

January 2, 1997

FOR: The Commissioners

FROM: James M. Taylor /s/  
Executive Director for Operations

SUBJECT: MEMORANDUM OF UNDERSTANDING BETWEEN THE NUCLEAR REGULATORY COMMISSION AND THE DEPARTMENT OF ENERGY FOR COOPERATION AND SUPPORT OF THE DEPARTMENT OF ENERGY HANFORD TANK WASTE REMEDIATION SYSTEM PRIVATIZATION ACTIVITIES

## PURPOSE:

To transmit the attached draft Memorandum of Understanding (MOU) between the Nuclear Regulatory Commission and the Department of Energy (DOE) to the Commission for review and approval.

## BACKGROUND:

In SECY-96-027, dated February 6, 1996, the staff informed the Commission about the feasibility of licensing and the level of involvement planned for DOE Hanford Tank Waste Remediation System (TWRS) Privatization activities. In a staff requirements memorandum dated March 22, 1996, the Commission approved the staff's proposal for interacting with DOE during the initiation of this project. Since that time, the staff has worked with DOE technical and general counsel staff to develop a MOU that will clearly describe the relationship that will exist between NRC and DOE during Phase I (demonstration phase) of the TWRS Privatization program.

## DISCUSSION:

The staff has provided, for the Commission's review, the attached draft MOU between NRC and DOE. This MOU is the result of a cooperative effort between DOE and NRC technical and general counsel staffs. It establishes the basis for cooperation and mutual support between NRC and DOE, during Phase I of DOE Hanford TWRS Privatization activities. A request for appropriations dedicated to Phase I of the project has been approved by Congress as part of the 1997 fiscal year appropriation for NRC.

The draft MOU relates solely to NRC's participation in the DOE Hanford TWRS Privatization program during Phase I activities. Nothing in the MOU applies to the Phase II, full-scale operations nor commits NRC to regulation of the TWRS in either Phase I or II. The relationship between NRC, DOE, and the DOE TWRS Privatization contractors during Phase II remains to be clarified by legislation and/or regulatory requirements.

## COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection.

## RECOMMENDATIONS:

The staff believes that the proposals in the attached MOU effectively encompass the staff's goal of acquiring sufficient knowledge about the Hanford TWRS to enable the staff to provide regulatory development and technical assistance to DOE and to have the necessary technical understanding of the project to develop an effective and efficient NRC regulatory program for the possible licensing of Phase II operations, if appropriate resources are available to NRC staff to implement the MOU. The attached MOU will also achieve DOE's goal of acquiring the capability to implement a program of nuclear safety and safeguards during Phase I, that is consistent with NRC's regulatory approach for protecting workers, the general public, and the environment. NRC and DOE staff endorse the draft MOU. It is recommended that the Commission approve the signing of the attached MOU between the DOE and NRC.

James M. Taylor  
Executive Director for Operations

Attachment: [MOU](#)

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MEMORANDUM OF UNDERSTANDING BETWEEN  
THE NUCLEAR REGULATORY COMMISSION

AND THE DEPARTMENT OF ENERGY

COOPERATION AND SUPPORT FOR  
DEMONSTRATION PHASE (PHASE I)  
OF DOE HANFORD TANK WASTE REMEDIATION  
SYSTEM PRIVATIZATION ACTIVITIES

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Department of Energy

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Office of Nuclear Materials Safety and Safeguards  
U.S. Nuclear Regulatory Commission

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MEMORANDUM OF UNDERSTANDING BETWEEN  
THE NUCLEAR REGULATORY COMMISSION  
AND THE DEPARTMENT OF ENERGY

COOPERATION AND SUPPORT FOR  
DEMONSTRATION PHASE (PHASE I) OF DOE HANFORD TANK WASTE REMEDIATION SYSTEM PRIVATIZATION ACTIVITIES

**I. PURPOSE**

The purpose of this Memorandum of Understanding (MOU) between the Nuclear Regulatory Commission (NRC) and the Department of Energy (DOE) is to establish the basis for cooperation and mutual support during the demonstration phase (defined as Phase I) of DOE's Tank Waste Remediation System (TWRS) Privatization activities. An objective of this DOE/NRC interaction is the development and execution of a comprehensive regulatory program by DOE that is consistent with NRC's regulatory approach for protecting workers, the general public, and the environment. DOE's regulatory program is to be structured to facilitate the possible transition of regulatory responsibilities from DOE to NRC at the start of the full-scale operations phase (defined as Phase II). During Phase I, DOE is responsible for implementing the TWRS Privatization regulatory program. This MOU provides for cooperation and mutual support in an integrated effort that provides for:

1. DOE to acquire capability to implement a program of nuclear safety and safeguards regulation consistent with NRC's regulatory approach.
2. NRC to acquire sufficient knowledge and understanding of the physical and operational situation at the Hanford waste tanks and the processes, technology and hazards involved in Phase I activities, to enable NRC (a) to assist DOE in performing reviews in a manner consistent with NRC's regulatory approach and (b) to be prepared to develop an effective and efficient regulatory program for the licensing of DOE contractor-owned and contractor-operated facilities that will process waste at Hanford during Phase II.

**II. INTRODUCTION**

**A. Background**

During 1991, the Department of Energy (DOE) established the TWRS Program at the Hanford Site to manage, retrieve, treat, immobilize, and dispose of certain radioactive waste in a safe, environmentally-sound, and cost-effective manner. The requirements and commitments for the TWRS cleanup activities are documented in the Hanford Federal Facilities Agreement and Consent Order, also known as the Tri-Party Agreement (TPA). Under the TPA, DOE, the U.S. Environmental Protection Agency (EPA), and the Washington State Department of Ecology have agreed to a timetable for cleanup of the Hanford Site.

DOE, through the TWRS Program, is making a fundamental change in its contracting approach at Hanford, utilizing privately-owned facilities on the Hanford Site for processing waste which contains special nuclear material. This change in contracting approach also necessitates a fundamental change in DOE's approach to regulation and oversight.

To accomplish the TWRS requirements, DOE plans to privatize treatment operations for the Hanford tank wastes. The TWRS Privatization is divided into two phases, a demonstration phase (defined as Phase I) and a full-scale operations phase (defined as Phase II). During both phases, DOE will purchase waste treatment services from a DOE contractor-owned, contractor-operated facility under a fixed-price type of contract; DOE will provide the feedstock to be processed. The DOE TWRS Privatization Contractor must finance the project; design the equipment and facility; apply for and receive required permits and licenses; construct the facility and bring it on line; operate the facility to treat waste; and deactivate the facility.

DOE will undertake nuclear safety and safeguards regulatory responsibility associated with the TWRS Privatization activities during Phase I. The EPA and the State of Washington have responsibility to regulate environmental issues and the Occupational Safety and Health Administration has responsibility to regulate occupational safety. NRC's participation during Phase I will primarily be of a cooperative nature for the purposes of information transfer and assisting DOE in the establishment of a regulatory program that is consistent with NRC's regulatory approach for protecting workers, the general public, and the environment.

This MOU describes the relationship between NRC and DOE for activities conducted during Phase I only. The relationship between NRC, DOE, and the DOE TWRS Privatization Contractors during Phase II remains to be clarified by legislation and/or regulatory requirements.

## **B. Phase Descriptions**

### **Phase I**

Phase I is a proof-of-concept/commercial demonstration-scale effort. The objectives of Phase I are to: (a) demonstrate the technical and business viability of using privatized facilities to treat Hanford tank waste; (b) define and maintain required levels of safety and safeguards; (c) maintain environmental protection and compliance; and (d) substantially reduce life-cycle costs and time required to treat Hanford tank waste.

### **Phase II**

Phase II will be the full-scale production phase, in which the facilities are to be configured so that all the remaining tank waste can be processed. The objectives of Phase II are to (a) implement the lessons learned from Phase I, and (b) process all tank waste into forms suitable for final disposal. The current DOE proposal is to have NRC assume full regulatory responsibility (consistent with the manner in which NRC regulates its licensees) for Phase II, although certain operational, statutory, and regulatory issues must be clarified before the proposed Phase II regulation by NRC can be implemented. Current estimates are that DOE procurement documents and NRC regulatory requirements for Phase II would be needed by the year 2004.

This MOU does not apply to Phase II activities.

## **III. AUTHORITY**

### **A. Department of Energy**

Sections 31, 91 and 161 of the Atomic Energy Act of 1954, as amended; Section 104 of the Energy Reorganization Act of 1974; and, Section 301 of the DOE Organization Act authorize DOE to provide for the safe storage, processing, transportation and disposal of hazardous waste, including radioactive waste, resulting from nuclear materials production and weapons production. In addition, with regard to activities under DOE's jurisdiction, Section 161(i)(3) of the Atomic Energy Act of 1954, as amended, permits DOE to prescribe such regulations or orders as it may deem necessary to govern DOE activities authorized by the Atomic Energy Act of 1954, as amended, including standards and restrictions governing the design, location, and operation of facilities used in the conduct of such activity, in order to protect health and to minimize danger to life or property.

### **B. Nuclear Regulatory Commission**

Sections 53, 57, 62, 63, 81, 103, 104, and 161b, of the Atomic Energy Act of 1954, as amended, and Section 201(f) of the Energy Reorganization Act of 1974 authorize NRC to license and establish by rule, regulation, or order, standards and instructions to govern the possession and use of special nuclear material, source material, or byproduct material to protect health or to minimize danger to life or property, or to promote the common defense and security. This agreement is entered into pursuant to these and other applicable authorities, including the Economy Act of 1932, as amended.

## **IV. FOUNDATION UNDERSTANDINGS**

1. This MOU applies to Phase I only.
2. DOE will regulate the DOE TWRS Privatization Contractors during Phase I under the terms and conditions agreed upon by DOE and the DOE TWRS Privatization Contractors, and will be responsible for the regulatory oversight of all design, construction, operational, and event-response activities. NRC will have no regulatory authority over the DOE TWRS Privatization Contractors during Phase I.
3. No regulatory action, process, or practice established by DOE during Phase I will be binding on NRC during any possible NRC regulatory oversight of DOE TWRS Privatization Contractors during Phase II.
4. NRC's regulatory approach is based (a) on reviewing the applicant's systematic and integrated identification of potential accidents and interactions resulting from radiological and related process chemical and fire hazards, and (b) on ensuring adequate protection against those hazards which could impact on the safety of the worker, the general public and the protection of the environment.

## **V. AGREEMENTS BETWEEN PARTIES**

### **A. Responsibilities**

#### **Department of Energy**

The Manager, Richland Operations Office, will be responsible for implementing the terms of this agreement. The TWRS Regulatory Official, who reports to

the Manager, Richland Operations Office, will be the DOE point of contact for all communications relating to carrying out the provisions of this agreement.

## **Nuclear Regulatory Commission**

The Director of Nuclear Materials Safety and Safeguards (NMSS) will be responsible for implementing the terms of this agreement. The Chief, of the responsible Branch within NMSS, will be the NRC point of contact for all communications related to carrying out the provisions of this agreement.

### **B. General Provisions**

1. At the foundation of the DOE privatization approach is a predictability and reliability feature embedded in DOE's contracts with the TWRS Privatization Contractors -- namely contractual commitments for DOE regulatory actions within specific time periods. Essential to timely and orderly DOE regulatory actions is the awareness by NRC of these contractual commitments and the need for timely interaction between DOE and NRC at all levels.
2. If an issue arises in the implementation of this MOU which cannot be resolved at the agency point-of-contact level, the NRC and DOE agree to refer the matter within 30 days to the Director, NMSS, and the Manager, Richland Operations Office, for appropriate action.
3. It is the intent of both parties to conduct the TWRS Regulatory Program in an open, public, and professional manner. NRC and DOE recognize the importance of providing timely and accurate information to the public regarding regulatory matters that may affect the protection of workers, the general public, and the environment. Meetings between NRC and DOE staff in connection with this MOU shall be governed by NRC policy on open meetings (59 FR48340; September 20, 1994). NRC will participate with DOE in public meetings and other public interactions, as appropriate. All transmittals between DOE and NRC regarding TWRS Privatization activities shall be made publicly available, consistent with NRC and DOE policies and requirements, at an established local public document room.
4. Each agency recognizes that it is responsible for the protection, control, and accounting of classified, proprietary, and procurement-sensitive information; Safeguards Information (SGI); and Unclassified Controlled Nuclear Information (UCNI).
5. Each agency will be responsible for processing, under its established program(s), allegations -- declarations or statements or assertions of impropriety or inadequacy whose validity has not been established-- associated with the regulated TWRS Privatization activities covered by this Memorandum of Understanding. Each agency will keep the other agency informed, as appropriate, of such allegations, the allegations' status, and the allegations' resolution. Each agency will assure that allegations are promptly referred to the agency or entity that has jurisdiction over the allegation.
6. In support of the DOE TWRS Privatization activities, DOE will provide private office space and equipment, if needed, for NRC in the vicinity of the TWRS Regulatory Unit in the Richland, Washington area. DOE will provide the NRC with ready access to current TWRS regulatory information; access to key individuals in the Regulatory Unit for consistency discussions; access to TWRS general information, tank farm status and operational issues, and safety perspectives; and access to Hanford Site safety perspectives.

### **C. Regulatory Interaction Activities**

#### **1. Site Familiarization**

NRC will need to acquire knowledge of the physical and operational situation for the Hanford waste tanks and of the processes, technologies, and hazards involved in processing the tank wastes. The following activities will be performed to provide this familiarization:

- a. NRC will visit the Hanford Site, as necessary, to examine the conditions of the tank farms as they may relate to TWRS Privatization. As part of NRC's orientation, DOE will provide NRC information on:
  - the physical conditions and operational requirements necessary for safe storage, retrieval, transfer, and processing of the tank waste,
  - evaluations of the criticality potential for TWRS Privatization activities,
  - radiation levels of the waste and chemical forms of the waste,
  - contamination levels in the areas of the planned TWRS Privatization facilities and tanks,
  - hydrogen generation/flammable gas situation of tanks,
  - organic complexant/nitrate oxidizer situation of tanks,
  - other possible hazards associated with the waste,
  - available or planned waste movement systems, and
  - the Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and Atomic Energy Act of 1954 for the TWRS.
- b. DOE will provide NRC access to the tank farms, tank farm records and documentation, and other information concerning operational conditions and events that NRC may desire in order to understand the TWRS Privatization project and associated hazards, processes, and conditions.
- c. Upon request by NRC, DOE will brief or hold discussions with NRC on issues related to the TWRS Privatization effort. The locations, timing, and content of these meetings will be agreed upon by the points of contact for each agency.
- d. NRC may occasionally conduct reviews and special audits or inspections at DOE's request to provide objective perspective on selected regulatory issues.

## 2. Regulatory Familiarization

To assist the DOE in establishing the capability to regulate consistent with NRC concepts and principles, the NRC will provide detailed briefings, guidance documents, and support in developing important administrative and technical program elements of a regulatory program. NRC will provide DOE access to regulatory training provided by NRC to its staff on a space available basis and, with specific agreement, will provide DOE opportunity to observe NRC's regulatory activities.

## 3. Development of DOE TWRS Regulatory Program

DOE guidance specific to the regulation of DOE TWRS Privatization Contractors will be prepared and issued by DOE. The guidance is for use by the DOE's TWRS Regulatory Unit in its execution of the regulatory reviews and resulting regulatory actions and is provided as information to the DOE TWRS Privatization Contractors for their preparation of regulatory submittals. The guidance will cover those submittals required of the Contractors by DOE such as the Quality Assurance (QA) program, essential set of safety standards and requirements (including the site-specific design basis), integrated safety management plan, safety assessment, construction authorization request, operating authorization request, operational reports and assessments, and deactivation authorization. DOE will be responsible for issuing this guidance in its final form.

The following activities will be performed by NRC and DOE to develop the guidance:

- a. NRC will provide DOE with established and evolving NRC guidance and position documents as input for DOE to consider in the development and updating of its guidance for the DOE regulatory review. NRC will assist DOE in developing a DOE inspection program that will be applied during design, fabrication, construction (e.g. acceptable codes and standards for concrete, electrical, welding, etc.), installation, and qualification testing.
- b. DOE will develop guidance for the review of Contractor submittals and DOE reviews of TWRS Privatization activities. NRC will review and provide a basis for its comments on DOE's draft guidance to identify areas that may not be consistent with NRC's regulatory approach.
- c. NRC will participate, as appropriate, with DOE in the joint development of guidance, based on industry standards, e.g., ANS/ANSI, for issuance by DOE as guidance for the DOE TWRS Privatization Program.

## 4. Regulatory Program Implementation

Specific DOE regulatory activities are planned: these include design basis review, QA program evaluation, standards approval, initial safety evaluation, construction authorization and inspection, operating authorization oversight, and deactivation authorization. These actions will begin in FY 1997 and continue throughout Phase I. The following activities will be performed by DOE and NRC in fulfillment of their respective responsibilities under this MOU:

- a. DOE will be responsible for safety (e.g. design basis) and safeguards reviews and determining acceptability of DOE TWRS Privatization Contractors' submittals against the DOE TWRS guidance. DOE will have final decision authority for regulatory implementation during Phase I for all interactions with the DOE TWRS Privatization Contractors.
- b. NRC will review and provide a basis for its comments on DOE TWRS Privatization Contractors' submittals to identify any areas that are not consistent with NRC's regulatory approach. These submittals will include all documents which address the technical and quality basis for the TWRS facilities and which could affect nuclear and process safety and safeguards in design, construction and operation.

NRC will assist DOE in evaluating submittals and in verifying effective implementation of:

- design - design basis, design verification, level of design detail and documentation, design specifications, calculations and drawings, and procurement specifications
- quality assurance - for design, procurement, construction, pre-operational testing and operation
- operator training and qualification
- human factors
- emergency response.

## VI. OTHER PROVISIONS

1. Nothing in this MOU shall limit the authority of either agency to independently exercise its authority with regard to matters that are the subject of this MOU.
2. Nothing in this MOU shall be deemed to establish any right nor provide a basis for any action, either legal or equitable, by any person or class of persons challenging a government action or a failure to act.
3. This MOU shall be effective upon signature and upon satisfaction of conditions in Section VI.4 and shall remain in effect until the end of Phase I. This agreement may also be terminated by mutual agreement or by written notice of either party submitted six months in advance of termination. Amendments or modifications to this agreement may be made upon written agreement of the parties.
4. This MOU shall become effective, and remain in effect during such time periods when Congress authorizes, and provides appropriate funding (or when there is another acceptable form of reimbursement) for NRC's participation in this project.
5. Activities within the scope of this MOU and within the scope of appropriated resources are mutually agreed to be without reimbursement of cost

for either organization. Special activities such as described in Sections V.C.1.d and V.C.2 may be negotiated for cost reimbursement as needed.