

SPECIAL NOTICE

SUBJECT: *Draft Statement of Work for A Transportation Integration Contractor*

AGENCY: Office of Civilian Radioactive Waste Management U.S. Department of Energy.

SUMMARY: This draft Statement of Work (SOW) is for the acquisition of a Transportation Integration Contractor by the Department of Energy (DOE) Office of Civilian Radioactive Waste Management (OCRWM) to support the shipment of spent nuclear fuel and high-level radioactive waste to a Yucca Mountain repository. The Draft SOW reflects current program plans and incorporates changes in the approach for the acquisition of these services from that contained in the program's previous acquisition strategy, which relied upon the use of Regional Service Contractors (RSC) for the provision of waste acceptance and transportation services. The revised approach results from the Department's review of the RSC concept, and responds to comments received on the previous draft Request for Proposal (RFP) published in 1998. The Department believes that this revised approach, as contained in the Draft SOW, will better address the ongoing business, schedule and operational risks associated with the transportation of spent nuclear fuel and high-level radioactive waste, changes within the utility industry, and evolving regulatory requirements for transportation of spent nuclear fuel and high-level radioactive waste. The Draft SOW is being made available in order to solicit comments. It is the Department's intent to issue a RFP for these services in 2003.

SUPPLEMENTARY INFORMATION: DOE is responsible, under the Nuclear Waste Policy Act (NWPA), for accepting and transporting spent nuclear fuel from commercial nuclear reactor sites and high level waste and spent nuclear fuel from the DOE federal facility for ultimate disposal. The Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste (10 CFR part 961) details the arrangements between the DOE and the owners and generators of spent nuclear fuel (Purchasers) for the Department to accept the spent nuclear fuel at the Purchasers' sites for transport to a federal facility. Section 137(a)(2) of the NWPA requires the utilization of private industry to the "fullest extent possible" in the transportation of spent nuclear fuel. In December 1996, DOE issued a Draft RFP that requested comments on all aspects of its proposed contracting approach embodied in that draft document. In December 1997 and September 1998, DOE published in the Federal Register a Notice of a revised Draft RFP for Waste Acceptance and Transportation Services. The 1998 revised Draft RFP conformed to Rev. 2 of the OCRWM Program Plan (DOE/RW-0504, July 1998) and represented a change toward a market-based strategy utilizing the use of RSC for the acquisition of transportation services.

DOE is preparing to acquire the transportation fleet equipment and services to implement the national transportation project. The Draft SOW herein represents DOE's desire for a Transportation Integration Contractor (TIC) to assist with the work associated with transportation planning, equipment acquisition, and mobilization. The TIC will assist

DOE with the acquisition of fleet operating hardware from the private sector, special studies and analysis, and management plans. The TIC will also assist DOE with operational planning and scheduling for mobilization, readiness demonstrations, training, and other startup-related operations. Transportation services and other supporting functions, associated with actual transport of spent nuclear fuel and high-level radioactive waste, are not part of this SOW. DOE will undertake acquisition of transportation services once the repository operating plans and schedules are finalized and firm waste acceptance dates can be established. As part of this acquisition process DOE will evaluate alternative approaches for performing the required transportation services.

The Draft SOW will be performance based and performance will be measured in accordance with specific standards (how each output will be measured) and expectations (acceptable performance levels for each measure). DOE invites suggestions from industry for performance measures focused on the individual portions of work identified in the Draft SOW.

Federal responsibility for managing the policy development and planning process will continue well into the initial operating years, and DOE will be better able to manage risks in the near-term and implement a more market-based approach after the programmatic uncertainties have been resolved. This approach allows for ongoing coordination with states and tribes that have primary responsibility for public safety in their jurisdictions, industry and other interested stakeholders. Early coordination and effective communications among DOE and its myriad stakeholders will be an essential component of the overall transportation planning process and the ultimate success of the transportation program to meet planned acceptance rates and initiate transportation services.

The Draft SOW will be available on the OCRWM Home Page at the INTERNET address <http://www.rw.doe.gov/> and <http://doe-iips.pr.doe.gov>. Copies of this SOW will be available for examination and may be photocopied at the DOE Public Reading Room at 1000 Independence Avenue, S.W., Room 1E-190, Washington, D.C.; and at the Yucca Mountain Science Center, 4101B Meadows Lane, Las Vegas, NV 89107.

Written comments on the Draft SOW may be submitted to the Department of Energy and must be received on or before October 31, 2002.

Please provide written comments to: Dorothy N. Callier, RW-44, U.S. Department of Energy, 1000 Independence Avenue, S.W., Washington, D.C. 20585, Attn: Draft Statement of Work for a Transportation Integration Contractor. Persons submitting comments should include their names and addresses. Receipt of comments in response to this notice will be acknowledged if a stamped, self-addressed postal card or envelope is enclosed.



OCRWM

(Draft)

Statement of Work for

Transportation Integration Contractor

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Statement of Work (SOW) Transportation Integration Contractor

1. General Information

1.1 Introduction

This requirement is to provide services to assist the Office of Civilian Radioactive Waste Management (OCRWM) of the Department of Energy (DOE) in meeting its transportation obligations as defined in the Nuclear Waste Policy Act, as amended (NWPA). The Transportation Integration Contractor (TIC) will assist DOE in carrying out the work associated with transportation planning, equipment acquisition, and mobilization.

1.2 Background

The Nuclear Waste Policy Act (NWPA) of 1982 (Public law 97-425), as amended, provides for the development of repositories for the disposal of high level radioactive waste (HLW) and spent nuclear fuel (SNF) and directed DOE to investigate Yucca Mountain exclusively to determine whether it was a suitable site for the first geologic repository. Yucca Mountain, Nevada has been approved as the site for the Nation's first geologic repository for spent nuclear fuel and high-level radioactive waste.

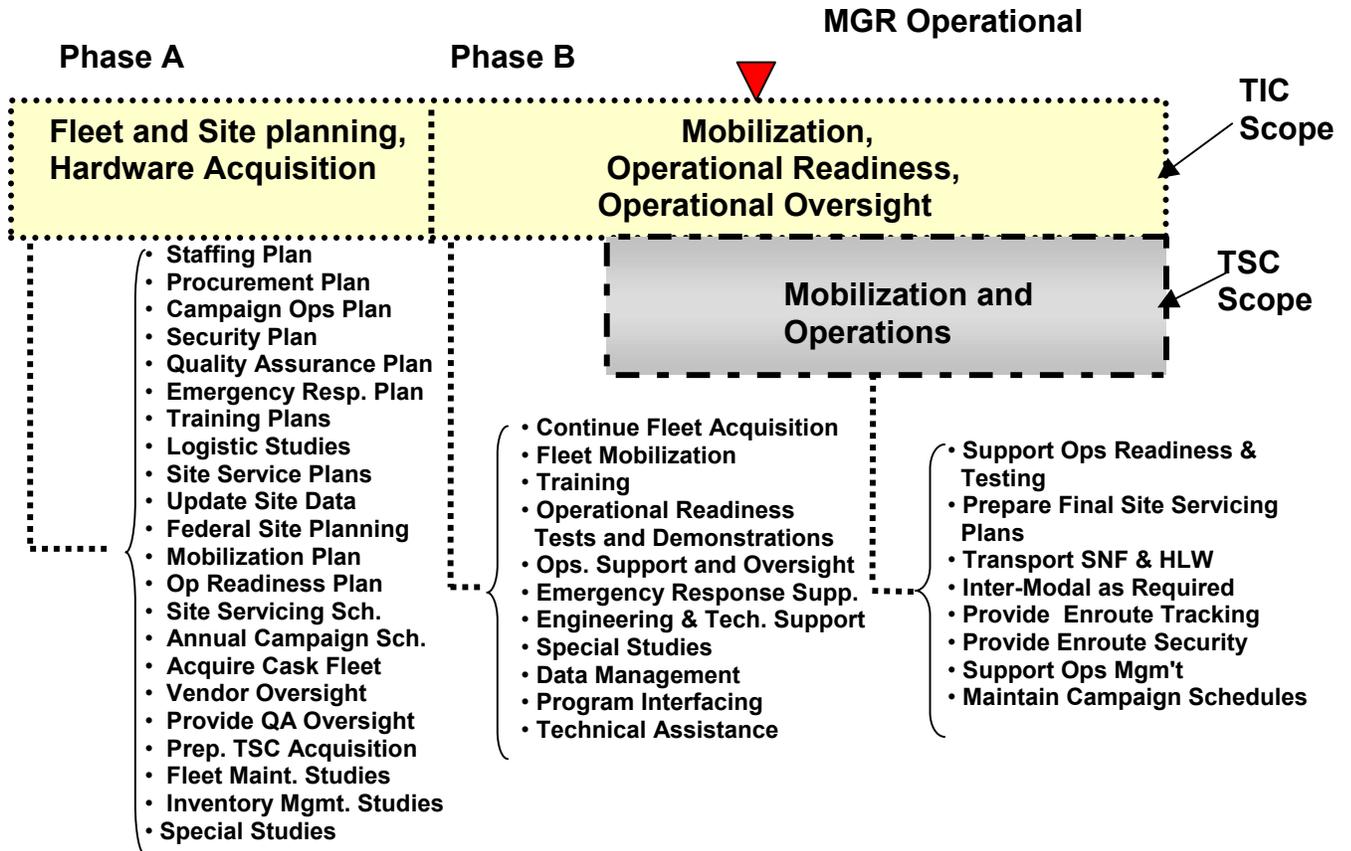
Transportation services and other supporting functions, associated with actual transport of SNF, and HLW, are not a part of this SOW. DOE will undertake acquisition of transportation services once Monitored Geologic Repository (MGR) operating plans and schedules are finalized and firm waste acceptance dates can be established. It is expected that contracts for the Transportation Servicing Contractors (TSCs) will be let approximately 2 -3 years before the planned start of operations to allow time for mobilization, training, equipment checkout and other operational readiness activities.

1.3 Phased implementation - Scope

The work scope described herein will be performed in two phases as shown in the following chart. The initial phase, designated Phase A, will include overall planning and fleet acquisition.

DOE expects that the second phase, designated as Phase B, which will include Mobilization, Operational Readiness, and Operations oversight, would be initiated approximately two (2) years before the scheduled start of MGR and transport operations. DOE will determine the specific timing for authorizing the start of Phase B based on anticipated operational readiness of the MGR, and readiness of other key elements of the transportation infrastructure. Phase B will include those functions

that are primarily focused on mobilization of equipment and resources, completing operational readiness and training activities, and oversight of initial waste acceptance and transportation operations. The acquisition of fleet hardware and other operational support equipment initiated in Phase A will continue in Phase B. It should be noted that most of the activities designated for performance under Phase B will require compliance with the DOE approved Quality Assurance (QA) program as described in this SOW.



2.0 Phase A - Project Planning and Logistics

The TIC shall assist DOE in performing the studies, analysis, cost estimating, scheduling and logistics planning to define the national transportation capability needed to support OCRWM waste acceptance needs. The TIC will assist DOE in the development and preparation of plans as described in Section 2.1.

Based on the studies and logistical evaluations, the TIC shall provide DOE with recommendations regarding the transportation fleet hardware and systems, including all supporting hardware and initial spares, that should be acquired to meet DOE transportation needs. The recommendation shall provide a planning schedule for

equipment acquisition consistent with the anticipated acceptance rates. Additionally, the recommendation shall define the cask fleet mix, including modal mix, necessary to transport the commercial SNF, DOE-SNF and HLW, and to accommodate the handling and interface needs of the MGR and the various commercial and Federal generator sites. The TIC will also assist DOE in the identification of program and system interfaces sufficient to define system needs, allow development of requirement documents and technical specifications, support definition of MGR interfaces, and support acquisition of the fleet hardware and other operations support equipment.

2.1 Project Functional Plans

The TIC shall develop plans for all activities as defined by the work scope herein, determined during various studies, or as otherwise directed by DOE.

2.1.1 Staffing Plan

The TIC shall provide a staffing plan that provides an overview and schedule of how required staff expertise will be acquired and deployed over the term of the contract commensurate with the evolving and changing focus of the work. The plan should identify specific staff capabilities, including skill mix required to meet project needs in the different functional areas. Plans should identify if staffing will be accomplished via direct hiring, matrixing from parent organizations, or acquired via subcontracting.

The TIC will provide DOE with staffing plans that identify the staff capabilities mix needed to support the various phases of the workscope. DOE expects the plan to demonstrate the TIC's understanding of the evolving nature of the work scope from the initial Phase A efforts focused on planning and equipment acquisition to the Phase B mobilization, readiness testing and operations oversight. DOE will request a plan specific to Phase A and again when Phase B is authorized. Each plan will identify the sources for various staffing needs, including direct hires, use of parent company matrixing, and use of specialized subcontractor services for those short term or specialized needs.

2.1.2 Acquisition Plan (Cask Fleet Acquisition)

If tasked by DOE to acquire the transportation fleet, the TIC shall prepare a Acquisition Plan that describes the TIC's plan for acquisition of fleet transportation cask equipment, transport operations equipment, support equipment for operations at the MGR, other Federal sites, and Purchaser sites. The purpose of this planning is to ensure that the Government meets its needs in the most effective, economical, and time manner. The plan shall include the following:

- Description of items to be acquired that will be designated as Transportation Equipment, Purchaser Support Equipment, and Federal Facility Support Equipment.
- Description of all services to be acquired. (As a component of services acquired, it is expected that the TSCs may provide other ancillary equipment unique to specific site servicing needs. Any items purchased by the TSC will be designated as "Transportation Equipment or Transportation Support Equipment" and will become the property of DOE and, as such, will be included in the inventory management system.)
- Identification of those subcontracts and lower-tier subcontracts with work subject to the TIC's QA program and the QA requirements to be imposed on the subcontractors.
- Detailed equipment identification that will support inventory management requirements specified in paragraph 3.4.
- An integrated procurement schedule, by vendor or system, reflecting the timing of all subcontracting initiatives. It shall include, for example, key milestones for system design and licensing, (if required by the supplier), material acquisition, fabrication, and acceptance testing. The procurement schedule should be consistent with and support the overall waste acceptance and site servicing schedule milestones established by DOE.
- Identification and description of locations where major component fabrication, assembly, and other major support work will be performed.
- A summary of management and QA controls that will be used to monitor and assess performance.

The Acquisition Plan must be approved by DOE and shall be updated as necessary to remain current with procurement actions as they evolve to meet specific program milestones.

The TIC will develop a plan that describes the strategy for how the various equipment items will be procured. The strategy will be developed taking into account the equipment items, the number of supply sources available, schedule needs, and development necessary to deliver the desired equipment item. The plan will provide for assuring that DOE receives the maximum competitive advantage for the procurement available in the market place.

2.1.3 Campaign Operations Plan

The TIC shall assist DOE in the development and updating of the Campaign Operation Plan, which shall be based on the Transportation Plan and Concept of Operations provided by DOE and logistic studies as described in Section 2.2.1.

The Campaign Operations Plan is intended to be a planning vehicle used as a basis for scheduling equipment acquisition, resource deployment, and other preparatory activities. At a minimum the Campaign Operation plan shall provide for:

- Long range planning schedules
- Projected annual acceptance rates (provided by DOE)
- Projected fleet equipment needs
- Identification of new or additional equipment or services that must be procured to support out-year campaigns
- Identification of resource needs
- Means of verifying that the 180(c) training done by the States and Tribes along routes planned for the campaign has been completed.
- Updated site servicing plans for each site scheduled for service.

Servicing Plans shall provide the following:

- Preliminary routes selected in accordance with applicable NRC and DOT regulations for all transportation modes selected. Identification of en route temporary parking areas, inter-modal transfer points previously identified in cooperation with states and tribes, and for rail, temporary stopping, fueling and crew change points that have been identified by the railroad(s).
- Cask modal/inter-modal determination and designation.
- Identification for inter modal operations (as required)
- Site operational training or refresher training needs (Note: Emergency responder training done by states and tribes under section 180(c) of the NWPA is NOT included)
- Determination of minimum driver/crew requirements including training and qualifications, operating protocols, and compliance screening and verification. Crew schedules, replacement of sick or otherwise incapacitated, crew change points.
- Operational or other performance tests or demonstrations supporting continued operations.
- Special training required, including security and escort personnel.
- The establishment and maintenance of communication capability between the TIC, TSCs, the MGR Operator, and DOE.
- Identification of organizations, including their specific functions and responsibilities that may be involved in some aspect of the shipment activities. These may include route determinations, operating protocols, en-route inspections, emergency response responsibilities, etc.

2.1.4 Security Plan

The TIC shall assist DOE in planning and developing a separate, controlled and limited distribution security plan in conjunction with the overall transportation planning functions. The Security Plan shall, at a minimum, provide for:

- Methods for establishing, acquiring, maintaining, and integrating required physical security organization and armed security escorts into the transportation network.
- The development of security procedures.
- Organization, staffing, staff qualifications, training, compliance, screening and verification.
- Security Team operating, command and control, and reporting protocols.
- Description of equipment and other items that will be utilized to support security communications, monitoring, or operations.
- Tests and maintenance of communication and other systems associated with the safeguards and security functions.
- Identification of other state or federal organizations that have specific roles in various aspects of emergency response to assure they are properly integrated into the operational and response planning and that duplication of responsibilities and capabilities is minimized.
- Description of operating and communication plans for assuring appropriate integration, cooperation, and consultation with other Federal, state, and local law enforcement agencies and among TSCs.
- Plans for monitoring and evaluating the TSC and carrier security plans, procedures, implementation, and methodology for establishing operational readiness.

The TIC will assist DOE in developing a security plan which will form the basis for compliance with NRC security requirements during the planning and execution of the transportation mission. The plan will be developed consistent with evolving Department and NRC security requirements in the post 9/11 environment.

2.1.5 Quality Assurance (QA) Plan

If tasked to perform the cask fleet acquisition or other quality-affecting activities determined by DOE, the TIC shall perform the activities in accordance with the applicable provisions of the Quality Assurance Requirements and Description (QARD) document. The TIC QA Program shall be approved by DOE. The TIC shall prepare QA documentation which describes how the TIC's QA program and procedures will be used to control the work subject to QA requirements. The QA Plan shall include, but not be limited to:

- Identifying specific QA procedures and instructions that will be used by the TIS to assure compliance with QA requirements for the work scope performed.
- Identifying the individuals responsible for performance and controlling the applicable activities.
- Identifying the work scope and its related QA requirements for each subcontractor and lower-tier subcontractor.
- Identifying and assuring the adequacy of subcontractors' and lower-tier subcontractors' QA programs for the scopes of work assigned.
- Providing flow down of applicable QA requirements from the TIC's QA program and TIC approval of subcontractors' plans.
- Providing for oversight, evaluation and verification of work performed by the TIS, its subcontractors and lower-tier subcontractors to assure compliance with QA requirements.
- Identifying test and inspection activities and hold/witness points and provisions for advanced notifications.
- Providing for defects and non-compliance reporting and corrective actions.
- Maintaining QA records

2.1.6 Emergency Response Plan

The TIC shall assist DOE in the development of an emergency response plan that provides requirements and guidelines to be followed by DOE management personnel in the event an off-normal event or emergency occurs during an en-route transportation activity. The primary focus of the plan will be to provide specific management guidance that directs appropriate response actions to be set in motion beyond the immediate notifications and actions taken by on-scene shipper or carrier personnel in accordance with their individual DOE-approved emergency response plans. Carrier emergency response plans will be developed under their contract with DOE or the TSC. Initial actions will be focused on verifying that required notifications have been accomplished and that appropriate technical and administrative assistance is being made available. The plan shall also address coordination with on-scene response personnel and that notifications of and communication with other Federal and State jurisdictions have been established and are being maintained. The plan should also address press and media briefing guidelines.

2.1.7 Training Plan(s)

The training plans described herein refer to that training necessary to support transportation fleet operations, operations at the MGR, and operations at Purchaser sites and other federal generator sites. This training is not related to any emergency responder training conducted by others under the section 180(c) grant process.

The TIC shall assist DOE in the identification and development of training plans, which will be implemented as part of the initial mobilization activities prior to the initiation of operations at Purchaser or other sites subsequently scheduled for regular servicing. The training plans shall address the following key areas:

- Objectives of training
- Qualifications of trainee
- Description of training program
- Methods and activities to achieve training objectives
 - Orientation
 - Technical training
 - Functional training
 - Hands-on-exercises
- Description of facility and equipment used for training
- Safety rules, including radiological safety considerations
- Qualification testing
- Refresher training (as required)
- Training records

Training plans shall be developed for each transportation system or specialty equipment item used in the waste acceptance and transportation activities. Training programs shall make maximum use of both computer-based technical training and functional and hands-on training using the actual equipment or training mockups as appropriate. Training shall address normal operations, off-normal and emergency operations. Training plans shall focus on the specifics of the equipment or facility operations and shall rely on existing industry or federal training standards for other safety or operations training not directly related to the transportation systems equipment operation. While the training plans will be developed to meet agreements between the DOE and Purchasers, the Purchasers are responsible, under NRC licensing requirements, for assuring that training plans provided by the TIC or TSCs comply with site specific-training standards.

2.2 Logistics Studies and Operations Planning

2.2.1 Logistics

The TIC shall perform logistical studies, analysis, or modeling of fleet operational alternatives that are important to establishing basic fleet operating assumptions and to support development of a comprehensive Campaign Operation Plan, as described in Section 2.1.3, and defining other system operating and interface parameters. The logistics analysis shall also provide information required to aid in defining time-sensitive fleet equipment procurement needs, including cask type/model mix, modal mix, special purpose railcars, or other specialty equipment necessary to meet escalating waste acceptance rates. The studies and analysis shall provide information required in identifying heavy haul and/or barge

shipment needs, or in making determinations relative to other specialized supporting services. Other factors that should be addressed include fleet utilization and capacity planning, equipment inventory management, spares management, campaign planning and management, including marshalling and dispatch of equipment, and establishing waste acceptance and equipment maintenance schedules. Various operation management options shall be identified and evaluated, including "Federalization" of transport operations and/or security.

Logistic determinations should address options for siting of a maintenance facility and the operation-command center, such that they support optimum equipment utilization, staffing efficiency, and effective fleet operations.

2.2.2 Site Servicing Plans

The TIC shall assist DOE in development and preparation of preliminary Site Servicing Plans (SSPs). The SSPs shall document the operating parameters at each Purchaser site that will govern the waste acceptance and on-site/near-site transportation operations. DOE expects that the TSCs will develop the final SSPs as part of their detailed campaign planning efforts. SSP development may require site visits and will require interactions with Purchaser operations staff. Interactions will be initiated and coordinated by DOE.

Each Purchaser SSP shall consist of two parts: Part 1 - Planning and Operational Requirements, and Part 2 - Site Servicing Schedule (see Section 2.3.1.). The TIC shall make maximum use of the current draft Services Planning Documents (SPDs) where available for a site, the Facility Interface Capabilities Assessment (FICA), and Near Site Transportation Interface (NSTI) data for each Purchaser site. DOE will provide these documents to the TIC.

Plans will be prepared for each site to be serviced by the TSC. Draft plans will be developed by the TIC which will describe all aspects of the site operations, equipment required, inter modal services required, and identify the responsibilities of all parties. The draft Site Service Plan will be used by DOE as the basis for describing the work scope for acquiring subsequent TSC services. The TSCs will prepare final site servicing plans as part of their scope of work. Subsequent servicing of a given site, once the final site planning is validated, will likely be performed on a fixed price basis.

2.2.2.1 Updating of SPD, FICA and NSTI Purchaser Site Data

The TIC shall assist DOE in validating and updating the existing SPD, FICA, and NSTI site data to reflect current conditions at the various Purchaser sites. Updates may require site visits and will require interactions with Purchaser operations staff. Interactions will be initiated and coordinated by DOE.

These documents, which describe various site conditions and operational interfaces were prepared approximately 5-10 years ago, will be updated by the TIC as part of the effort to develop draft site servicing plans as described above. For government sites these data will be developed by the TIC since they were not previously within the OCRWM scope and hence no site data was developed.

2.2.2.2 Planning and Operational Requirements

The preliminary SSPs shall contain all planning information necessary in sufficient detail to support DOE acquisition of the TSCs and the preparation of the final SSPs by the TSCs. The Site Planning Checklist (SPC) contains examples of functional responsibilities for the TSCs that should be considered in developing the SSPs. In addition, the SSPs shall identify preliminary primary and alternate near-site transportation routes and intermodal transfer sites (if required).

The SSPs shall delineate responsibilities of the TSCs and the Purchasers. For example, the TSC will coordinate the delivery of the transportation cask systems, auxiliary equipment, transportation services, training, etc., to a Purchaser site and the Purchaser will perform the on-site cask handling, loading, decontamination, preparation for off-site shipment, SNF verification, and preparation of shipping documentation. The TSC shall be responsible for ensuring that pre-shipment inspection, equipment configurations and auxiliary equipment are suitable for deployment. The cask maintenance personnel will perform preparatory maintenance and configuration of the cask system for a particular shipping campaign.

2.2.2.2 Federal (DOE) Sites

The TIC shall assist DOE in the development and preparation of preliminary site servicing plans for each of the five DOE sites that will be serviced. The basic construct for the Federal Site Servicing Plans (FSSP) shall be similar to those described for the Purchaser site SSPs. The site and near-site infrastructure information embodied in the Purchaser SPDs, FICA, and NSTI documents have not been developed for the DOE sites and will therefore need to be developed by the TIC. The FSSPs shall document the operating parameters at each Federal site that will govern the waste acceptance and on-site/near-site transportation operations. Preparation of the FSSPs will require site visits and interactions with site operations staff. These interactions, when necessary, will be initiated and coordinated by DOE. DOE expects that the TSCs will develop the final FSSPs as part of the campaign planning efforts.

2.3 Mobilization Plan

Approximately 3-4 years prior to the planned start of operations, the TIC shall assist DOE in the development and preparation of a Mobilization Plan. The plan will describe, establish schedules for, and identify responsible organizations for, completion of all activities necessary to mobilize the equipment, personnel, facilities, and operational and management infrastructures, necessary to begin operational readiness testing and demonstrations leading to full operational readiness. The plan shall address:

- MGR and Purchaser/Federal site operational interfaces
- Acquisition of supporting services
- Acquisition of site specific equipment
- Closure of all administrative/programmatic actions including:
 - QA considerations
 - National Environmental Policy Act (NEPA)
 - Nuclear Regulatory Commission (NRC) licensing
 - Routing issues
- Training needs

The TIC will assist DOE in developing a plan that outlines and describes the various activities that must be completed to prepare the transportation system, system hardware, and operational interfaces for operations. The plan will also incorporate a schedule that provides a planning basis for acquiring the appropriate operating resources, training operators, and performing operation readiness and dry run testing to assure the system is prepared for operations when waste acceptance begins.

2.4 Operational Readiness Plan (ORP)

The TIC shall assist DOE in the development and preparation of operational readiness plans that describe the tests, exercises, and demonstrations that must be conducted prior to the transportation systems operation with radioactive materials. The operational demonstrations must include all elements of the transportation project, including interfaces with both DOE and commercial waste generator sites.

The Operational Readiness Plan (ORP) shall describe tests, exercises, and demonstrations that include but are not be limited to:

- Demonstration of Transportation Cask System operational capabilities.
- Assurance that all operator and site training has been completed.
- Review of all procedures, or other administrative records, to assure that appropriate validations have been completed and that all precursor activities have been or will be completed.

- Demonstration of the satellite tracking, communication systems (including pre-shipment and emergency response notifications), and escort and security capabilities
- Demonstration of overall campaign management infrastructure including logistics and scheduling systems, coordination of equipment maintenance needs, marshalling and configuring equipment, positioning of crew resources,(including relief or replacement crews where necessary), and coordination of intermodal operations
- Verification of operational interfaces at the MGR and the initial sites to be serviced are compatible with the equipment designated for servicing the site.
- Verification that the transportation infrastructure(s) are capable of supporting the initial shipping campaigns.
- Verification that the route structure, emergency responder training and other enroute operational interfaces can support initiation of transportation campaigns
- Dry run cask shipment(s) or other operational verifications as determined by DOE based on recommendations by the TIC/TSCs.
- Simulation enroute emergency test as determined by DOE to verify that the communications, coordination, and other aspects of the emergency response network are functional.

The TIC shall provide an Operational Readiness Report that documents the results of the readiness testing along with recommendations for any corrective actions identified during the testing activities. The report shall be provided not later than 30 days after completion of the readiness testing.

This plan will work in concert with the mobilization plan to layout training, testing and demonstration program for assuring that the transportation system is ready for operations.

2.5 Schedules

2.5.1 Site Servicing Schedules

The TIC shall assist DOE in developing site servicing schedules which will be used as a basis for developing an integrated annual transportation campaign schedule and for directing the TSCs in their planning efforts. The site servicing schedule shall identify all major activities that will occur at the site during planning and preparation for a campaign, during a campaign, and after a campaign. The number of shipments and the number of casks per shipment shall be identified.

2.5.2 Annual Campaign Schedule

The TIC shall assist DOE in the development, preparation, and maintenance of an Annual Campaign Schedule. The Annual Campaign Schedule shall be based on integration of the site specific campaign schedules and guidance from DOE and

shall identify, to the degree possible, the expected dates for campaigns for each Purchaser or DOE site to be serviced in any given year.

The TIC shall update the schedule annually by the addition of specific campaign dates for subsequent year(s)

The annual campaign schedule will be developed and updated each year of operation. The schedule will layout an acceptance basis for servicing each utility and government site throughout a campaign year. The schedule will be developed in coordination with the Yucca Mountain Repository acceptance plans, Waste Acceptance requirements under the utility disposal contracts, government site servicing, and transportation fleet logistics considerations. The schedule will be use by DOE for tasking the TSCs, marshalling fleet equipment and to coordinate communications with states, tribes, and the NRC regarding shipment schedules.

2.5.3 Other Schedules

The TIC may be tasked to develop other schedules that may be needed to support budget determinations, equipment and services acquisition, or other operational or planning activities.

3.0 Acquisition of Fleet Equipment and Services (Phase A & B)

A major element of the National Transportation Project is acquisition of transportation fleet hardware, encompassing a broad mix of equipment that must be integrated into a comprehensive operating system. DOE may task the TIC to assist DOE in the procurement and oversight of manufacturing activities for all or a portion of the transportation fleet and associated hardware. DOE's preliminary acquisition strategy is structured to rely on the private sector to develop the necessary NRC-certified transport systems needed to fulfill specific mission needs. DOE does not currently expect to directly fund cask system design and certification as a discreet element of the procurement. DOE will procure systems certified by the NRC that meet identified SNF transport needs. All fleet hardware and associated support equipment, including railcars and truck trailers, purchased by the TIC under this SOW will become government property.

3.1 Quality Assurance

OCRWM-procured items and services and those procured by contractors on behalf of OCRWM subject to NRC QA regulations will comply with, and be controlled under, the applicable provisions of the OCRWM QARD.

If the TIC is tasked to perform work for OCRWM for procuring, delivering, and accepting items and services subject to controls of the QARD, the TIC must perform the work in compliance with the provision of the QARD. The TIC's QA program will be approved by OCRWM before the start of work subject to the QARD. OCRWM will also perform periodic audits, surveillances and other evaluations to ensure that the TIC QA program is effectively implemented.

3.1.1 TIC Quality Assurance Program

As indicated in Section 2.1.5, the TIC shall ensure that its QA program, and those of its subcontractors, meet all QA requirements for those systems, structures, components, and services to be provided or procured, operated, tested, or maintained by the TIC or its subcontractors in accordance with 10 CFR Part 71, as required by the QARD.

The TIC will be performing some activities that are covered by DOE and NRC quality assurance requirements. The purpose of the TIC QA plan is to demonstrate its understanding of the requirements and to describe how the TIC intends to implement their responsibilities regarding QA functions. The TIC will provide a QA plan to DOE for approval. DOE QA will also perform periodic audits and observance of the vendors' performance, records, and QA personnel qualifications.

3.1.2 Audit Support

The TIC support for OCRWM QA activities related to the transport mission activities may include support for DOE performance of QA audits of the equipment supply vendors and their subcontractors throughout performance of the Contract. Additionally, OCRWM will be performing surveillance and/or observations of the TSCs and their subcontractors' activities. The primary purpose of the audits, surveillance, and observations is to monitor the contractor's implementation of the QA program.

3.2 Acquisition of Transportation Fleet

Following determination of transportation fleet systems requirements, the TIC may be tasked to assist DOE in the acquisition of the Transportation Fleet hardware including transportation cask systems, transporters, auxiliary handling and operating equipment, and escort and special purpose railcars. The TIC shall prepare detailed acquisition plans for DOE approval that include specific cask fleet acquisition plans and schedules, including cost analysis and pricing strategies, and recommendations as described in Section 2.1.2. All fleet hardware and associated support equipment, including railcars and truck trailers, purchased by the TIC under this SOW will become property of DOE.

After DOE approves the acquisition plan, the TIC shall develop the necessary solicitation documents, including technical specifications or other system requirements, quality assurance requirements, acceptance and delivery requirements or other information necessary to support acquisition of the fleet hardware and other supporting hardware by the TIC. Because of the unique nature of the hardware and variety of equipment necessary, the TIC may be required to develop multiple solicitation packages. The TIC shall assist DOE in organizing and conducting of information meetings or pre-bid conferences as deemed necessary by DOE to facilitate the procurement and to assure comprehensive and timely bidding by the private sector.

3.2.1 Vendor Oversight

The TIC shall assist DOE in providing technical oversight and in monitoring progress for the cask and other equipment-manufacturing vendors. The TIC shall provide DOE with timely reports. The reports should cover cost and schedule performance, and identify any issues that could affect equipment performance, cost, or schedule. Where equipment and systems are being designed specifically for the OCRWM program mission, the TIC shall attend technical meetings or design reviews, and shall attend vendor meetings with the NRC when requested by DOE. The TIC shall assist DOE in evaluation and disposition of technical or manufacturing problems. The TIC shall also assist DOE during system performance or acceptance testing and operational dry runs as described in Section 4.2.

The TIC will support DOE during fleet equipment acquisition by providing support with vendor oversight as required by the QA program. The TIC will provide qualified personnel to visit vendor site periodically, as directed by DOE, to witness selected manufacturing activities, qualification or operational demonstration testing. The TIC will provide reports and documentation of their oversight activities as specified in their task orders.

3.2.2 Quality Assurance at Vendor Sites

The TIC shall support DOE's quality assurance monitoring and audits of the various manufacturing or equipment supply vendors. The TIC shall assist DOE in the review of vendor manufacturing, welding or other process procedures, and shop travelers, including assistance in identifying appropriate DOE witness points. The TIC may be requested to provide representatives to observe witness points on DOE's behalf.

3.3 Acquisition of Transportation Services

The TIC shall assist DOE in the development and preparation of procurement packages which will include RFPs suitable for the DOE to acquire transportation

services from TSCs. DOE will determine the scope of work for the TSCs, and define the specific acquisition strategy to be used for the acquisition, with the assistance of the TIC, as part of the special studies task described below. The TIC shall also assist DOE in conducting information meetings or pre-bid conferences deemed necessary by DOE to facilitate the procurement and to assure comprehensive and timely participation by the private sector.

DOE intends to task the TIC to support DOE's efforts to define and acquire transportation services from a number of private sector service and carrier organizations. The actual transport of the shipping casks will NOT be done by the TIC but by a number of Transportation Service Contractor (TSC) that DOE will contract with some time in the future consistent with program waste acceptance needs. When this activity is schedule DOE intends to have the TIC assist in the development of the RFP and support documentation.

3.4 Cask Fleet Maintenance and Inventory Management

The TIC shall assist DOE in the identification and evaluation of cask fleet maintenance and inventory management strategy alternatives and make recommendations for acquiring fleet management and inventory management services, including required maintenance, marshalling, and storage facilities, and associated equipment. Activities may include siting and construction recommendations where appropriate.

Cask fleet maintenance and inventory management encompasses those activities and services required to assure that the transportation fleet, including all supporting equipment and systems, remain operationally ready consistent with waste acceptance needs. These include:

- Development and implementation of an inventory management system.
- Assuring that appropriate cask systems, transporters, escort/security cars, buffer cars, and communication equipment, auxiliary and other support equipment, tools and spares are maintained in the inventory consistent with operational needs.
- Assuring that site-specific equipment is available to support operational needs of a particular site servicing campaign.
- Assuring that cask systems and auxiliary equipment are configured to suit campaign servicing needs.
- Assuring that adequate spares inventories are maintained.
- Assuring that all regulatory tests and inspections are completed and appropriately documented.
- Assuring that all routine maintenance and repairs are completed and appropriately documented.
- Decontamination of transportation casks and other support equipment including transporters (excluding tractors and railroad locomotives)

- Processing radioactive and other wastes for disposal off-site at suitable disposal sites.
- Assuring that cask licenses (allowable contents and registered users) are maintained consistent with the waste acceptance inventory shipment plans.
- Development and maintenance of a records management system.

4.0 Phase B - Mobilization, Operational Readiness, and Operational Oversight

4.1 Mobilization

Mobilization reflects the continued acquisition, deployment, and preparation of the transportation systems, support facilities, and other resources, including associated operational infrastructures, in anticipation of the initiation of waste acceptance and transportation operations. Mobilization activities will be described in the Mobilization Plan (Section 2.3)

4.1.1 Training

As part of the mobilization and operational preparations the TIC shall assist DOE, in concert with the TSCs, to plan, develop, and implement various training activities. This includes Federal, Purchaser, and other sites requiring service to assure that site operating staff are knowledgeable and qualified for each system or type of equipment used to service their locations. Training shall be conducted in accordance with the Training Plan(s) described in Section 2.1.7 and include hands-on dry runs of all operations required to handle, prepare, and load/unload cask systems designated for a particular site. Training shall also include periodic refresher training as required.

None of the training described above is related to the emergency responder training performed by others under the Section 180(c) grant program.

4.2 Operational Readiness - Tests and Demonstrations

Approximately two years prior to the planned start of waste acceptance and transportation operations, readiness tests, training exercises, and operational demonstrations will be initiated to assure that all aspects of the transportation system infrastructure are ready to support operations. The various tests and demonstrations identified in the operational readiness plans as delineated in Section 2.2.4 shall be structured to assure that determinations of "readiness" can be made or that timely corrective actions are taken to achieve readiness.

Concurrent with the operations demonstrations, the TIC and the TSC(s) shall assist DOE in readiness reviews to evaluate the adequacy of their respective resources and capabilities, plans and procedures, and supporting systems to support startup and sustain waste acceptance and transportation operations provided for in the Servicing Plans and schedules. The TIC shall prepare a Readiness Review Document that shall include a plan, a schedule, and the acceptance criteria to be utilized during the readiness testing as specified in this section.

4.3 Operations Support and Oversight

Operational oversight reflects management and administrative support provided to DOE during the initial period of waste acceptance and transportation operations. The TIC shall assist DOE with the planning, managing, monitoring, and evaluating of transportation operations during the initial period of operations as described herein.

4.3.1 Operational Coordination

The TIC shall assist DOE in the establishment and maintenance of operational coordination during the mobilization and operating periods. Coordination activities shall include the TSCs, designated Federal site managers, the MGR Facility operator, other designated Federal organizations, and DOE for the purpose of coordinating operations planning, transportation operations, emergency response, and delivery schedules to the MGR. DOE will maintain communications with Purchasers, and provide necessary planning and schedule input to the TIC and the TSCs. Communications will facilitate resolution of issues and problems of mutual interest to TIC, TSCs, DOE, Federal site managers, and the MGR operator. As a part of this activity, the TIC shall assist DOE in quarterly coordination meetings, attended by the TIC, DOE, the Federal site managers, the MGR operator, the TSCs, and others identified by DOE.

4.3.2 DOE Transportation Operations Center

The TIC may be tasked to assist DOE in establishing and staffing an Operations Center managed by DOE where overall command and control of the transport operations will be focused. The location of the center, functional responsibilities, staffing, communications and tracking equipment, and data management needs will be determined under the Engineering and Technical Support described in Section 5.1.

The Operations Center will include the capability to continuously track all shipments and to respond verbally and electronically to operations and to first responder, or requests from officials representing State, Tribal or local units of government. This includes requests for technical information or assistance on any of the TSC's normal shipments or those that may become involved in incidents or accidents. This capability shall include providing immediate availability of

technical information either from the TIC, TSCs, or appropriate equipment suppliers. The Operations Center shall be capable of responding on a 24 /7 basis - year round during transportation campaigns.

The center shall also be prepared to respond to emergency requests for information or expertise from the DOE, NRC, or other State, Tribal, and Federal agencies.

The TSCs will be operationally responsible for coordination of delivery and return of all transportation casks and associated equipment needed to support a shipping campaign. The TSCs will provide the means for the DOE to communicate directly with the TSC's transportation carriers to effect this coordination. The DOE will keep the TSCs informed of any communications with the TSC's transportation carriers. The DOE will have no authority to direct the TSC's transportation carriers to incur costs in addition to costs authorized by the TSC.

4.3.3 Emergency Response Support

The TIC may be requested to provide emergency response support to on-scene officials responding to emergencies related to a shipment. The specific type of support to be provided by the TIC shall be determined by DOE as part of the overall development of the Emergency Response Plan as described in Section 2.1.6.

4.3.4 Permits, Authorizations, Licenses and Approvals

The DOE and TSCs will be responsible for obtaining all required permits, authorizations, and approvals required in performing the transportation mission. DOE will be responsible for maintaining transportation cask NRC licenses through the respective cask system license holders. The TIC may be requested to assist DOE in assuring that the casks licenses are current and that cask licensee or registered users take appropriate licensing actions.

4.3.5 Payment of Fees

Fees associated with transportation, including state-imposed fees, special permits, intermodal service fees, port fees, or other fees encountered as part of the shipping activity will be paid by the DOE or the TSCs as described under their contract with DOE. No fees are to be paid by the TIC, although DOE may request that the TIC assist DOE in the resolution of fee issues.

5.0 Other Activities

5.1 Engineering and Technical support

The TIC shall assist DOE during the initial planning, fleet mobilization and subsequent waste acceptance operations. Assistance may be requested in addition to that described above in the following areas:

- Planning, scheduling, and campaign formulation
- Development of traffic management and logistic strategies
- Nevada Rail operational analysis and interfacing
- Development of command and control protocols and en route communication and tracking needs.
- Pre-operational testing
- Operational readiness reviews
- Routing
- Evaluating operational interfaces and near-site infrastructure suitability at Purchaser and Federal sites
- Operational monitoring and assessments
- Incident evaluation and analysis

The sections describing engineering and technical support are intended to provide a basis for tasking the TIC for future studies or analysis that DOE may require to assist in evaluating alternatives, choosing future operating strategies, or assisting DOE with the investigation and resolution of problems that may occur. All aspects of the transportation mission cannot be defined at this time due to many program uncertainties, and the yet to be established operating environment. These two study tasks are intended to provide DOE with support to address these evolving areas.

5.2 Special Studies

The TIC may be tasked to assist DOE in performing special studies and evaluations, exploring alternatives or strategies for fleet management, equipment acquisition, business arrangements, operations, or other analysis as may be required to support the transportation mission. Special studies include, but are not limited to:

- Cask fleet maintenance service alternatives
- Cask fleet management options
- Cask fleet transport operations and site servicing alternatives
- Training services alternatives
- Lease vs. buy analysis for cask fleet acquisition alternatives

5.3 Data Management

The TIC shall assist DOE in the planning, development, data collection, and maintenance of a transportation information management system that will interface with the DOE records management system. The system shall meet the requirements of

the QARD and must support waste acceptance records per 10 CFR 961 Appendix F, NRC licensing needs, compliance with NRC safeguards in accordance with 10 CFR 73.70 (g), and other DOE data and record management requirements related to the acceptance, transport and disposal of radioactive materials from both commercial and Federal generator sites.

Data management support is intended to cover the collection, cataloging, storage and retrieval of a myriad of technical data and documents associated with the transportation mission. This includes NRC mandated record keeping functions, maintaining SNF and waste data, maintaining operating records and training records, and records or data for many other functions. DOE intends to have the TIC assist in the identification of data management needs and developing a system infrastructure to aid in their management.

5.4 Program Interfacing

The TIC shall assist DOE in identifying and maintaining programmatic interfaces that are necessary to support the transportation activities. These include interfaces within the OCRWM program and program contractors, including the MGR and the Nevada rail development, and also interface with other Federal program offices including DOE-EM, and Naval Reactors. Furthermore, technical interfaces will be required with a number of National Laboratories that are assisting DOE in the resolution of technical issues and development of various technology that will be used to support fleet definition, logistic studies, and other planning and scheduling activities.

The intent of this task is for the TIC to assist DOE in identification of evolving interfaces and assist in their oversight. Examples include coordination of the Yucca mountain operational needs with the overall delivery of hardware that can be operated at the site, scheduling of shipments into the repository to suit receipt planning and emplacement needs, and to coordinate operations at the various utility and government waste generator sites.

5.5 Assistance to States and Tribes

The DOE may request that the TIC provide technical assistance to the States or Tribes regarding operations, emergency procedures, communications, training, or other needs determined by DOE.

DOE may request the TIC to assist those States and Tribes authorized to possess real-time tracking systems in acquiring, setup, training, and operations of tracking system equipment.

Appendix A - Acronyms and Definitions

List of Acronyms

CFR - Code of Federal Regulations
DOE - Department of Energy
DOE-SNF - Department of Energy (managed) Spent Nuclear Fuel
FICA - Facility Interface Capability Assessment
FSSP - Federal Site Servicing Plan
HLW – High-Level Waste
MC - Maintenance Contractor
MGR - Monitored Geologic Repository
NEPA - National Environmental Policy Act
NRC - Nuclear Regulatory Commission
NSTI - Near Site Transportation Interface
OCRWM - Office of Civilian Radioactive Waste Management
ORP - Operational Readiness Plan
QA - Quality Assurance
QARD - Quality Assurance Requirements and Description
RFP - Request for Proposal
SNF - Spent Nuclear Fuel
SOW - Statement of Work
SPD - Site Planning Document
SSP - Site Servicing Plan
TIC - Transportation Integration Contractor
TSC - Transportation Service Contractor

Definitions

Auxiliary Equipment - Equipment items included as part of a transportation cask system that are generally used to support cask system operations or handling.

Ancillary Equipment - Equipment items included as part of a transportation campaign that are generally used to adapt the cask system interfaces to the site specific interface features.

Non-Q - Work performed, or items purchased or manufactured outside of an NRC or DOE-approved QA program.

Purchaser - Utilities and other commercial waste generators who have contracts with DOE for the disposal of SNF and HLW.

Section 180(c) - of the Nuclear Waste Policy Act (NWPA), as amended, requires DOE to provide technical assistance and funds to States for training public safety officials of appropriate units of local government and Indian tribes through whose jurisdictions DOE plans to transport spent nuclear fuel and high level radioactive waste under a NWPA authorized Federal facility.

Shipping campaign - A contiguous series of shipments between a waste generator site and the repository, characterized by a mobilization of facilities, equipment, and staff at the start of shipping, and demobilization at the end of the contiguous of shipments.

Shop Travelers - Documents prepared by the cask-manufacturing vendors that identify the manufacturing steps, specific procedures, and QA requirements for a particular component, sub-assembly, equipment item.

Witness Point - A specific point in the manufacturing process (e.g. a manufacturing step, action, inspection, or test) for a manufactured item where DOE or its designate may elect to be physically present to observe and verify.