



## HANFORD MISSION SUPPORT CONTRACT



# NUCLEAR SAFETY PROTOCOL FOR WORK PERFORMED BY THE MISSION SUPPORT CONTRACTOR IN NUCLEAR FACILITIES MANAGED BY OTHER HANFORD SITE PRIME CONTRACTORS

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**Concurrence on the Hanford Mission Support Contract (MSC)  
Nuclear Safety Protocol for specific Roles and Responsibilities**

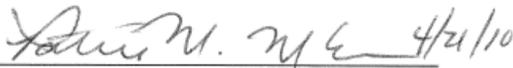
This signature page serves as concurrence on the Hanford MSC Nuclear Safety Protocol for specific Roles and Responsibilities between Mission Support Alliance (MSA) and the following Hanford Site prime contractors: CH2M HILL Plateau Remediation Company (CHPRC), Washington River Protection Solutions (WRPS), Washington Closure Hanford (WCH) and Pacific Northwest National Laboratory (PNNL).

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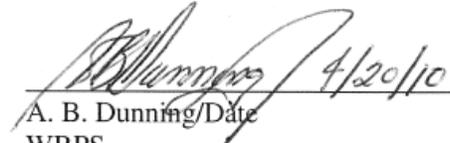
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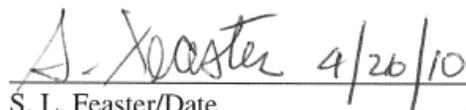
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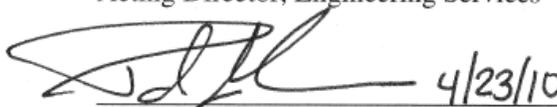
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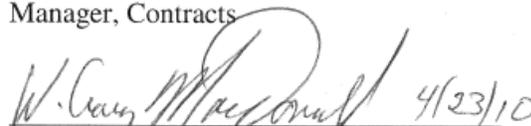
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### CHANGE HISTORY

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Rev. 0	July 2, 2009	Ellen Wright	Initial issue
Rev. 1	July 14, 2009	Ellen Wright	Revision to incorporate comments from other Hanford prime contractors and to receive their concurrence
Rev. 2	April 20, 2010	Wayne Schofield	Revisions to include PNNL, incorporate comments from PNNL and to receive their concurrence



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## TERMS

ACES	Access Control Entry System
AIA	Administrative Interface Agreement
AJHA	Automated Job Hazard Analysis
AVS	Acquisition Verification Services
BNI	Bechtel National, Inc.
BMI	Battelle Memorial Institute
CFR	<i>Code of Federal Regulations</i>
CHPRC	CH2M HILL Plateau Remediation Company
CRD	Contractor Requirements Document
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
DSA	Documented Safety Analysis
ES&T	Emergency Services and Training
RL	U.S. Department of Energy, Richland Operations Office
ORP	U.S. Department of Energy, Office of River Protection
PNSO	U.S. Department of Energy, Pacific Northwest Science Office
DOT	U.S. Department of Transportation
DSA	Documented Safety Analysis
ESH&Q	Environment, Safety, Health and Quality
GSA	General Services Administration
HAMMER	Hazardous Materials Management and Emergency Response
HC	Hazard Category
ICD	Interface Control Document
IMP	Interface Management Plan
ISMS	Integrated Safety Management System
IWP	Integrated Work Plans
JCI	Johnson Controls, Inc.
LCO	limiting condition for operations
MC&A	Material Control and Accountability
MOA	Memorandum of Agreement
MSA	Mission Support Alliance, LLC
MSC	Mission Support Contract
NTS	Noncompliance Tracking System
NM	Nuclear Material
ORP	Office of River Protection
PAAA	<i>Price-Anderson Amendments Act of 1988</i>
PFPP	Plutonium Finishing Plant
PNNL	Pacific Northwest National Laboratory
PNSO	Pacific Northwest Science Office
RAP	Radiological Assistance Program
RCCC	River Corridor Closure Contract
RL	Richland Operations Office



RPP	Radiation Protection Program
RWP	Radiation Work Permit
SARP	Safety Analysis Report for Packaging
SAS	Safeguards and Security
SDD	Service Delivery Documents
SI&U	Site Infrastructure and Utilities
TOC	Tank Operations Contract(or)
TSD	Transportation Safety Document
TSR	Technical Safety Requirement
USQ	Unreviewed safety question
WCH	Washington Closure Hanford, LLC
WIDS	Waste Information Data System
WRPS	Washington River Protection Solutions, LLC
WTP	Waste Treatment Plant



## 1.0 OVERVIEW

The Mission Support Alliance, LLC (MSA) is the prime contractor for the Hanford Mission Support Contract (MSC), as specified in Contract DE-AC06-09RL14728 between the U.S. Department of Energy (DOE) and MSA. The nuclear safety protocol was developed pursuant to MSC Section C, “Statement of Work,” Item C.3.2, Page C-188, second bullet. This nuclear safety protocol provides assurance that the MSA shall comply with applicable facility safety authorization basis and nuclear safety requirements established by the responsible contractor before performing work scope within nuclear facilities. Nuclear facilities include Hazard Category (HC) 1, 2, 3 and less than HC-3 facilities. This nuclear safety protocol also establishes the overarching process MSA uses to interface with other contractors for nuclear safety. Where there is an interface with a nuclear facility, review and approval of MSA work packages may be necessary to ensure the work scope will comply with established nuclear facility requirements.

### 1.1 APPLICABILITY

The nuclear safety protocol is only applicable to nuclear facilities (as defined in 10 CFR 830, “Nuclear Safety Management”). The scope of this nuclear safety protocol includes:

- MSA work performed in nuclear facilities on behalf of other contractors on the Hanford site
- MSA Emergency Services and Training (ES&T) and Site Infrastructure and Utilities (SI&U) support services that have been identified by other contractors as having the potential to impact nuclear facility safety authorization basis or nuclear safety requirements (e.g., technical safety requirements [TSR])
- MSA conducted on-site transportation and packaging meeting the requirements for a Documented Safety Analysis (DSA) (e.g., a Safety Analysis Report for Packaging [SARP] or Transportation Safety Document [TSD])
- Quality affecting activities performed by MSA, such as Acquisition Verification Services (AVS) receipt inspection and evaluation of suppliers. While these activities are not routinely performed in other contractor’s nuclear facilities, they do impact nuclear safety. MSA performs these activities in accordance with its DOE-approved 10 CFR 830 Subpart A quality assurance program and specific agreements with other contractors; these activities are not discussed further.

The nuclear safety protocol describes the general scope of work to be performed, flow down of nuclear safety requirements, and implementing processes or procedures. As required by the MSC, DOE approval of the MSA nuclear safety protocol is required before the end of transition; the nuclear safety protocol will become effective on Day 1 of Operations. Any future protocols or updates to the nuclear safety protocol will be submitted to DOE-RL for approval.



This nuclear safety protocol applies to MSA employees, defined as direct employees of the MSA as well as employees of pre-selected subcontractors that comprise the MSA Team. It also applies to other subcontractors when incorporated into subcontract documents.

## **1.2 DOCUMENT HIERARCHY**

This nuclear safety protocol provides a foundation to perform the MSA work scope within nuclear facilities that are the responsibility of other responsible contractors on the Hanford Site. This protocol will be part of the MSA Integrated Safety Management System (ISMS) description and is incorporated by reference into the Interface Management Plan (IMP), contract documents, and/or Memoranda of Agreement (MOA). It is a standalone document, separate and distinct from the IMP and MOA.

At the highest level, the MSC defines the scope of work and applicable regulations and requirements, including those for nuclear safety. Attachment J-3 of the MSC, the “Hanford Site Services and Interface Requirements Matrix,” provides DOE-directed requirements for Hanford Site services and identifies interfaces amongst contractors on the Hanford Site. The IMP serves as MSA’s top-level interface document between the MSA and other contractors. The Master Services Agreement or Inter-Contractor Work Orders are the contracts for services requested and performed between MSA and other contractors. The MOA serves as a high-level document to specify the roles and responsibilities between MSA and a specific contractor; the MOA demonstrates concurrence through signature by the specific parties. Service Delivery Documents (SDD) incorporate the specific roles, responsibilities, and requirements from Administrative Interface Agreements (AIA) and Interface Control Documents (ICD) that are in place at the facility or service area level. The SDDs will specify requirements relative to a facility or service area. Where applicable, the MSA shall flow down this nuclear safety protocol and other contractor’s nuclear facility safety authorization basis and nuclear safety requirements to subcontractors for compliance. At a lower level, these contract and interface documents are supported by both Hanford site-wide and contractor-specific procedures and processes to implement roles and responsibilities. The MSA will coordinate with the facility and participate in integrated work planning for work conducted in nuclear facilities as appropriate. Figure 1 provides the general concept for the interface document hierarchy planned for the MSA.

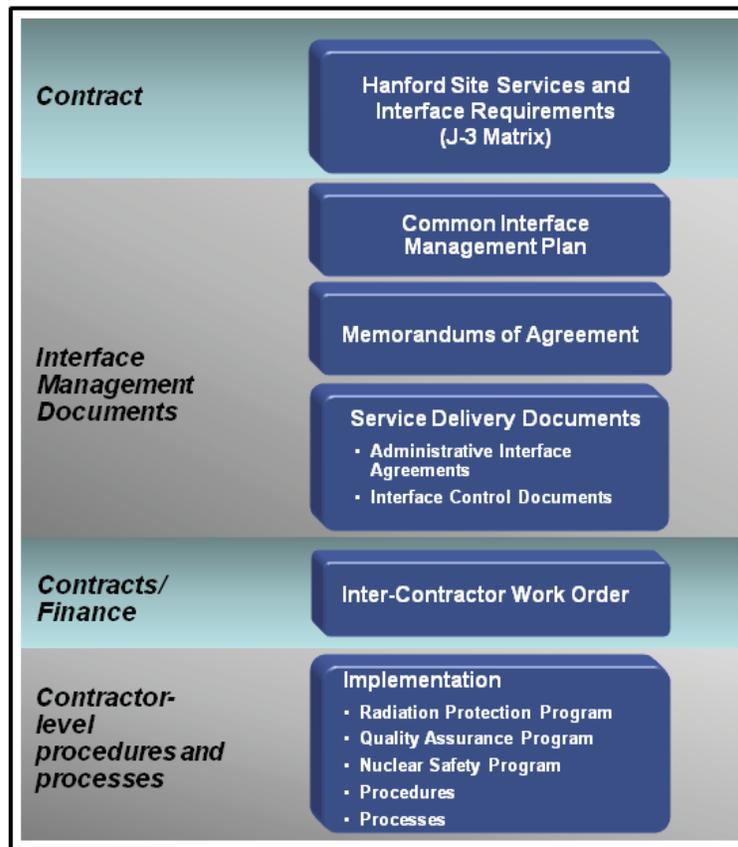
Where conflict exists with other approved contractor interface documents (e.g., IMP, contracts, MOAs, SDDs), the interface document shall take precedence unless otherwise specified.

## **2.0 GENERAL MSA SCOPE OF WORK**

The purpose of the MSC is to provide direct support to DOE Richland Operations Office (RL), DOE Office of River Protection (ORP), DOE Pacific Northwest Site Office (PNSO) and its contractors with cost-effective infrastructure and site services integral and necessary to accomplish the Hanford Site environmental cleanup mission. The scope includes five primary functions:

- SSE
- SI&U

- Site Business Management
- Information Resources/Content Management
- Portfolio Management.



**Figure 1 – Interface Document Hierarchy Planned for the MSA.**

The MSA also will play a key role in ensuring that interfaces with and between Hanford Site customers (i.e., DOE Offices, Hanford Site contractors, etc.) that affect their scope of work are managed in a manner which encourages open and proactive communication, collaboration, and cooperation.

Governing laws, regulations, and DOE directives for the MSA work scope are defined in the Contract DE-AC06-09RL14728; Attachment J-2 provides the requirement sources and implementing documents, including those directly related to nuclear safety (e.g., 10 CFR 820, “Procedural Rules for DOE Nuclear Activities;” 10 CFR 830, “Nuclear Safety Management,” Subpart A; and CRD O 5480.20A, Change 1, “Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities”).

The current scope of the MSC does not include design, maintenance, operation, or decontamination and decommissioning (D&D) of nuclear facilities; however, the MSC does include work in nuclear facilities designed and operated by other contractors. The MSA also



provides motor carrier services and qualified drivers for general freight and hazardous materials, including radioactive materials and radioactive mixed waste; the quantity of material carried in some cases may meet the threshold for requiring a DSA. Although MSA will not generate material exceeding the threshold for a DSA, the MSA may provide the motor carrier and qualified driver to transport the material. Compliance for a DSA is met by conducting these activities in accordance with applicable U.S. Department of Transportation (DOT) *Code of Federal Regulations*, Title 49 regulations for off-site transportation and DOE/RL-2001-36, *Hanford Sitewide Transportation Safety Document*, and referenced safety authorization basis documents therein for on-site transportation. DOE/RL-2001-36 currently is maintained by DOE/RL with the support of Hanford Site contractors.

The MSA provides services to each of the major contractors on the Hanford Site. Sometimes these services are performed at nuclear facilities for which a contractor is responsible. The MSA provides services for the following Hanford Site contractors that design, maintain, provide surveillance at, operate, or perform D&D at nuclear facilities:

- CHPRC - prime contractor for the Plateau Remediation Contract (PRC) (Contract DE-AC06-08RL14788), including completion of the Plutonium Finishing Plant (PFP) project; non-Tank Farm waste disposal activities; groundwater monitoring and remediation; and facility and waste site characterization, surveillance, maintenance, regulatory document preparation, and remediation.
- Washington Closure Hanford, LLC (WCH) - prime contractor for the River Corridor Closure Contract (RCCC) (Contract DE-AC06-05RL14655), which includes closing the Hanford Site River Corridor through deactivation, decontamination, decommissioning, and demolishing excess facilities; placing former production reactors in an interim safe and stable condition; remediating waste sites and burial grounds; and transitioning the River Corridor to long-term stewardship.
- Washington River Protection Solutions, LLC (WRPS) – prime contractor for the Tank Operations Contract (TOC) (Contract DE-AC27-08RV14800) for operations and construction activities necessary to store, retrieve, and treat Hanford tank waste; store and dispose of treated waste; and begin to close the Tank Farm waste management areas to protect the Columbia River.
- Battelle Memorial Institute (BMI) which maintains and operates the Pacific Northwest National Laboratory (PNNL) (Contract # DE-AC05-76RL01830) for the DOE Office of Science, Pacific Northwest Science Office (PNSO); a multi-program laboratory that conducts research and development activities, including technology programs related to the Hanford cleanup mission.

The individual contractors maintain a current list of nuclear facilities that are in the scope of their contract.

The MSA also provides limited infrastructure support to Bechtel National, Inc. (BNI). BNI is the prime contractor for the design, construction, and commissioning of the Hanford Waste Treatment and Immobilization Plant (WTP) (Contract DE-AC27-01RV14136), a vitrification facility that will convert radioactive tank wastes into glass logs for long-term storage. The



nuclear facilities comprising the WTP are currently being constructed and are not yet operational.

Types of services performed by MSA at these nuclear facilities may include, but are not necessarily limited to:

- Safeguards and Security
- Fire protection
- Emergency Operations
- Biological control
- Crane and rigging
- Motor carrier services
- Fleet services
- Facility services
- Railroad services
- Roads and grounds
- Utilities
- Sewer systems
- Telecommunications
- Information systems
- Independent analysis and assessments.

The next sections provide additional detail, segmented by service area; for the types of services that may be performed at nuclear facilities. They also identify the main mechanism used to ensure compliance with nuclear safety requirements.

## **2.1 SAFETY, SECURITY, AND ENVIRONMENT**

In accordance with Section 2.1 of the MSC, the MSA will directly provide time-phased ready-to-serve capability to Hanford Site environmental cleanup missions, including protective forces, physical security systems, information security, personnel security, material control and accountability (MC&A), cyber security, program management, Hazardous Materials Management and Emergency Response (HAMMER) facility operations, site-specific safety training, fire and emergency response services, emergency operations, maintenance of a selected set of Hanford Site safety standards, Radiological Assistance Program (RAP) operations, environmental regulatory management, and public safety and resource protection.

### **2.1.1 Safeguards and Security**

In accordance with Section 2.1.1 of the contract, the MSA shall have a Safeguards and Security (SAS) Program that includes the following SAS elements: protective forces, physical security systems, information security, personnel security, MC&A, cyber security, and program management to ensure the protection of Nuclear Material (NM), classified, government sensitive information, and government property. The SAS Program also is responsible for safeguarding the shipment of NM. Hanford Patrol interacts with every facility and every area of the site, including nuclear facilities. The facility sets entry requirements. Hanford Patrol and other SAS personnel will be trained as appropriate on nuclear facility entry requirements.



### **2.1.2 Fire and Emergency Response Services**

In accordance with Section C.2.1.3 of the MSC, the MSA shall provide emergency response services, including fire prevention, fire suppression, and fire investigations; emergency rescue; emergency medical service and patient transport; incident command; and hazardous materials and chemical/biological/radiological emergency response (including decontamination) for the Hanford Site. The MSA shall provide fire protection system inspection, testing, and maintenance of existing and new fire systems. Work shall be performed in accordance with DOE Order 420.1B, *Facility Safety* and approved the DSA for the affected facility. Procurement requirements must be consistent with approved DSA and safety program requirements as credited in the DSA. Hanford Site contractors are responsible to communicate fire service needs to the MSA for changes to their facilities or new installations. The MSA shall ensure 24/7 fire-related protection of human life, property, and facilities and be able to operate basic and advanced life support emergency medical services.

A key interface with nuclear facilities is fire protection system inspection, testing, and maintenance; the MSA (i.e., Hanford Fire Department) also may enter nuclear facilities during emergency response. Emergency Management is conducted in accordance with DOE/RL-94-02, *Hanford Emergency Management Plan* and DOE-0223, *Richland Operations Office Emergency Plan Implementing Procedures*. The fire and emergency response services personnel interact with all buildings and areas of the Hanford Site for emergency response and include the Hanford Fire Department, Fire Marshall Office, Fire Maintenance group, and Fire Systems Testing group. With the exception of PNNL, the MSA performs all testing and maintenance of Site fire protection systems. The BNI WTP is currently developing its own fire system design, but will transfer the system to the Hanford Fire Department once complete.

### **2.1.3 Radiological Assistance Program**

In accordance with Section C.2.1.6 of the MSC, the MSA shall maintain the Region 8 RAP Team, including RAP Team plans, procedures, resources, and 24-hour a day response capabilities. Radiological assistance shall be provided to the Hanford Site, other Region 8 radiological incidents (Alaska, Oregon, and Washington), other regions, and possible international mutual aid support as directed by DOE. The MSA manages the Region 8 RAP on behalf of RL. The RAP mission is to provide first-responder assistance to protect the health and safety of the general public and the environment; assist DOE program elements, and other Federal, state, Tribal and local agencies in the detection, identification and analysis, and response to events involving the use of radiological/nuclear material. The RAP provides 24-hour a day radiological response capabilities. The RAP teams consist of DOE and DOE contractor personnel who perform radiological assistance duties as part of their normal employment or as part of the terms of the contract between their employer and DOE. The MSA will require augmentation of RAP response team personnel, equipment, and expertise as delineated in workscope arrangements with the Contractor and other Hanford Site contractors or off-site vendors. Hanford Site Contractors shall provide qualified personnel, technical expertise, and support to the DOE Region 8 RAP to ensure maintenance and staffing of emergency teams with the ability to respond under the direction of DOE National Nuclear Security Administration (NNSA) and the U.S. Department of Homeland Security. The Contractor shall establish an



agreement with the MSA detailing the specific services to be provided by the Contractor in support of the Region 8 RAP.

Although RAP primarily responds to radiological incidents outside other contractor nuclear facilities, they provide plume tracking support and mutual aid as needed to support overall Hanford emergency response. In the event a RAP Team required entry into a nuclear facility, they would coordinate with the appropriate facility emergency contact for entry in accordance with DOE/RL-94-02 and DOE-0223.

#### **2.1.4 Environmental Regulatory Management**

In accordance with Section C.2.1.7 of the MSC, the MSA shall establish an environmental program that is compliant with applicable laws, regulations, DOE directives, and the Section H Clause entitled, “Environmental Responsibility.” Responsibilities include site-wide management, administration, integration, permitting, and compliance in coordination with other Hanford Site contractors; MSA-specific work scope for environmental permitting and compliance; and near-field environmental monitoring. Although environmental monitoring primarily is conducted in areas outside of nuclear facilities, situations may arise that require environmental monitoring to be conducted in nuclear facilities, particularly outdoor nuclear facilities (e.g., Tank Farms, WIDS sites). In the event MSA employees require entry into nuclear facilities, they will comply with the entry/exit requirements established for the facility (e.g., Radiological Work Permits [RWP], Automated Job Hazard Analysis [AJHA], Access Control Entry System [ACES], facility/shift manager notification/authorization, and/or training requirements, etc.) in accordance with the responsible contractor’s Radiation Protection Program (RPP).

## **2.2 SITE INFRASTRUCTURE AND UTILITIES**

In accordance with Section C.2.2 of the MSC, the SI&U scope includes analytical services, biological control, crane and rigging (including critical lift), motor carrier services, facility services, fleet services, railroad services, roads and grounds, and utilities (electrical and energy management, water, and sewer). The MSA shall develop and implement an integrated, life cycle approach to furnish, operate, maintain, turn down, and close required infrastructure for all mission areas based on user requirements. The MSA shall operate and maintain infrastructure systems to directly and reliably meet customers’ needs and support customers’ ability to conduct environmental cleanup.

The MSA shall maintain required services and equipment, and ensure safe, compliant, cost-effective, and energy-efficient alignment with projects that are integral to the Hanford Site environmental cleanup mission. The MSA shall, when appropriate and cost effective, replace fixed and system-related utilities with temporary services or permanent, off-grid power sources. When DOE or the MSA determines that the services and/or equipment are no longer required or cost-effective, the MSA shall propose actions for elimination or removal.

Key interfaces of SI&U are nuclear facilities of other contractors, with the exception of those under the scope of DOE contracts with WCH, BNI, or PNNL. SI&U maintains the fleet of both heavy equipment and vehicles, including cranes and heavy equipment, (except those owned or leased by BNI); big trucks, (except those operated for the Environmental Restoration Disposal



Facility); and General Services Administration (GSA) vehicles. SI&U also maintains the “main loop” utilities, such as water, electric, sewer, and roads.

### **2.2.1 Biological Controls**

The MSA operates the biological control program for the Hanford Site. In accordance with Section C.2.2.2 of the MSC, biological controls is a service to control noxious weeds, other vegetation, and animal pests. The program controls vegetation on approximately 2,000 acres, traps and removes animals, and eliminates insect infestations. The integrated Biological Control Program interacts with every nuclear facility for both animal and plant control, with the exception of WCH (which self-performs animal control) and PNNL (which does not utilize plant control). The Biological Control Program is conducted primarily in areas outside of nuclear facilities; however, situations may arise that require biological control monitoring to be conducted in nuclear facilities, particularly outdoor nuclear facilities (e.g., Tank Farms). Biological control services will be conducted as specified in contract documents (e.g., contracts, MOAs, SDDs, AIAs, and/or ICDs). In the event MSA employees require entry into nuclear facilities, they will comply with the entry/exit requirements established for the facility in accordance with the responsible contractor’s RPP.

### **2.2.2 Cranes and Rigging**

In accordance with Section C.2.2.3 of the MSC, the MSA work scope for this activity includes all activities necessary to maintain ready-to-serve capability, including operation and maintenance of mobile cranes; hoisting, rigging, critical lifts, scaffold erection and disassembly; inspection, load testing, and preventive maintenance; fabrication below the hook; hauling of equipment and apparatus; training and physicals; fabricating cables as appropriate, and management assessments. A key interface is to provide the cranes and qualified personnel to operate cranes and perform hoisting and rigging. The personnel performing these services (e.g., crane operators) may access nuclear facilities to perform work. The MSA employees accessing nuclear facilities will comply with the facility work control system and the entry/exit requirements established by the facility in accordance with the responsible contractor’s RPP. The MSA will coordinate with the facility and participate in integrated work planning for work involving cranes and rigging as appropriate. All Hoisting and Rigging activities performed on site by MSA crane and rigging personnel will be in strict compliance with DOE/RL-92-36, *Hanford Site Hoisting and Rigging Manual* (current revision).

### **2.2.3 Motor Carrier Services**

Per Section C.2.2.4 of the contract, Motor Carrier Services provides a ready-to-serve, centralized pool of commercial motor vehicles and qualified drivers for on-site and limited commerce transportation of general freight and hazardous materials, including radioactive materials and radioactive mixed waste. The MSA work scope for this activity includes all activities necessary to maintain ready-to-serve capability of motor vehicles (10,000 pounds or more road use vehicles as defined by Federal motor carrier regulations) service and placard hazardous material shipments to Hanford Site contractors, as requested.

The quantity of material carried may in some cases meet the threshold for requiring a DSA. Although MSA will not generate material exceeding the threshold for a DSA, the MSA may



provide the motor carrier and qualified driver to transport the material. The MSA meets its obligations for nuclear safety in transportation and packaging by conducting these activities in compliance with applicable DOT 49 CFR regulations for off-site transportation and DOE/RL-2001-36 and referenced safety authorization basis documents therein for on-site transportation. DOE/RL-2001-36 currently is maintained by DOE/RL with the support of Hanford Site contractors. If a generator or transporter chooses to use a type of package not currently approved by DOT or DOE (through DOE/RL-2001-36), a new SARP must be developed and submitted for approval prior to use.

#### **2.2.4 Fleet Services**

In accordance with Section C.2.2.6 of the MSC, the MSA shall provide management and coordination, statistical usage tracking, and reporting on GSA-leased vehicles and DOE-owned vehicles/equipment. The MSA shall perform vehicle repair and modification services as required (e.g., in the 200 Area). Some vehicles are designated as “regulated” because of contamination and are required to be serviced within radiologically-controlled areas. The roles and responsibilities for regulated vehicles, (e.g., radiological surveys), will be conducted in accordance with the responsible contractor’s RPP and implementing procedures. The scope also includes record-keeping, vehicle assignment, ensuring vehicle utilization, and excess/ disposal of fleet vehicles and parts. The majority of motorized vehicles (those that are eligible for license plates) are leased from the GSA, including sedans, buses, ambulances, tractors, flatbeds, dump trucks, tool vans, utility maintenance vans, cab and chassis, trailers, wreckers, and fuel tankers. The majority of the fleet of vehicles/equipment is operated outside nuclear facilities. In the event MSA employees require entry into nuclear facilities, they will comply with the entry/exit requirements established for the facility in accordance with the responsible contractor’s RPP.

#### **2.2.5 Facilities Services and Utilities**

In accordance with Section 2.2.5 of the MSC, Facility Services is a central maintenance function for non-radiological facilities, and includes facility painting, sign painting, carpentry, refrigerated equipment service, insulation, pipefitting, electrical, sheet metal, instrumentation, cement finishing, glazier work, custodial, locksmith, movers, and equipment calibration. Sections C.2.2.9, C.2.2.10, and C.2.2.11 describe utilities, sewer system, and sanitary waste management and disposal responsibilities under the MSC. Key interfaces of Facility Services and Utilities are nuclear facilities of other contractors, with the exception of those under the scope of DOE contracts with WCH, BNI, or PNNL. Another Hanford Site prime contractor Johnson Controls, Inc. (JCI) maintains and operates the 300 Area centralized Air Compressors and provides steam to support heating and other operations at the Hanford Site. Site Infrastructure and Utilities also maintains the “main loop” utilities, such as water, electric, sewer, and roads. In most cases, the interface is the facility boundary. For nuclear and radiological facilities, the individual facilities maintain the utilities and may do maintenance on electrical systems on the facility side of transformers (i.e., low voltage work). High voltage work (to the transformers and including the transformers) is performed by MSA; non-radiological facilities are maintained by the MSA. The TOC receives limited facility services; the TOC receives and provides input to MSA for Refrigerated Equipment Service and Movers Service.



The MSA employees accessing nuclear facilities will comply with the entry/exit requirements established by the facility in accordance with the responsible contractor's RPP; as appropriate, MSA will coordinate with the facility and participate in integrated work planning for work involving facilities services and utilities. The Hanford Site contractors have a responsibility to identify those MSA-provided services essential for maintaining the nuclear facility safety authorization basis or nuclear safety requirements. For SI&U services that have been identified by other contractors as potentially impacting nuclear safety, the MSA will maintain those services as agreed to via contract documents (e.g., contracts, MOAs, SDDs, AIAs, and/or ICDs).

### **3.0 NUCLEAR SAFETY POLICY**

The following section denotes the MSA nuclear safety policy. Section 3.1 describes how nuclear safety management applies to the MSA and Section 3.2 describes the policy for nuclear safety compliance and self-reporting.

#### **3.1 MSA NUCLEAR SAFETY MANAGEMENT**

No MSA or MSA subcontractor person may take or cause to be taken any action inconsistent with the requirements of 10 CFR 830. The MSA may be subject to enforcement actions under the provisions of the *Price-Anderson Amendments Act of 1988 (PAAA)*, (as amended), including the imposition of civil and criminal penalties in accordance with 10 CFR 820, "Procedural Rules for DOE Nuclear Activities," Section 820.11, "Information requirements," and U.S. Department of Energy's Office of Enforcement, "Enforcement Process Overview" for MSA violation of these requirements. The MSA will maintain complete and accurate records as necessary to substantiate compliance with the requirements of 10 CFR 830.

It is the responsibility of the contractor that designs, maintains, or operates the nuclear facility to establish the work control system and nuclear safety management requirements for the facility. This may include work review, work authorization, operational readiness review, maintenance of safety authorization basis documents, identification of safety class and safety significant structures, systems, and components (SSC), unreviewed safety question (USQ) process, and technical safety requirements (TSR). It is the MSA policy to perform work in accordance with the safety basis for a nuclear facility, and in particular, with the hazard controls that ensure adequate protection of workers, the public, and the environment. It is the MSA's policy to follow the work control and nuclear safety management requirements established by the responsible contractors that design, maintain, and operate Hanford Site nuclear facilities. It is also MSA policy to comply with the nuclear safety requirements established by the responsible contractor for major changes or modifications to a nuclear facility. The MSA will coordinate with the responsible facility contractor to ensure work is conducted in compliance with their applicable facility-specific nuclear safety requirements, including radiological controls for less than HC-3 facilities/activities.



### **3.2 MSA NUCLEAR SAFETY COMPLIANCE AND SELF REPORTING**

Nuclear safety requirements are established in 10 CFR 830, Subpart A, “Quality Assurance,” and Subpart B, “Safety Basis Requirements.” Compliance with applicable nuclear safety requirements is mandatory for all employees of the MSA, as well as MSA subcontractors.

MSA employees and subcontractors are expected to promptly self-identify and report nuclear safety non-compliances to MSA management. Non-compliances and non-conformances affecting a specific nuclear facility also will be reported to the responsible Facility Manager of that nuclear facility. Working with the responsible Facility Manager of the affected nuclear facility, MSA management and employees are expected to identify causes, establish and implement effective corrective actions to prevent future recurrence, and track these corrective actions to closure. For Noncompliance Tracking System (NTS) reportable non-compliances, the issue and required actions are tracked on NTS. For non-NTS reportable non-compliances, the issue and required actions are tracked on the MSA corrective action tracking system.

By complying with applicable nuclear safety requirements, promptly self-reporting potential non-compliances, and implementing timely and effective corrective actions to address identified causes, the MSA will maintain an effective nuclear safety compliance program that promotes nuclear safety and continuous improvement; enhances protection of workers, the public, and the environment; and mitigates potential enforcement activity.

### **3.3 MSA OCCUPATIONAL RADIATION PROTECTION**

Although radiological facilities are below the HC-3 threshold for nuclear facilities, radiological facilities are considered within the scope of 10 CFR 830. The MSA policy for compliance with 10 CFR 835, “Occupational Radiation Protection” follows.

*No MSA or MSA subcontractor person may take or cause to be taken any action inconsistent with the requirements of 10 CFR 835, or any program, plan, schedule, or other process established by 10 CFR 835. The MSA may be subject to enforcement actions under the provisions of PAAA in accordance with 10 CFR 820. The MSA maintains its own RPP, which defines the scope of applicability of 10 CFR 835 for the MSA. When performing work at radiological facilities and areas maintained by other contractors, MSA employees, and subcontractors will comply with the requirements of the contractor’s RPP.*

### **4.0 NUCLEAR SAFETY PROTOCOL ROLES AND RESPONSIBILITIES**

This section identifies key mechanisms and specific roles and responsibilities. Key mechanisms for maintaining compliance with nuclear safety requirements include:

- Identification of clear roles and responsibilities for nuclear safety
- Maintenance of and compliance with the facility DSA
- Identification of safe boundaries and hazard controls credited for providing the safety basis for the nuclear facility
- Implementation of effective emergency response



- Implementation of an effective work control system
- Completion of required training prior to work
- Compliance with required entry controls (RWPs)
- Prompt identification, reporting, tracking, and effective corrective actions for nuclear safety non-compliances.

#### **4.1 HANFORD SITE PRIME CONTRACTOR ROLES AND RESPONSIBILITIES**

The following nuclear safety management roles and responsibilities apply to Hanford Site prime contractors for work conducted by MSA employees at nuclear facilities designed, maintained, or operated by Hanford Site prime contractors.

1. Maintain a nuclear safety management program and quality assurance program that is compliant with 10 CFR 830.
2. Maintain the nuclear facility DSA, as approved by the appropriate DOE office through regular updates and a compliant USQ process.
3. Identify safe boundaries and hazard controls credited for providing the safety basis for the nuclear facility.
4. Maintain an RPP that is compliant with 10 CFR 835; clearly delineate scope of applicability, and roles and responsibilities under 10 CFR 835.
5. Screen work packages worked by MSA for work performed within the nuclear facility, perform the USQ process, identify controls, and notify the MSA of work that has the potential to impact the functionality of SSCs.
6. Consistent with the terms of its prime contract, ensure work performed within the boundary of the safety basis is performed in compliance with the applicable nuclear safety basis requirements at the affected facility. Each party is responsible for performing their work on systems/facilities assigned to them in accordance with approved contract documents.
7. Implement an effective work control system that implements elements of ISMS and includes work authorization/release, entry/exit controls, required training, identification of hazards, and controls.
8. Review and release MSA work within nuclear facilities in accordance with the prime contractor work control process.
9. For major changes or modifications to nuclear facilities conducted by the MSA, include MSA work scope as part of prime contractor readiness assessments, operational readiness reviews, and/or start-up notification reports.
10. Inform MSA of requirements for performing quality affecting services for the prime contractor.
11. Jointly with MSA employees, implement effective emergency management program in accordance with DOE/RL-94-02 and DOE-0223, and identify additional roles and



responsibilities as necessary in contract documents (e.g., contracts, MOAs, SDDs, AIAs, ICDs).

12. Jointly with MSA employees, implement effective safeguards and security programs and identify additional roles and responsibilities as necessary in contract documents.
13. Identify those MSA provided ES&T services (e.g., Hanford Patrol and Hanford Fire Department) that are essential for maintaining the nuclear facility safety authorization basis or nuclear safety requirements. Assume prime responsibility to coordinate with MSA for developing contract documents (e.g., contracts, MOAs, SDDs, AIAs, ICDs) that identify how these services will be maintained. Apply USQ process to screen changes to ES&T services that have been identified as potentially impacting nuclear safety.
14. Identify those MSA provided SI&U services that are essential for maintaining the nuclear facility safety authorization basis or nuclear safety requirements. Assume prime responsibility to coordinate with MSA for developing contract documents (e.g., contracts, MOAs, SDDs, AIAs, ICDs); the contract documents will identify how these services will be maintained and the physical interfaces for systems operated by MSA that are required to maintain the nuclear safety basis of their facility. Apply USQ process to screen changes to SI&U support that have been identified as potentially impacting nuclear safety.
15. For transportation and packaging of radioactive material meeting the threshold for requiring a DSA, conduct these activities in compliance with appropriate quality assurance requirements and applicable DOT 49 CFR regulations for off-site transportation and DOE/RL-2001-36 and referenced safety authorization basis documents therein for on-site transportation.

#### **4.2 MSA ROLES AND RESPONSIBILITIES**

The following nuclear safety management roles and responsibilities apply to the MSA for work conducted at nuclear facilities designed, maintained, or operated by other contractors.

1. Maintain the nuclear safety protocol, necessary nuclear safety procedures, and a quality assurance program that it is compliant with 10 CFR 830.
2. Maintain an RPP that is compliant with 10 CFR 835; clearly delineate MSA scope of applicability, and roles and responsibilities under 10 CFR 835.
3. Train MSA employees and subcontractor staff that procedure compliance is mandatory, including work being performed according to a work package [referred to as an Integrated Work Plan (IWP) within the MSC]. If errors or problems are noted in the IWP, work is stopped, management is consulted, and the IWP is changed per the change control process prior to resuming work.
4. Notify the responsible contractor prior to working in nuclear facilities; ensure work packages worked by MSA at nuclear facilities are screened by the responsible contractor for nuclear safety.
5. Perform work within the safe boundaries and hazard controls such that the safety basis of the nuclear facility and the functionality of SSCs is not negatively impacted. Each party



is responsible for performing their work on systems/facilities assigned to them in accordance with contract documents.

6. Coordinate with the responsible contractor and comply with the work control system, including: work authorization/release, entry/exit controls, required training, and work within controls. Ensure work is released through the contractor's work control process prior to performing work in nuclear facilities.
7. For major changes or modifications to nuclear facilities conducted by the MSA, participate in contractor readiness assessments and operational readiness reviews, and ensure start-up notification reports are coordinated with the responsible contractor.
8. Provide information as requested by the responsible contractor for the MSA performing quality affecting services and perform quality affecting services in accordance with specified quality and technical requirements.
9. Jointly with other responsible contractor employees, implement effective emergency management program in accordance with DOE/RL-94-02, and identify additional roles and responsibilities as necessary in contract documents, (e.g., contracts, MOAs, SDDs, AIAs, ICDs).
10. Jointly with other responsible contractor employees, implement effective safeguards and security programs and identify additional roles and responsibilities as necessary in contract documents.
11. For MSA provided ES&T services that have been identified by other responsible contractors as potentially impacting nuclear safety, maintain those services as agreed to via contract documents (e.g., contracts, MOAs, SDDs, AIAs, ICDs); ensure changes to ES&T services that have been identified as potentially impacting nuclear safety are submitted to the responsible contractor for the USQ process.
12. For MSA-provided SI&U services that have been identified by other responsible contractors as potentially impacting nuclear safety, maintain those services as agreed to via contract documents (e.g., contracts, MOAs, SDDs, AIAs, ICDs); ensure changes to SI&U services that have been identified as potentially impacting nuclear safety are submitted to the responsible contractor for the USQ process.
13. For transportation and packaging of radioactive material meeting the threshold for requiring a DSA, conduct these activities in compliance with appropriate quality assurance requirements and applicable DOT 49 CFR regulations for off-site transportation and DOE/RL-2001-36 and referenced safety authorization basis documents therein for on-site transportation.
14. Identify, report, and track nuclear safety non-compliances that resulted from work performed by MSA employees and subcontractors. Non-compliances and non-conformances affecting a specific nuclear facility will also be reported to the responsible Nuclear Facility Manager. Before resuming work following a nuclear safety non-compliance, the MSA Project Manager for the activity must receive authorization to proceed from the responsible Nuclear Facility Manager.



15. Identify and retain access to a person or persons qualified to perform USQ; the MSA intends to rely primarily on the responsible contractor for the USQ process.

#### **4.3 MSA SUBCONTRACTOR ROLES AND RESPONSIBILITIES**

Flow-down of requirements to MSA subcontractors is performed through the MSA Subcontractor Procurement and Management Process. Subcontract documents require conformance to this nuclear safety protocol when a subcontracted scope of work includes performing work in a nuclear facility.

Subcontractor management is required to:

1. Implement and comply with the nuclear safety protocol as part of the subcontract.
2. Implement and comply with the nuclear safety requirements specified in the IWP governing the specific work.
3. Flow down this nuclear safety protocol to subcontractors.

#### **5.0 REFERENCES**

10 CFR 820, "Procedural Rules for DOE Nuclear Activities," *Code of Federal Regulations*, as amended.

10 CFR 830, "Nuclear Safety Management," *Code of Federal Regulations*, as amended.

10 CFR 835, "Occupational Radiation Protection," *Code of Federal Regulations*, as amended.

Contract DE-AC05-76RL01830 between the U.S. Department of Energy, Pacific Northwest Science Office and DOE-PNSO and Battelle Memorial Institute.

Contract DE-AC06-05RL14655 between the U.S. Department of Energy, Richland Operations Office and Washington Closure Hanford.

Contract DE-AC06-08RL14788 between DOE-RL and the U.S. Department of Energy, Richland Operations Office and CH2M HILL Plateau Remediation Company.

Contract DE-AC06-09RL14728 between the U.S. Department of Energy, Richland Operations Office and the Mission Support Alliance, LLC.

Contract DE-AC27-01RV14136 between the U.S. Department of Energy, Office of River Protection and Bechtel National, Inc.

Contract DE-AC27-08RV14800 between the U.S. Department of Energy, Office of River Protection and Washington River Protection Solutions LLC.

CRD O 5480.20A, 2001, *Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities*, Change No. 1, U.S. Department of Energy, Washington, D.C."

DOE Order 420.1B, *Facility Safety*, December 22, 2005, U.S. Department of Energy.

DOE/RL-94-02, *Hanford Emergency Management Plan*, U.S. Department of Energy, Richland Operations Office, Richland, Washington, as amended.



DOE/RL-92-36, *Hanford Site Hoisting and Rigging Manual*, Revision 1, U.S. Department of Energy, Richland Operations Office, Richland, Washington

DOE/RL-2001-36, 2006, *Hanford Sitewide Transportation Safety Document*, Rev. 1-A, U.S. Department of Energy, Richland Operations Office, Richland, Washington.”

DOE-0223, *Richland Operations Office Emergency Plan Implementing Procedures*, U.S. Department of Energy, Richland Operations Office, Richland, Washington, as amended.

*Price-Anderson Amendments Act of 1988*, 42 USC 2010, as amended.

Title 49, “Transportation,” *Code of Federal Regulations*, as amended.

U.S. Department of Energy’s Office of Enforcement, “Enforcement Process Overview,” December 2007.