support to implement a final RFP on national transportation.~~ MRP 1/31/07
- Develop technical materials regarding cask design and contract holder fuel cask requirements.
- National and Nevada based transportation regulatory documents.
- Assist in transportation institutional activities as well as support for section 180 (c) grants.

Activities include the collection and maintenance of spent nuclear fuel discharge information, development of procedures for verification of spent nuclear fuel parameters, maintenance and implementation of the disposal contracts, and interactions with contract holders and others concerning nuclear materials safeguards.

#### Deliverables

#### Due Dates

Prepare letter reports on document reviews, special studies or other assignments.

Per OCRWM Direction

Assist in the development of presentation materials on HQ Transportation System.

Per OCRWM Direction

Develop plans, evaluations, specifications to support development of a transportation system.

Per OCRWM Direction

<p>Provide expert technical advice, and analysis, on federal, state, and local transportation requirements to support DOE in the technical areas on transportation, performance assessment and environment impact assessment (NEPA).</p>	<p>Per OCRWM Direction</p>
<p>Assist in supporting DOE in responsibilities with RW-HQ Transportation Program.</p>	<p>Per OCRWM Direction</p>
<p>Assist in supporting integration with the Transportation Coordination Work Group, Transportation External Coordination Working Group, and DOE/NV Transportation Integration Working Group.</p>	<p>Per OCRWM Direction</p>
<p>Provide support for the integration of Transportation Program requirements and policies with LA documents.</p>	<p>Per OCRWM Direction</p>
<p>Assist in the integration of transportation activities with YMP Safeguards and Security and Emergency Response Programs. (This support requires constant identification of analysis of transportation issues, standards, and requirements; the development of compliance strategies; and the development of Transportation Program Documents.)</p>	<p>Per OCRWM Direction</p>
<p>Analysis of applicable federal, state, local, and DOE/NV local and transportation requirements as required.</p>	<p>Per OCRWM Direction</p>
<p>Maintain and update the Transportation Program Document to identify applicable federal, state, local, and DOE/NV transportation requirement and changes responsibilities within the YMP for compliance with specific transportation requirements.</p>	<p>Per OCRWM Direction</p>
<p>Analysis of state and Congressional testimonies and policies that may impact transportation activities.</p>	<p>Per OCRWM Direction</p>
<p>Assist in the development of government furnished services and items (GFSI) to support the national transportation program and the development of a government baseline.</p>	<p>Per OCRWM Direction</p>
<p>Assist in the development of performance baselines for the Nevada Rail Transportation Project and the National Transportation Project</p>	<p>Per OCRWM Direction</p>

Assist in the development of the ESAAB CD-2/3  
for the National Transportation Project.

Per OCRWM Direction

**U.S. DEPARTMENT OF ENERGY  
TASK ORDER**

CONTRACTOR NAME AND ADDRESS:

Richard L. Toft, General Manager  
Booz-Allen & Hamilton, Inc.  
1551 Hillshire Drive  
Las Vegas, NV 89134

CONTRACT NUMBER: DE-AC28-02RW12152

CONTROL NUMBER:

TASK ORDER NUMBER: YM07-01

Sub Service  
Manager

X: \_\_\_\_\_  
Name: \_\_\_\_\_  
Date: \_\_\_\_\_  
Service Area: \_\_\_\_\_  
702-794- \_\_\_\_\_

Sub Service  
Manager

X: \_\_\_\_\_  
Name: \_\_\_\_\_  
Date: \_\_\_\_\_  
Service Area: \_\_\_\_\_  
702-794- \_\_\_\_\_

Service Manager

X: \_\_\_\_\_  
Name: \_\_\_\_\_  
Date: \_\_\_\_\_  
Service Area: \_\_\_\_\_  
Tele: (702) 794- \_\_\_\_\_

Contracting  
Officer's Rep

X: \_\_\_\_\_  
Name: \_\_\_\_\_  
Date: \_\_\_\_\_  
Service Area: All  
Tele: (702) 794-1301

**TITLE OF TASK ORDER:** Base Task for Management and Technical Support Services

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**SCHEDULE OF PERFORMANCE/DELIVERABLES LIST AND DUE DATES:** SEE ATTACHED PAGES.

NOTE: For each deliverable required by this Task Order, the Contractor shall submit to the Contracting Officer (CO) and to the Contracting Officer's Representative (COR) a copy of the transmittal letter which evidences timely receipt of the deliverable by the Department of Energy. A separate deliverable entitled "Final Task Status Report" shall provide totals of the cost, fee, and hours expended under this Task Order, and shall be provided to the CO, COR, and Service Manager within three months after the completion date of this Task Order.

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\_\_\_\_\_  
SIGNATURE OF  
CONTRACTING OFFICER

\_\_\_\_\_  
DATE

Birdie V. Hamilton-Ray  
\_\_\_\_\_  
TYPE NAME OF  
CONTRACTING OFFICER

## TASK ORDER YM07-01

### C.4.1 Service Area – Licensing & Regulatory Compliance

#### Performance Objective C.4.1.1 - Regulatory and Policy Issues

As directed by the Regulatory Authority Office (RAO), the Contractor must provide technical advice and analysis to support:

- The review and analysis of regulatory and policy issues (policy development and rulemaking) involving Yucca Mountain for the licensing processes. The reviews will support OCRWM acceptance of the M&O contractor products. Alternative analysis may be used as a basis for more effective decision making. The issues for review and analysis are associated with 10 CFR 63, the EPA standards (proposed revisions to 10 CFR 197) and the NRC licensing requirements (10 CFR 63 and NUREG-1804) or similar types of regulations.
- The identification and management of commitments made to regulatory agencies and the development of long-term regulatory and licensing strategies.
- Technical assistance for the monitoring of interactions and issues between the DOE and the NRC. Provide support and coordination activities involving implementation of NRC licensing criteria.

#### Deliverables

#### Due Dates

Assist in the development of issue papers, technical resource information, and regulatory analyses on existing, revised or proposed federal, state and local environmental law and regulations.

As required

Provide support in activity issue resolution and analysis and the development of corrective actions.

As required

Provide support in the development of communication materials for briefings, presentations, public meetings, etc.

As required

Provide support in the development of strategies, plans, communication materials for briefings, and presentations for interactions with Federal, State, and local regulatory agencies and oversight bodies.

As required

Assist in the development of impact and contingency analyses on on pending environmental legislative proposals, regulations, changes, etc.

As required

#### Performance Objective C.4.1.2 - Requirements and Planning Guidance

As directed by the Regulatory Authority Office (RAO), the Contractor must provide technical advice and analysis to support the development of requirements and planning guidance that is derived from analysis of technical and regulatory requirements. Typical products include the MGRS-RD and the annual planning guidance forwarded to the contractor.

<u>Deliverables</u>	<u>Due Dates</u>
Provide expert knowledge, advice, and assistance in matters of program development, regulatory coordination and review, quality engineering, trend analysis, surveillance and integration of project activities is required.	As required
Provide assistance with WBS management, to include scoping, budgeting, progress monitoring, review of deliverables, and change control.	As required
Assist in the development and/or review of Project implementing plans and procedures.	As required
Provide document review comments regarding program planning documents, license application plans and sections, and other Project documents.	As required
Conduct analyses of and recommend improvements to internal Project processes related to service area responsibilities.	As required
Develop impact and contingency analysis as necessary as a result of changes to regulatory requirement, program approach, or YMP strategy/design.	As required

**Performance Objective C.4.1.3 – Technical and Regulatory Documents**

As directed by the Regulatory Authority Office (RAO), the Contractor must provide technical advice and analysis to support the review of such technical and regulatory documents such as:

- Total System Performance Assessments for the License Application and the preliminary iterations there of.
- National Environment Policy Act and regulatory documents related to the development of the Environmental Impact Statement and mitigation plan implementation by OCRWM.
- Analysis of the Nuclear Regulatory Commission 10 CFR Part 63 and NUREG-1804 and flow-down documents to include the Yucca Mountain Management Plan (LAMP), to identify requirements that pertain to the development of the License Application.

- Analysis of the Environmental Protection Agency 10 CFR Part 197 to identify requirements that pertain to the development of the License Application.

Deliverables

Due Dates

Provide expert knowledge, advice, and assistance in matters of program development, regulatory coordination and review, quality engineering, trend analysis, surveillance and integration of project activities.	As required
Assist in the integration of regulatory activities across existing YMP elements and provide support in analyzing and solving unique, cross-cutting regulatory issues. (Support requires general identification/analysis of regulatory issues, standards, and requirements; the development of regulatory strategies; and the coordination and review of the LA and its supporting documentation; and other related project documents as appropriate.)	As required
Provide technical assistance for the monitoring of interactions and issues between the DOE and the NRC, and the DOE and NWTRB.	As required
Provide support and coordination activities involving implementation of NRC licensing criteria.	As required
Provide support and coordination of activities involving implementation of NWTRB related issue.	As required
Assist in the development of issue papers, technical resource information, and regulatory analyses on existing, revised or proposed federal law and regulations applicable to the LA.	As required
Provide support in regulatory issue resolution and analysis and the development of corrective actions.	As required
Provide support in the development of communication materials for briefings, presentations, public meetings, etc.	As required
Provide support in the development of strategies, plans, briefing materials, and presentations for interactions with Federal regulatory agencies and oversight bodies.	As required
Assist in the development of impact and contingency analyses on pending legislative proposals, regulations, changes, etc, that may affect work on the LA.	As required

#### Performance Objective C.4.1.4 – Technical Advice and Analysis

The Contractor must provide technical advice, analysis, and:

- Technical assistance for the monitoring of interactions and issues between the DOE and NWTRB. Provide support and coordination of activities involving implementation of NWTRB-related issues.
- Technical support to OCRWM coordination and integration activities such as developing responses to NWTRB requests and recommendations.
- Support in the preparation and review of presentation materials and correspondence, and the scheduling and conduct of NWTRB meetings.

#### Deliverables

#### Due date

Provide project integration and support to the performance assessment and modeling effort. (Support will include the integration oversight of scientific and engineering information and products related to and generated by the project performance assessment effort, and the subsequent integration of the information and products into the project regulatory framework.)

As required

Provide project integration support for the evaluation of regulation and document, related to the NEPA process. (Support will include the integration oversight of scientific and engineering information and products related to and generated by the project Environmental Impact Statement (NEPA) effort, and the subsequent integration of the information and products into the project regulatory framework.)

As required

Review and comment on performance assessment and other project deliverables.

As required

Assist in the planning and facilitation of performance assessment meetings.

As required

Review and comment on project deliverables

As required

Review and comment on project planning packages with regard to scope, schedule, and budget.

As required

Attend integration and planning meetings and provide written summaries.

As required

Prepare or assist in the preparation of presentations

As required

## C.4.2 Service Area – Project Execution

### Performance Objective No. C.4.2.1 – Technical Basis for License Application and Performance Assessment

The Contractor must provide:

- Direct support and assistance for independent reviews of documents, analyses, data, and deliverables.
- Independent review, assessment, and recommendations of Technical Data Management, planning, and policies.
- Project integration support for performance assessment, integration oversight of scientific and engineering information and products related to and generated by the project performance assessment effort, and the subsequent integration of the information and products into the project regulatory framework.

#### Deliverables as applicable:

#### Due Date

Project integration support for performance assessment, integration oversight of scientific and engineering information and products (e.g., Licensing Letter Reports, AMRs) related to and generated by the project performance assessment effort, and the subsequent integration of the information and products into the project regulatory framework.

As required

Monitor the progress and documentation of work to satisfy KTI agreements. Ensure KTI agreement documentation is sound, technically, meets the intent of the agreement, and is provided in a timely manner in accordance with the schedule.

As required

Monitor the progress of work needed to update AMRs and other technical basis documentation for the TSPA for LA.

As required

Monitor and assess performance of the LA, technical products, and coordinate with other YM organizations to ensure that program activities are conducted IAW OCRWM policy, guidance, and objectives and in compliance with DOE orders and NRC regulations.

As required

Support establishment of schedules for and participate in conducting surveys and assessments of OCRWM contractor activities; and maintenance of program implementing procedures.

As required

Provide technical expertise and assistance in management of programs at the YMP through the development of strategies consistent with DOE and NRC regulations; engineering services to participate in the design reviews of the preliminary preclosure design basis events analysis and assessments; independent review, assessment, and recommendations of safety assessment planning, policies, deliverables, and other assigned associated activities. As required

Prepare presentations and other technical materials. As required

Provide OCRWM-wide organizational support with compliance management activities to include corrective action (QA program deficiency identification and resolution and non-QA condition identification and issue resolution), procedure development and maintenance, requirement identification and management, training implementation, the annual QA Management Assessment & QA Program Compliance Audit, self-assessments, and lessons learned. As required

Submit activity and status reports for science-related activities. Weekly

**Performance Objective No. C.4.2.2 – Repository Engineering – Systems, Waste Package, Subsurface and Surface Facilities**

The Contractor must provide:

- Independent review, assessment, and recommendations of System Engineering products such as the Monitored Geologic Repository Requirements Document, Project Requirement Documents, Basis of Design Documents, Nuclear Safety Design Basis, Integrated System Operations Reports, System Operations Reports, Facility Description Documents, and System Description Documents.
- Engineering design reviews of the Waste Package, Drip Shield, and other associated engineered barriers.
- Support DOE to verify implementation of engineered barriers, surface, and sub-surface requirements, system studies, Determination of Importance Evaluations, and licensing documents such as the License Application.
- Engineering design reviews of the Repository Subsurface Area including excavation, utilities, facilities, equipment, engineered barriers, and waste package transportation and emplacement.
- Engineering design reviews of the Repository Surface Facilities, including the following facilities:

- Initial Handling Facility (IHF)

- Canister Receipt and Closure Facility (CRCF)
  - Wet Handling Facility (WHF)
  - Aging System
  - Emergency Diesel Generator Facility
  - Site utilities and infrastructure
  - Balance of plant facilities.
- Supporting interfaces with other OCRWM and DOE offices.
  - Technical reviews of the Preclosure Safety Analysis (PCSA) products.
  - Support for engineering support activities such as Value Engineering, OCE Corrective Action review and closure, and technical data management.

Systems Engineering deliverables as applicable:

Due Date

Support the planning, evaluation of products such as the Monitored Geologic Repository Requirements Document, Project Requirement Documents, Nuclear Safety Design Basis, Basis of Design Documents, Integrated System Operational Requirement Documents, System Operational Requirement Documents, Facility Description Documents, and System Description Documents.

As required

Provide independent review, assessment, and recommendations on planning, policies, deliverables, and other assigned associated activities.

As required

Assist management efforts to improve incorporation and implementation of system engineering and technical management processes through independent review of processes and activities.

As required

Provide overall support in review and performance of Value Engineering studies, OCE Corrective action review and closure, and technical data management

As required

Participate in conducting surveys and assessments of OCRWM contractor activities; and maintenance of program implementing procedures.

As required

Submit activity and status reports for engineering-related activities.

Weekly

Waste Package, Subsurface, Surface Facilities & Field Engineering deliverables as applicable:

Participate in the design reviews of the Waste Package and Drip Shields, Subsurface, and Surface Facilities including excavation, utilities, facilities, and equipment.

As required

Support reviews of TAD handling and moving equipment	As required
Provide support for review and monitoring of shielding, structural, criticality, and thermal analyses of waste package and drip shield designs.	As required
Support oversight and review of subsurface layouts, subsurface interfacing with other repository areas such as surface facilities and waste package, conformance with loads and load combinations especially those addressing seismic and other extreme loads, material selection, structural component evaluations regarding serviceability, and development of requirements for other disciplines for environmental qualification of equipment.	As required
Support oversight and review of ventilation and utility load determinations and sizing, equipment determination, layouts, radiological evaluations and designs.	As required
Review of design and analyses for Surface Facilities, including the Initial Handling Facility, Canister Handling Facility, Receipt Facility, Wet Handling Facility, Emergency Diesel Generator Facility, Aging Pads, and Balance of Plant Facilities.	As required
Provide services for the independent review of design estimates.	As required
Review briefing documents for accuracy, completeness and timeliness.	As required
Support DOE by providing oversight for M&O planning activities and independently review M&O fiscal year Design planning as well as its interface with licensing documents such as the LA.	As required
Support DOE review of updates to the Multi-year Plan and revisions to the technical, cost and schedule baselines.	As required
Assist with the review of planning documents, code or other S&H compliance documents.	As required
Provide critical review of field engineering work planning and control documents, maintenance plans, and long range plans.	As required
Support integration with the transportation program and waste acceptance program	As required
Review change requests, position papers, plans procedures, annual work planning documents, work control and operations documents, and deliverables and provide analyses.	As required

Provide field engineering support to assess construction, operations and maintenance programs, provide analyses, and develop root cause analyses and corrective actions, as appropriate. As required

Review Preclosure Safety Analysis, include reviewing reports, position papers, plans, procedures, and deliverables and provide analyses. As required

**Performance Objective No. C.4.2.3 - Science: Hydrology, Tectonics, Modeling**

The Contractor must provide technical oversight:

- Of the unsaturated zone activities that will provide data and analyses. This includes interactions with the performing organizations during the design and planning of experiments; technical reviews of scientific accomplishments and coordination with other Yucca Mountain organizations to ensure that program activities are conducted in accordance with OCRWM policy, guidance, and objectives and in compliance with DOE orders and NRC regulations.
- Of the saturated zone activities that will provide data and analyses for the development of the Saturated Zone Process Model Report updates. This includes interactions with the performing organizations during the design and planning of experiments.
- To ensure interactions with the performing organizations during the design and planning of experiments are in accordance with Integrated Site Model Activities.
- Of the Tectonics activities that will provide data and analyses. This includes support interactions with the performing organizations during the design and planning of experiments; technical reviews of scientific accomplishments and coordination with other Yucca Mountain organizations
- For technical reviews of scientific deliverables to ensure that program activities supports:
  - Data outputs to other groups
  - Analysis and Model Reports (AMR)
  - Process Model Reports (PMR)

Deliverables as applicable:

Due Dates

Provide technical interfaces, budget oversight, contract integration and support for Merit Review Board activities. (Key to this task is integration with the Harry Reid Center and OCRWM technical monitors.) As required

Assist management efforts to improve incorporation of data and information into appropriate databases through independent review of As required

the scientific processes and activities.

Provide oversight of all field and laboratory planning and implementation activities that will provide data, analyses and models for the UZ, SZ, WP, WF, EBS , Biosphere, and Disruptive Events for the LA. As required

Monitor and assess products and their technical basis to ensure traceability and transparency for all process models and abstracted performance assessment models. As required

#### **C.4.4 Service Area – Information Management**

##### **Performance Objective C.4.4.3 – License Support Network (LSN)**

The Contractor must provide advice and assistance to support programmatic implementation of LSN activities, including and related to:

- Licensing Support Network technical development and programmatic implementation such as assistance in the definition of documentary material; assistance with program review and coordination.
- Implementation of Licensing Support Network requirements and activities to meet 10 CFR 2 subpart J, and subsequent direction for the Nuclear Regulatory Commission, Pre-license Application Presiding Officer, Case Management Orders or direction.
- Evaluation or development of resolution to support project control, oversight, and integration activities to implementation of LSN implementation to support license application docketing.

#### Deliverables

#### Due Dates

Provide support on management of electronic records; and investigate new related tools, procedures, and legal issues relative to the LSN. As required

Provide support for the development and implementation of the LSN, activities, LSNARP meetings, the LSNARP TWG, and program reviews, Pre-certification activities. As required

Review, comment, and advise adequacy of milestones and schedules to support addressing LSN requirements. As required

Provide assessment of due diligence and programmatic implementation. As required

Advise and assist on emerging issues relating to LSN activities. As required

#### C.4.10 Service Area – Regulatory Coordination

##### Performance Objective C.4.10.2 – Licensing Coordination & Support

As directed by the Regulatory Authority Office (RAO), the contractor must:

- Provide technical assistance to support the development of licensing positions to meet the requirements of 10 CFR 63 and NUREG-1804. Technical support to formulate and create the licensing case for the license application based on the licensing positions and implementing the design. Technical support to evaluate the adequacy of preclosure and post-closure analyses in meeting the aforementioned requirements.
- Provide technical support to OCRWM in preparing and writing the draft license application.
- Provide technical support and independent analysis on licensing regulatory requirements. Support Program-level coordination and integration activities including regulatory aspects of safeguards and security; and development of long-term licensing strategies.
- Provide technical support and coordination activities involving implementation of NRC licensing criteria. Support programmatic NRC interactions (e.g., RW-1 briefings, informal meetings in support of Project and other interactions with the NRC and Advisory Committee on Nuclear Waste (ACNW).

#### Deliverables

#### Due Dates

Review OCRWM regulatory and Safeguards and Security (S&S) documents.

Per OCRWM Direction

Monitor DOE-NRC meetings, including meetings with ACNW. Provide draft summary reports of Meetings

Draft summary report due 24 hours after meeting; summary reports due in 5 days; final due In 15 days

Develop S&S policy and issue papers.

Per OCRWM Direction

Prepare white paper assessing regulatory requirements of proposed legislation.

Per OCRWM Direction

Provide support in preliminary review/input to presentations to NRC.

Per OCRWM Direction

Provide classification review support.

Per OCRWM Direction

Provide support in the development and project

Per OCRWM Direction

implementation (i.e., white paper analysis) of licensing strategies.

Continued support, as required, of the DOE SNF Workshop approach.

Per OCRWM Direction

Review the License Application and supporting documents and plans.

Per OCRWM Direction

Provide support to revisions of CG-OCRWM-1.

Per OCRWM Direction

Provide draft License Application written sections.

Per OCRWM Direction

Provide a team of nuclear licensing engineers under a senior manager to support license application development and help OCRWM prepare to be a licensee.

Immediately and ongoing,  
per OCRWM Direction