U.S. Department of Energy,
Office of Legacy Management

Formerly Utilized Sites
Remedial Action Program
Program Plan

January 2013
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U.S. Department of Energy, Office of Legacy Management
Formerly Utilized Sites Remedial Action Program
Program Plan

This document supersedes the Formerly Utilized Sites Remedial Action Program
Summary Protocol, Identification, Characterization, Designation, Remedial Action,
Certification, January 1986 (Note, this document was superseded by the FUSRAP
Program Plan); Formerly Utilized Sites Remedial Action Program
Designation/Elimination Protocol, Supplement 1 to the FUSRAP Summary Protocol,
January 1986 (Note, this document was superseded by the FUSRAP Program Plan); and
the Formerly Utilized Sites Remedial Action Program Verification and Certification
Protocol, Supplement 2 to the FUSRAP Summary Protocol, November 1985 (Note, this
document was superseded by the FUSRAP Program Plan).

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## Abbreviations

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<tr>
<td>AEA</td>
<td>Atomic Energy Act of 1954</td>
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<td>AEC</td>
<td>U.S. Atomic Energy Commission</td>
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<td>ARAR</td>
<td>Applicable or Relevant and Appropriate Requirement</td>
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<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Act</td>
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<td>CFR</td>
<td>Code of Federal Regulations</td>
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<td>CSD</td>
<td>Considered Sites Database</td>
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<td>CSL</td>
<td>Considered Sites Library</td>
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<td>DOE</td>
<td>U.S. Department of Energy</td>
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<td>EM</td>
<td>[DOE] Office of Environmental Management</td>
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<td>EMS</td>
<td>Environmental Management System</td>
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<td>EPA</td>
<td>U.S. Environmental Protection Agency</td>
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<td>FIMS</td>
<td>Facilities Information Management System</td>
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<td>FUSRAP</td>
<td>Formerly Utilized Sites Remedial Action Program</td>
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<tr>
<td>GC</td>
<td>[DOE] Office of General Counsel</td>
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<tr>
<td>ICs</td>
<td>institutional controls</td>
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<td>LM</td>
<td>[DOE] Office of Legacy Management</td>
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<td>LMBC</td>
<td>LM Business Center</td>
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<td>LMS</td>
<td>Legacy Management Support</td>
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<td>LTS&amp;M</td>
<td>long-term surveillance and maintenance</td>
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<td>MED</td>
<td>Manhattan Engineer District</td>
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<tr>
<td>MOU</td>
<td>memorandum of understanding</td>
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<tr>
<td>mrem/yr</td>
<td>millirem(s) per year</td>
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<td>NARA</td>
<td>National Archives and Records Administration</td>
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<td>NPL</td>
<td>National Priorities List</td>
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<td>NRC</td>
<td>U.S. Nuclear Regulatory Commission</td>
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<tr>
<td>O&amp;M</td>
<td>operations and maintenance</td>
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<tr>
<td>PA/SI</td>
<td>Preliminary Assessment/Site Investigation</td>
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<td>PRP</td>
<td>Potentially Responsible Party</td>
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<td>QA</td>
<td>Quality Assurance</td>
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<tr>
<td>ROD</td>
<td>record of decision</td>
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<tr>
<td>SEEPro</td>
<td>Site Environmental Evaluation for Projects [database]</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>USACE</td>
<td>U.S. Army Corps of Engineers</td>
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<tr>
<td>UU/UE</td>
<td>unlimited use/unrestricted exposure</td>
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<tr>
<td>VP</td>
<td>vicinity property</td>
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1.0 Purpose

This Program Plan presents guidance for implementing the U.S. Department of Energy (DOE) Formerly Utilized Sites Remedial Action Program (FUSRAP). The DOE Office of Legacy Management (LM) will use this Program Plan to identify, determine eligibility, transition, and assume perpetual responsibility for remediated sites managed under FUSRAP.

2.0 Introduction

FUSRAP (also referred to as the Program) provides the expertise and resources necessary to manage the inventory of FUSRAP sites, including determining eligibility for inclusion of a site into FUSRAP, maintaining the associated records, transitioning remediated FUSRAP sites to DOE for long-term surveillance and maintenance (LTS&M), and conducting actions deemed necessary for protectiveness. These actions and functions are specifically required under the Atomic Energy Act (AEA) of 1954 or are necessary to maintain compliance with applicable environmental protection regulations and DOE policy. The U.S. Army Corps of Engineers (USACE) is responsible for remediating FUSRAP sites, and this plan describes roles and responsibilities for Program elements that require coordination between the two agencies.

2.1 Mission, Objectives, and Goals

The DOE FUSRAP Program is aligned with LM’s mission to fulfill DOE’s post-closure responsibilities and ensure the protection of human health and the environment. The Program mission is to fulfill DOE’s responsibility to conduct all actions necessary to ensure protectiveness of human health and the environment from long-lived radiological wastes associated with past support to the nation’s nuclear energy, weapons, and research activities. For those sites that have been remediated to allow unlimited use and unrestricted exposure (UU/UE), the Program mission is to maintain site records in perpetuity.

The Program objectives are to:

- Protect human health and the environment.
- Maintain FUSRAP site records and information so that future custodians can continue to provide effective surveillance and maintenance.
- Comply with applicable regulations.
- Serve as a source of information and expertise to others who have long-term stewardship responsibilities.
- Coordinate closely with USACE to assess site eligibility and accept responsibility for completed sites.
- Provide resources for stakeholder outreach and maintain an accurate information dissemination resource to the public.

DOE has initiated goals for the beneficial reuse of sites and lands over which it has jurisdiction. Most sites are privately owned and DOE must allow all appropriate productive uses of the property. In keeping with the Department’s goals for beneficial reuse, DOE intends to conduct disposition of the DOE-owned FUSRAP sites, if appropriate, as quickly as possible after
transition from USACE\(^1\). DOE will ensure that any required protections, such as institutional controls (ICs) for residual contamination, are maintained in any instrument that transfers land or surface interests, such as easements, to a third party.

### 2.2 Background

DOE is authorized to execute FUSRAP under the AEA. The Program was created in response to concerns that unacceptable risks from residual radioactive contamination may remain at facilities that supported Manhattan Engineer District (MED) and early U. S Atomic Energy Commission (AEC) activities.

The MED and the AEC, which are DOE predecessor agencies, conducted nuclear weapons and technology development work beginning in the early 1940s. Because MED, and initially AEC, did not have an industrial base for performing this work in-house, the agencies had to procure many of these services from outside sources. MED and AEC contracted with private and public enterprises to conduct research or provide storage, ore processing, refining, or reactor feed material fabrication services.

By the mid-1950s, most AEC operations were performed in government-owned facilities, although contracted activities at some sites continued into the 1970s. As government-owned facilities were established, AEC released the contractor sites. Release typically consisted of surveying the site for radiological contamination and decontaminating the sites to the standards in effect at the time of the cleanup.

By the early 1970s, AEC identified the need to review the status of the sites used in the early nuclear programs because cleanup standards had become more stringent and site conditions had changed. Some sites had been redeveloped or were no longer in use, some were derelict, and on some sites previously contracted facilities had been demolished. In some instances, residual radioactive contamination had spread to offsite vicinity properties (VPs).

AEC initiated FUSRAP in 1974 to address concerns about the potential for residual radioactive contamination at former contractor sites. Many of the sites had been remediated at the time MED or AEC activities ceased, but more stringent standards were since instituted for radiological protection. AEC and then DOE reevaluated the sites for radiological contamination against current standards and risk limits.

Sites are included in FUSRAP if radioactive contamination that remains at a site is from MED- or AEC-related activities and is in excess of release criteria; if AEC, or later DOE, had the authority to clean up the site; and if the site is not covered by any other regulatory authority for cleanup. Site eligibility is detailed in Section 3.0.

In 1977, AEC responsibility for administration and execution of FUSRAP was passed to DOE, which continued the initial task of identifying potential FUSRAP sites for cleanup. Out of the approximately 600 sites that were evaluated, DOE identified 46 sites that were eligible for remediation under FUSRAP. Limited cleanup began in 1979 and major remedial activity was underway by 1981. By 1997, DOE completed remediation at 25 of the eligible sites.

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\(^1\) DOE owns the Colonie and Niagara Falls Storage sites in New York and the Middlesex Sampling Plant and Maywood sites in New Jersey.
In 1997, the U.S. Congress transferred responsibility for the administration and execution of FUSRAP from DOE to USACE through passage of the Energy and Water Development Appropriations Act of 1998 (Public Law 105-62). In the Energy and Water Development Appropriations Acts for fiscal years 1999 and 2000 (Public Laws 105-245 and 106-60, respectively), USACE was directed to conduct remedial actions in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (Title 42 United States Code Section 9601 et seq. [42 U.S.C. 9601 et seq.]) and the National Oil and Hazardous Substances Pollution Contingency Plan (Title 40 Code of Federal Regulations Part 300 [40 CFR 300]), also known as the National Contingency Plan. These laws assigned responsibility for characterization, remediation\(^2\), and verification of FUSRAP sites to USACE, while DOE retained responsibility for determining eligibility and for LTS&M.

DOE and USACE entered into a Memorandum of Understanding (MOU) in 1999 to define the roles and responsibilities of each agency in executing the Program (DOE and USACE 1999). The DOE/USACE MOU is provided in Attachment 1.

The 25 sites where DOE had completed remediation are referred to as the “completed sites” in the 1999 DOE/USACE MOU. Since 1997, seven additional sites were added to the Program and USACE completed remediation at five sites and transitioned those five sites to DOE for long-term surveillance and maintenance. The remaining two sites are being remediated by USACE. USACE is remediating 23 additional sites, so DOE may ultimately be responsible for 53 FUSRAP sites.

Once USACE obtains regulator concurrence that remediation is complete, USACE retains responsibility for surveillance and for operations and maintenance (O&M) for 2 years after site closeout.\(^3\) At the end of the O&M period, the site is transferred to DOE and DOE assumes responsibility for LTS&M of the site, including management of any ICs imposed on a site.

Through the process of transferring responsibility for a site from USACE, DOE and USACE must ensure that there are no lapses in site care and that DOE acquires the knowledge to maintain site protectiveness in perpetuity. To achieve this, DOE and USACE established the FUSRAP Working Group in 2001.

Responsibility for the 25 completed sites resided with the DOE Office of Environmental Management (EM) until December 2003, when DOE established LM and transferred responsibility for completed FUSRAP sites to that organization. LM was established to fulfill DOE’s post-closure responsibilities, specifically for those sites with no continuing mission, and to ensure future protection of human health and the environment.

Figure 1 shows the timeline for radioactive materials development and associated federal actions. Activities that are significant in the FUSRAP timeline are shown in bold type.

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\(^2\) Remediation (remedial action) may involve decontamination or stabilization and restricted use through institutional controls or physical modifications.

\(^3\) Closeout is defined as completion of cleanup and publication of a notice in accordance with the provisions of CERCLA, the National Contingency Plan, and USACE procedures.
Figure 1. FUSRAP Timeline
2.2.1  FUSRAP Site Characteristics

FUSRAP sites are typically smaller industrial or research facilities. Most are privately owned, but some sites are owned by DOE or other government agencies. As of the date of this plan, four sites are owned by DOE. Non-DOE ownership may compel DOE to establish ICs as part of the remedy to prevent unacceptable risk at remediated FUSRAP sites that cannot be released for unrestricted use. In addition, some active FUSRAP sites are listed on the National Priorities List (NPL) and some are under a radioactive materials license, requiring involvement of the U.S. Environmental Protection Agency (EPA), the U.S. Nuclear Regulatory Commission (NRC), or a state agency.

Typical processes that resulted in contamination include machining, manufacturing, metallurgical research, and processing or storing radioactive materials and ores. Potential contaminants include uranium, radium, and thorium in ore, refined metal residues, processing residuals, and associated waste. Contaminated media includes soil, groundwater, and structures.

Permanent disposal options for FUSRAP radiological wastes were not available early in the Program. Therefore, DOE acquired properties for interim onsite storage so that remediation could proceed at nearby VPs. As facilities became available to accept FUSRAP waste for permanent disposal, radiological waste at three of the DOE-owned sites was shipped to offsite permanent disposal facilities.

At some sites, radiological contamination was left in place because it posed no unacceptable risk and either (1) remediation was not safe or (2) the cost of remediation far exceeded the benefit of removing contamination that posed no unacceptable risk if left in place. Remediation guidance contained provisions for applying supplemental limits in cases where the numerical limits could not be achieved except at an unreasonable cost or through activities that were unsafe to workers or the environment. If reasonable future land-use scenarios will result in acceptable risk, supplemental limits were used to achieve compliance and the contamination was left in place. The federal government remains responsible for material in supplemental limits areas, and at some locations DOE will monitor the supplemental limits areas to ensure appropriate management of the material if it is disturbed.

2.3  Regulatory Framework

FUSRAP was not chartered by Congress, but derives its authority from Section 83 of the AEA. In 1997, Congress granted USACE the authority to conduct cleanup at eligible sites.

DOE (while conducting remediation) and USACE are regulated by the host state or by EPA for those sites on the NPL. USACE and DOE generally have followed the CERCLA (as amended) remedial action process. DOE cleaned up sites to the standards found in the U.S. Department of Energy Guidelines for Residual Radioactive Contamination at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites (DOE 1987) or in

4 "Unrestricted use" defines a radiological condition that allows any reasonable future land use. Some radiological contaminants remain hazardous for thousands of years. DOE assumes that most FUSRAP sites will be redeveloped during that time. If a site cannot be used for residential farming, DOE will seek to lock in a less conservative land use through institutional controls. Under CERCLA, this same unrestricted use condition is referred to as "unlimited use/unrestricted exposure."

5 Radiological waste remains in an interim waste containment structure at the Niagara Falls Storage Site. USACE has not selected a remedy for this site. Shipment from the Maywood, New Jersey, interim storage site is ongoing.
DOE Order 5400.5, *Radiation Protection of the Public and the Environment*. Since USACE began remediation of FUSRAP sites, the cleanup standards are established in records of decision (RODs) as part of the process to determine Applicable or Relevant and Appropriate Requirements (ARARs).

In remediating the 25 sites that were completed by 1997, DOE was technically self-regulated. However, the FUSRAP records contain many examples of DOE interaction with state regulators to establish applicable cleanup criteria and to select a remedy.

Since 1997, USACE has chosen the remedy with concurrence from the host state regulators. For the six sites listed on the NPL, EPA is the regulator and in compliance with CERCLA approves the remedial action. At non-NPL sites, the host state regulators provide regulatory oversight. At some sites, the operator conducts commercial nuclear activities under an NRC license.

All federal actions are subject to National Environmental Policy Act (NEPA) review and compliance (see Section 6.2.2).

### 2.4 Roles and Responsibilities

Successful implementation of FUSRAP is facilitated by close cooperation between USACE and DOE. Roles and responsibilities are provided for by legislation and are established in the March 1999 DOE/USACE MOU. To further support ongoing communication and coordination, DOE and USACE established the FUSRAP Working Group in 2001. The actions and responsibilities of each agency are independent and complementary, and the ultimate goal of each agency is to ensure continuous protectiveness of sites in the Program.

DOE responsibilities include making initial site eligibility determinations (see Section 3.0) and providing LTS&M services (see Section 3.5). LTS&M requirements are based on the remedy selected and implemented for the site. If the site is released for UU/UE and there is no remedy requiring future field activities, DOE’s responsibilities may be limited to maintaining site records and providing stakeholder support.

USACE is responsible for conducting assessments, informing Congress of the decision to remediate a site or to not perform further action, conducting detailed investigations, selecting and obtaining the regulator’s approval for a remedy, completing site closeout, conducting O&M for 2 years following completion of remedial action, and transitioning the site to DOE for LTS&M.

DOE initiated the Site Transition Project in 1999. The project evolved into the FUSRAP Working Group composed of DOE and USACE managers and support staff. The FUSRAP Working Group meets quarterly and routinely addresses the following:

- Stakeholder inquiries and public affairs actions
- Eligibility determinations
- Assessment and remediation status
- USACE schedule for site completions
- Anticipated transition activities
Site visits

Programmatic issues, such as records and information transfer and management, guidance, and planning

2.5 Program Scope for Sites

There are three basic elements in DOE’s FUSRAP Program: the eligibility determination, the site transition, and LTS&M. These are discussed further in Section 3.0.

3.0 Site Life-Cycle

DOE and USACE have separate and distinct roles and responsibilities in the life cycle of a FUSRAP site. The respective agency activities together establish a life cycle for a typical FUSRAP site, as shown in Figure 2. The steps in the life-cycle process are described in the following sections.

3.1 Determining Eligibility for Inclusion into FUSRAP

DOE and USACE have separate roles in determining eligibility of sites for remediation under the Program. DOE determines if a site is eligible on the basis of historical activities and government liability for any residual radioactive contamination. USACE must verify that the site has hazardous substances remaining from MED or AEC activities at levels to warrant a CERCLA-type response action. If either agency finds, as a result of its process, that the site or the contamination does not meet the criteria, the site will not be eligible and will not be included into FUSRAP.

A site being considered for inclusion into FUSRAP must meet all four of the following eligibility criteria:

1. Work was conducted in support of MED and/or AEC activities (typically during the 1940s to early 1960s timeframe).
2. The activities resulted in residual radioactive contamination (primarily uranium, radium, and thorium and their daughter elements) that exceed current cleanup criteria.
3. The authority to conduct remedial action at the site is prescribed within the AEA, as amended.
4. The site is not subject to remedial action under any other remedial action program nor is residual radioactive contamination is addressed under an NRC or state license (see Section 3.2.2.5, "Cleanup and Decommissioning of FUSRAP Sites with NRC-Licensed Facilities")

The process to determine eligibility includes data collection, site visits and surveys, analyses of the data, the eligibility determination, and documenting the decision.
Figure 2. FUSRAP Site Life Cycle
In addition, a site may be designated for inclusion into the Program by congressional mandate. In response to congressional direction, DOE added some sites to the Program that were not involved in the U.S. atomic energy program, but were contaminated with materials similar to early atomic energy program materials. Congress may identify appropriations for USACE in the annual Energy and Water Development Appropriations Act to conduct cleanup of a new site. USACE will add that site to its Program scope and begin its process of document review and characterization in accordance with CERCLA. Attachment 2, “Legislative History,” identifies the sites that were added to FUSRAP through congressional direction.

3.1.1 Data Collection

Several sources are available to provide information to support the eligibility determination. Historical information documenting site activities (i.e., if work was contracted by a DOE predecessor agency, what materials were handled or processed, and who received the products generated by the activities) and the potential for radiological contamination are available through archived records and interviews with former facility or AEC employees. Over time there will be fewer available former employees, leaving site records and documents as the primary (or only) source of information to support the eligibility determination. In addition, as required and appropriate, new surveys may be performed to demonstrate the existence of radiological contamination.

3.1.1.1 Records Searches

To establish the initial inventory of FUSRAP sites, DOE used two procedures for discovery of eligibility records. The first was a broad and systematic review of FUSRAP specific records that are kept at National Archives and Records Administration (NARA) centers and other government records storage facilities across the country. For the initial site inventory, this initial records search helped identify sites where MED and AEA activities were conducted and radioactive materials were handled. The search entailed several levels of screening to identify pertinent information and to help determine which records to include in the permanent FUSRAP records collection, which is now located in the LM Business Center (LMBC) in Morgantown, West Virginia. DOE believes this initial survey was thorough enough to identify all significant candidate sites for determination of eligibility and further searches of this type will not be needed.

The second search procedure was site-specific. The same sources for the initial data collection were used, but the search was narrowed to only those records pertaining to a specific facility. Under this type of review all the records were screened to look for site-specific information for eligibility and to document site history. Because future FUSRAP site eligibility will occur on the basis of site-specific inquiries, only site-specific reviews will likely be needed for future FUSRAP eligibility determinations.

3.1.2 Eligibility Process Prior to 1997

Before 1997, DOE determined whether or not a candidate site should be designated for inclusion into FUSRAP based on the following criteria:

1. Work was conducted in support of MED and/or AEC activities (typically during the 1940s to early 1960s timeframe).
2. The activities resulted in residual radioactive contamination (primarily uranium, radium, and thorium and their daughter elements) that exceed current cleanup criteria.

3. The authority to conduct remedial action at the site is prescribed within the AEA, as amended.

4. The site is not subject to remedial action under any other remedial action program nor is residual radioactive contamination addressed under an NRC or state license.

All criteria had to be true for a site to be designated for inclusion into FUSRAP. Site records and historical information were reviewed. The review process required a coordinated determination decision from both Program staff and the DOE Office of General Council (GC).

3.1.3 Eligibility Process Since 1997

After remediation responsibility was assigned to USACE in 1997, and in accordance with the DOE/USACE MOU, the DOE eligibility process reviews the site against four criteria, but criterion 2 has been revised to indicate that DOE does not conduct an investigation to determine if residual radiologic contamination on a candidate site resulted from MED or AEC activities:

1. Work was conducted in support of MED and/or AEC activities (typically during the 1940s to early 1960s timeframe).

2. Residual radioactive contamination remains at the site at concentrations that exceed current cleanup criteria.

3. The authority to conduct remedial action at the site is prescribed within the AEA, as amended.

4. The site is not subject to remedial action under any other remedial action program nor is residual radioactive contamination addressed under an NRC or state license.

If all criteria are true, DOE refers the site to USACE for a determination of whether the radiological contamination exceeds applicable standards and whether the contamination resulted from MED or AEC activities (see Attachment 1, DOE/USACE MOU, Article III, C.2.b and C.2.c).

The following sections provide more details about the current site-eligibility review process for FUSRAP. Section 3.1.4 describes the DOE review process, and Section 3.1.5 describes the USACE review process.

3.1.4 DOE Eligibility Review Process

As explained in Section 3.1.3, in the overall site-eligibility determination process, the primary role for DOE is to determine whether a site is eligible for inclusion into FUSRAP. (By comparison, USACE determines whether the radiological contamination is eligible.) Thus a main focus of the DOE review process is to determine if the authority exists to include a site in FUSRAP.
### 3.1.4.1 DOE Authority Review

The DOE authority review process typically begins with a review of the operating history of the site, including consideration of the type of operation, the length of time the facility operated under MED or AEC contract, the quantity of material processed and the methods used for waste disposal, the point of possession, and radiological data representing site conditions when the site was released. During early FUSRAP reviews, staff found that sites at which little work was performed or small quantities of material were handled had fewer records available, whereas the facilities that handled greater amounts of radioactive material have better documented evidence of activities. Therefore, the frequency of references in the records is a useful indicator for determining the presence of contamination.

The authority review considers the contractual agreements and termination information, the DOE predecessor’s involvement in the facility and its operation, and documented health and safety responsibilities. Other important factors include the license status of the site, the types and amounts of commercial or other governmental work conducted at the site, and activities conducted at the site after termination of the DOE predecessor contract. Figure 3 outlines the types of records and information used in each of the authority and site characterization analyses.

To determine if there is authority for remedial action, DOE uses a series of questions developed by GC. The answers to the following five questions (and the supporting documentation) are the basis for the determination of DOE’s authority:

1. Was the site/operation owned by a DOE predecessor, or did a DOE predecessor agency have significant control over the operations at a site?
2. Was a DOE predecessor agency responsible for maintaining or ensuring the health, safety, and environment of the site—that is, were they responsible for cleanup?
3. Does residual radioactive contamination remain on the site as the result of DOE-predecessor-related operations?\(^6\)
4. Is the site in need of further cleanup and was the site left in an unacceptable condition as a result of DOE-predecessor-related activities?
5. Did the present owner accept responsibility for the site knowing of its contaminated condition, and knowing that additional remedial measures are necessary before the site is acceptable for unrestricted use by the general public?\(^7\)

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\(^6\) DOE will confirm that radioactive contamination exists at a candidate site before referring the site to USACE. DOE will not conduct a complete characterization; typically, a DOE radiological survey will be halted when radiological contamination is identified that exceeds typical standards or poses an unacceptable risk of release for UU/UE.

\(^7\) DOE found that some sites where MED or AEC activities were conducted were ineligible for remediation under FUSRAP because specific language in the contract authorizing the work indemnified the U.S. Government from liability for site cleanup.
Site Description

- Location (address and maps)
- Facility size
  - Entire site
  - MED/AEC portion
  - Area around the site (population and environs)
- Contractual information (MED/AEC)
  - Size of contract — Areas utilized for contractual activities
  - Length of contract — Health and safety provisions
  - Type of contract — Closeout provisions
  - Products — Special provisions
    - Contracting Divisions or organization
- Contractual information (non-DOE predecessors)
  - Same as above including estimates of fraction of facility and work that was not MED/AEC related
- License information
  - Type of license — Violations
  - Length of license — Current status
  - Areas of work not covered under license
- History of MED/AEC operations
  - Type of operation (materials processed, quantities, waste disposal practices, and so forth)
  - DOE predecessor control and involvement at the site
    - Ownership of lands, buildings, or equipment
    - Personnel stationed at the site
    - Frequency of visits to monitor or manage operations
    - Health and safety inspections and so forth
  - Periods of operations and standby status
  - Size of staff (production, research, engineering, health and safety, and so forth) and portion of time spent on non-MED/AEC operations
  - Final closeout
    - Surveys
    - Property transfer
    - Status and final releases
- Current status of site
  - Radiological status
  - Current and planned or future uses
  - Proximity of active areas and summary of operations
- Typical References
  - Contracts
  - Processing records
  - Surveys and health and safety reports
  - Correspondence with MED/AEC managers on pertinent issues
  - Closeout records
  - Licenses and inspections
  - Interviews

Figure 3. Information Collected and Utilized in the DOE Eligibility Review Process
The first two questions are generally answered solely on the basis of the review of historical information. The last three questions are based on the assumption that contamination exists on the property. Therefore, the review of the radiological conditions must be completed before the final responses to the authority questions can be determined and the final designation decision can be made. If the review of radiological contamination is not complete, the last three questions are answered tentatively, under the assumption that the site was contaminated with materials associated with DOE predecessor agency operations. A preliminary authority determination can be made with the condition that the decision will be finalized if it can be shown that radiological contamination remains onsite that was potentially the result of DOE predecessor agency activities. A negative authority determination at the initial stage usually results in a determination that the site is ineligible for remediation under FUSRAP. DOE will conduct radiological investigations sufficient to determine if contamination remains at the site and if it poses an unacceptable risk. The final authority determination is made when all data are collected and analyzed.

The authority determination review is an iterative process. As soon as there is sufficient data to answer the five questions and make a preliminary determination, DOE prepares a draft authority determination review package and submits the package to GC for review. The draft authority determination review package contains the following:

- A summary of the site’s operation
- Available information on the current condition at the site
- Specific answers to the five questions
- Copies of the specific documents that support the answers to the questions and those documents that can support the decision making

If GC recommends that there is insufficient data to make an authority determination, DOE will renew its efforts to identify and collect additional information. However, if the additional efforts are not successful and it seems unlikely that any additional useful information will be derived from future records searches, the authority determination review is made on the basis of what was presented. Typically, insufficient data will result in a no-authority determination.

If GC recommends that the review package provides sufficient information to make a determination, GC finalizes the authority review, makes the appropriate authority determination, and transmits the authority determination package to DOE Program staff. If the presence of radiological contamination is confirmed through historical information or radiological surveys, DOE prepares a site designation package for submittal to USACE in accordance with Article III, Section D.1.b, of the DOE/USACE MOU.

If GC recommends a finding for a no-authority determination and there is potential for contamination at the site, DOE issues an elimination report. The site owner, appropriate state agencies, EPA, and other federal agencies are notified that there is potential for contamination at the site and that DOE has no authority for remedial action at a site should further cleanup be necessary. The elimination report is made available to the site owner and the general public, and it is archived as part of the permanent FUSRAP records collection.

In situations where the potential for contamination is low or non-existent, sites can be eliminated from the Program irrespective of DOE’s authority. If the authority determination issue has not
been resolved at the time that the determination for no potential for remedial action is made, the authority determination review is terminated.

A site will not be included in FUSRAP if it is already included under another remedial action program or is under an NRC or state license.

3.1.4.2 Eligibility Report

The eligibility report documents inclusion or elimination of a site from the Program. The report contains the analyses and a summary of the data used to make the determination. In order for a site to be included in FUSRAP, the report must clearly indicate the following:

- The site has radioactive contamination.
- The radioactivity resulted from DOE predecessor agency operations.
- The federal government has the authority to remediate the radiological contamination under FUSRAP.
- The site is not subject to remedial action under any other remedial action program, and the FUSRAP-related contamination is not under an NRC or state license.

The contents of the eligibility report will vary from site to site and may include the following information:

- A summary discussing past site operations, disposal practices, and radiological history
- A description of historical site location and size, the current site location and size, and the current site status
- A summary of the authority determination review for the site
- An analysis of potential radiological doses and risk that might be received by occupants and members of the general public resulting from site contamination
- A comparison of the levels of residual radioactive contamination on the site and potential doses to guidelines and standards
- Supporting data and references

Elimination reports can contain similar information to justify the no-authority determination, but they are typically briefer. The elimination may be based on a finding from historical records of little potential for contamination, or a determination that the site is covered under another remedial action program. In cases where the authority determination review is completed first and the finding is that DOE has no authority, the authority determination review may be used as the elimination report.

3.1.4.3 Referral to USACE

If DOE determines that a site is eligible for remediation under FUSRAP, DOE will refer the site to USACE to determine if remediation is required. DOE will convey the eligibility determination report to the USACE Director of Civil Works, Environmental Programs, along with supporting documentation.
3.1.5 USACE Eligibility Review Process

USACE is responsible for conducting characterization activities to determine if a site contains FUSRAP-eligible contamination (DOE/USACE MOU, Article III, Section D.2). This may entail document review, additional radiological surveys, and evaluation of results. If FUSRAP-eligible residual radioactive contamination remains at the site at unacceptable levels, USACE will document that the site status is active and inform Congress that remediation of the site has been added to FUSRAP scope.8

For USACE to designate that a site has active status, either Congress must mandate the action in legislation, or all of the following criteria must be met:

- DOE must find that the site is eligible for referral by providing evidence that (1) the site could be contaminated with early national atomic-energy-program material and (2) the federal government has authority to remediate the site.
- USACE must determine that the site is contaminated with FUSRAP-eligible radioactive waste at a level sufficient to warrant a CERCLA response action (normally achieved by conducting a Preliminary Assessment [PA] and a Site Inspection [SI], if necessary).
- USACE must confirm there is federal government responsibility for the contamination. The analysis should determine whether a reasonable potential for CERCLA liability exists for cleanup of the contamination. The extent of this legal analysis should be sufficient to establish with reasonable certainty that a more wide-ranging evaluation would not alter the conclusion.
- USACE must have authority to respond under CERCLA.

USACE uses the PA/SI to determine whether the contamination represents an unacceptable risk as defined by CERCLA. The PA/SI documents the source, nature, and extent of any residual radioactive contamination and it includes relevant information from historical records.

The preliminary legal analysis is an initial screening intended to determine whether a reasonable legal basis exists for designating a site as an active FUSRAP site. A finding of a reasonable potential does not constitute an admission of FUSRAP liability. A further examination of historical data may yield a determination for no further action. If USACE determines that the contamination represents an unacceptable risk, the site is eligible for inclusion in the Program, and Congress will be notified and the site will be included in future FUSRAP budget requests. USACE will also notify DOE and other federal and state agencies, as appropriate. Should USACE determine that site contamination is not eligible for inclusion in the Program, USACE will issue a memorandum of no further action under FUSRAP and/or refer the site to other agencies for further action.

3.1.6 Activities Following Eligibility Determination

USACE is responsible for completing additional characterization under a remedial investigation/feasibility study (RI/FS) and for conducting the remedial actions identified under

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8 “Active” status is defined in the DOE/USACE MOU as any “eligible FUSRAP site” that is undergoing or is programmed to undergo response action by USACE, or that is determined to require initial or additional response action in accordance with the provisions of Article III of the DOE/USACE MOU.
FUSRAP. Once a site is referred to USACE, DOE has no further formal role for FUSRAP activities until USACE transitions the site back to DOE for LTS&M. Remedial actions are detailed in Section 3.2.

3.2 Remediation

3.2.1 Remediation by DOE

Prior to 1997, DOE was responsible for characterization, remediation, verification, and certification. DOE used DOE radiological protection guidelines (See Section 2.3, “Regulatory Framework”) to clean up the residual radioactive contamination and to manage the resulting wastes and residues. The cleanup standards established basic dose limits and allowable limits for residual radionuclides in soil and water, airborne radon decay products, external gamma radiation, and surface contamination. DOE conducted independent verification of remediated sites and certified that the sites complied with the cleanup standards.

“Supplemental limits” sites are sites where DOE left residual radioactive contamination in place even though contaminant concentrations exceed the numerical maximum concentration levels for the site. DOE Headquarters approved the supplemental limits, which were justified by criteria in the FUSRAP Guidelines or other remediation standards. The associated risk assessment included data to determine whether the material can be handled or moved or whether it must remain in its as-left configuration. The assessment was used to support the decision to approve supplemental limits.

3.2.2 Remediation by USACE

In October 1997, Congress reassigned responsibility for the "administration and execution" of FUSRAP from DOE to USACE (see Section 2.2, "Background").

DOE had independent authority under the AEA to clean up sites under its control or jurisdiction. Congress did not extend that authority to USACE when it transferred responsibility for FUSRAP cleanups, but it did confer CERCLA lead agency authority to USACE for remedy selection and remediation. This enables USACE to respond at FUSRAP sites when the site eligibility criteria are met. If there is no federal responsibility for the contamination, the site can be referred to other federal or state cleanup programs.

When USACE determines that contamination on a site is eligible for remediation, the site is deemed “active.” Active sites are those that are undergoing or are programmed to undergo response actions under CERCLA, are determined to require initial or additional response actions in accordance with the provisions of Article III of the DOE/USACE, or are placed in FUSRAP pursuant to congressional direction. At these sites, USACE conducts an RI/FS which includes an analysis of ARARs, risk assessments, and engineered alternatives which are presented in a decision document (i.e., ROD) and approved by the regulators.

USACE provides complete guidelines for remediation in its Management Guidelines for Working with Radioactive and Mixed Waste (USACE 2005) or its most current guidance.
3.2.2.1 Scope of the Cleanup

The scope of USACE cleanup incorporates the nature and extent of residual contamination through all affected media within and surrounding the geographic area of the site.

DOE uses historical research and other investigations to provide a determination of the geographic area at a candidate site which supported the early national atomic energy program. This forms the initial footprint of any CERCLA response action undertaken by USACE. If a site is included in FUSRAP by a congressional mandate, USACE will determine the site boundary for cleanup purposes. Once USACE completes its investigations and response actions, the geographic area may change, and any changes will be reflected in the closure reports for the site.

USACE also investigates and characterizes VPs in accordance with CERCLA processes and the National Contingency Plan. If a VP is determined to be eligible, appropriate action typically will be taken as part of the associated active site. The VP is eligible if the PA/SI establishes that hazardous substances from the active FUSRAP site contaminated the VP and that the nature and extent of contamination is such that a CERCLA response action is required. If the contamination on a particular VP is unrelated to and not commingled with FUSRAP material at the active FUSRAP site and there is no impact on cleanup activities at the associated active site, USACE will issue a memorandum of no further action for that VP. If deemed appropriate, USACE can identify a VP as a separate site for cleanup and future FUSRAP LTS&M activities.

DOE’s eligibility determination is the basis for identifying the potential contaminants to be investigated at each potential site; USACE will verify that the contaminants identified in the DOE eligibility report are regulated as hazardous substances under CERCLA. All substances other than those listed below will be excluded from the FUSRAP cleanup. The following hazardous substances will be considered within the scope of FUSRAP remediation:

- Radioactive contamination (primarily uranium, thorium, and associated radionuclides) related to MED and AEC activities are within the scope of the remediation, including hazardous substances associated with these activities (e.g., chemical separation, purification).

- Other radioactive contamination or hazardous substances that are mixed or commingled with contamination related to MED or AEC activities are within the scope.

- At federally owned FUSRAP sites, all radioactive contamination or hazardous substances are within the scope of response actions. However, on VPs associated with federally owned sites, any proposed remediation of radioactive contamination or hazardous substances not related to MED or AEC activities or not commingled with such contamination must first be approved by USACE Headquarters.

- Other substances may be included where directed by Congress.

Completion of site cleanup is typically achieved when the state regulator or EPA (for NPL listed sites) provides written approval of the remedial action report, which demonstrates that the selected remedy has been implemented and the site is protective for the specified land use. All ICs required by the remedy and for protectiveness must be in place to prevent exposure and to protect the integrity of the response actions. The completion process also defines any future activities that will be required for LTS&M.
If a FUSRAP site is listed on the NPL, EPA can begin the process of site deletion after the site remedy has been fully implemented and documented. Site deletion requirements include (1) the documentation of activities and decision making at the site is complete, (2) the activities conducted and documented are verified, and (3) the public has an opportunity for notice and comments before the site is formally deleted from the NPL.

For additional information about USACE FUSRAP site closeout guidance and procedures, refer to OSWER Directive 9320.2-22, “Close Out Procedures for National Priorities List Sites” (EPA 2011).

3.2.2.2 Final Site Conditions

An “unrestricted use” site is a remediated site that can be used for any possible land use without posing unacceptable risks to the public or the environment. Human health risk is quantified through a risk assessment, which is followed by establishing regulatory numerical limits. When the quantified risk is below the numerical limits, conformance to these limits and standards implicitly establishes that use restrictions are not required. A site may not qualify for unrestricted use if supplemental limits, supplemental standards, or another form of alternate concentration limits have been applied to any occurrence of residual radioactive contamination. In addition, a site cannot be released for unrestricted use if there has been a change of land use (and/or an exposure scenario quantified under the risk assessment) or a change to the configuration of the supplemental limits material (e.g., a disturbance of the residual radioactive contamination) that could result in unacceptable risk or that violates applicable laws and regulations.

USACE remediation activities may also result in application of supplemental limits (or "supplemental standards" when 40 CFR 192 is an ARAR) as described in Section 3.2.1.

3.2.2.3 Site Certification

USACE compares final site radiological conditions to the cleanup criteria established for a particular site, and presents the technical basis for determining that remediation is complete in a completion report. USACE obtains regulator concurrence that remediation has met cleanup criteria and the site can be released for the land use specified in the site decision documents. USACE then completes a certification statement and commences the formal transition of the site to DOE for LTS&M. USACE is revising its Engineering Regulation (ER 200-1-4) that will codify their site certification process.

3.2.2.4 Working with Potentially Responsible Parties

USACE will identify any Potentially Responsible Parties (PRPs) and involve appropriate PRPs in cost recovery and cleanup responsibility.

USACE has a congressional mandate to recover costs by seeking contributions from any viable PRP that may be legally liable for cleanup of any contaminants under FUSRAP, consistent with CERCLA. As part of DOE and USACE investigations, PRPs may be identified for potential cost recovery. Once PRPs are identified, USACE includes consideration of possible cost recovery into schedules, budgets, and planned project activities. The decisions to pursue PRPs for
contributions to cleanup are made on a case-by-case basis. Any decision by a PRP to not participate in site cleanup will be fully documented to support any future legal action.

USACE encourages PRPs to adopt as much of the cleanup workload as possible, including preparation of CERCLA documents (other than those that by law must be prepared by USACE as the lead agency). If private PRP liability is significant, and if health, safety, and environmental concerns allow, the project will most likely be halted after the PA (or other phase if the project has proceeded beyond the PA phase) and preliminary legal analysis and the PRP is given the opportunity to conduct the RI/FS and remedial action where appropriate.

Subject to USACE oversight as the lead agency, a qualified PRP may undertake site cleanup in active sites under a settlement agreement or under a consent decree and court order where needed. Or, depending on government interests, the PRP can remediate the site subject to oversight by EPA, NRC, or another agency. If other agency jurisdiction is concurrent with USACE FUSRAP jurisdiction, an MOU or other applicable agreement may be developed to identify the terms by which each agency executes its legal obligations without creating duplicate requirements for the cleanup.

3.2.2.5 Cleanup and Decommissioning of FUSRAP Sites with NRC-Licensed Facilities

In July 2001, USACE and NRC entered into an MOU to minimize dual regulations and duplicate regulatory requirements at FUSRAP sites with NRC licenses. This NRC/USACE MOU identifies four known sites that fall under the purview of the memorandum: Maywood Site (Stepan Chemical Company), Maywood, New Jersey; Windsor Site (Combustion Engineering [CE]-Windsor), Windsor, Connecticut; St. Louis Downtown Site (Mallinckrodt), St. Louis, Missouri; and the Parks Township Shallow Land Disposal Area Site, Parks Township (BWX Technologies), Pennsylvania. For more information, see Attachment 3 of this plan.

Each agency under the NRC/USACE MOU retains its responsibilities and authorities. The NRC has the statutory responsibility granted under the AEA for the protection of public health and safety related to the possession and use of source, byproduct, and special nuclear material. This includes ensuring decommissioning of facilities it licenses. To terminate a license and close out a site, NRC must ensure that the licensees meet the decommissioning requirements of 10 CFR 20, Subpart E. “Radiological Criteria for License Termination.” Section 611 of the Energy and Water Development Appropriations Act of 2000 (Public Law 106-60) grants USACE responsibility for remediation at FUSRAP sites and also confers lead agency status on the USACE for remedy selection.

As provided in Title III of the NRC/USACE MOU, upon request of USACE, NRC will initiate suspension (abeyance) of the NRC license so that USACE can conduct its remedial activities. USACE must notify NRC in writing that:

1. USACE will take physical possession of all or part of the licensed site to control radiation from FUSRAP materials subject to NRC jurisdiction and will be responsible for protection of public health and safety from those materials consistent with 10 CFR 20, “Standards for Protection Against Radiation,” and applicable CERCLA requirements;

2. USACE will conduct a response action at the licensed site under its FUSRAP and CERCLA authority, with regard to the FUSRAP materials subject to NRC jurisdiction, to at least meet the standards required under 10 CFR 20.1402; and
3. USACE has no objection to, and will facilitate, NRC observing USACE remediation activities.

NRC action for suspension of the license, or portions of the license, will be effective subject to the written notification from USACE and the rules of the NRC hearing process.

USACE identifies funding requirements and budget justifications and manages all site activities including response to inquiries from public officials, congressional interests, stakeholders, and members of the press. USACE consults with NRC if site conditions are inconsistent with the NRC description of contaminants or historical activities.

When remediation is complete, USACE provides NRC with a copy of the CERCLA Administrative Record. USACE will notify the NRC to reinstate the license.

NRC will reinstate the license or portions of the license put into abeyance due to USACE’s remediation if USACE:

1. Is no longer controlling the site or portion of the licensed site for radiation protection purposes,
2. Is no longer proceeding with a response action at the licensed site under CERCLA, or
3. Has otherwise completed its response action.

When remediation is complete, all FUSRAP-related materials will be cleaned up to the established standards and site conditions will be protective. If non-FUSRAP residual radioactive contamination is left behind that requires an NRC license after remediation is complete, the licensee (for privately owned sites) will maintain the license, while DOE will assume responsibility to conduct any LTS&M activities for the FUSRAP remedy. DOE will not become an NRC licensee for privately owned properties. For any NRC-licensed DOE-owned properties, DOE will assume the responsibility of the license under the authority of the AEA and will be self-regulated.

### 3.3 Transition of Completed Sites from USACE to DOE for LTS&M

Congress affirmed DOE as the agency with perpetual responsibility for FUSRAP sites. After remediation is complete, USACE will transition an active site to DOE where it will then be deemed “complete” and DOE will assume the appropriate actions for compliance, protectiveness, maintaining site records, and public outreach. The transition of responsibilities from USACE to DOE occurs mostly at the district level for USACE and is designed to ensure that essential knowledge is passed to DOE for incorporation into DOE LTS&M plans and for retention in DOE records.

#### 3.3.1 Transition Protocols, Procedures, and Guidance

The Site Transition Framework (Framework) is a DOE LM policy document that broadly outlines the issues common to all site transitions that must be addressed during the transition process (Attachment 4). It was originally developed to accommodate transition of sites remediated by DOE’s Office of Environmental Management (EM) to LM for LTS&M. Many sections of the Site Transition Framework are not directly applicable to FUSRAP sites because
they are transitioning from USACE after remediation, but it is useful as a high-level guide for transitions in general.

To the extent it is applicable to FUSRAP transitions, the Framework helps ensure that DOE is informed of requirements necessary to maintain protectiveness, that essential site knowledge is transferred and preserved in DOE records, and that stakeholders are informed of the DOE role to provide LTS&M and to respond to inquiries about site conditions. DOE uses the Framework as a comprehensive checklist to identify information gaps and issues that must be resolved. While the Framework serves to define site conditions, documentation, and the LTS&M elements that must be addressed, it does not prescribe a transition process. Therefore, DOE seeks concurrence with USACE to follow the transition process described in this Program Plan, and to seek agreement on site-specific conditions such as timetables, complexity, and the regulatory regime for a specific site.

DOE developed a Site Transition Checklist in 2004 to address specific elements of site transition. This checklist is intended to facilitate the transition of any site to LM. Therefore, the checklist contains items that are not applicable to transition of a FUSRAP site, such as worker benefits. DOE has created the FUSRAP Site Transition Checklist by deleting those items that are not applicable to FUSRAP sites (Attachment 5).

USACE is developing a process for site transition. This Program Plan will be revised as necessary when the USACE process has been finalized and released.

The DOE/USACE MOU prescribes a 2-year O&M period beginning when remedial action is complete and the Closeout Report is accepted. USACE retains custody of the site during the O&M period and ensures that the remedy is operating successfully and will remain protective. USACE transitions the site to DOE at the end of the O&M period.

3.3.2 Site Transition Process

The DOE transition process involves:

- Meeting with USACE to plan the transition process.
- Acquiring and preserving technical knowledge of site closure, consisting of the following elements:
  - Reviewing reclamation plans, as-built drawings, and verification documentation.
  - Determining the adequacy of the proposed long-term groundwater monitoring program, if needed for the transitioning site, including reviewing groundwater data and modeling parameters and predictions.
  - Reviewing applicable state, tribal, or local regulatory requirements that may impact LTS&M of the site.
  - Verifying the physical conditions of a site through a site visit.
- Ensuring conformance with applicable laws, regulations, and DOE orders, guides, and policies.
• Evaluating real property requirements against existing conditions to:
  — Determine if ICs will be adequate.
  — Assess opportunities for reuse.

• Tracking transition actions to completion (using the Site Transition Framework [Attachment 4] and the FUSRAP Transition Checklist [Attachment 5] as guidance) and tracking progress through regular communication with the licensee and regulator.

• Developing an LM webpage and fact sheet, updating the Considered Sites Database (CSD), incorporating site information into LM geographic information systems, and conducting stakeholder outreach and support.

DOE will schedule transition activities to begin one year before the scheduled end of the O&M period and when the following conditions are considered and understood:

• **Physical construction and the 2-year O&M period are complete.** The regulator should have concurred in the completion of the surface reclamation. DOE will review the physical closure and may request participation in regulator inspections. Any concerns raised by DOE should be accepted for resolution by the regulator or USACE, and resolution should be achievable within the transition period. Pending regulator concurrence in construction completion, along with site knowledge, may be judged sufficient to satisfy this criterion.

• **Groundwater compliance, if an element of the site remedy, should be achieved.** This may entail application of alternate concentration limits following a groundwater corrective action program conducted by the USACE. The designated class of use for the aquifer underlying and surrounding the site often determines the applicable groundwater protection standards. The final site boundaries for LTS&M cannot be established until groundwater modeling of the contaminant plume is complete and is accepted by the regulator. Typically, the greatest modeled extent of groundwater contamination must be contained within the site LTS&M boundary.\(^9\) LM will review site hydrology and groundwater conditions. LM will evaluate the modeling to enable future validation of the model and to increase confidence that future groundwater conditions will not deteriorate to cause noncompliance with established standards or corrective action.

If there are residual groundwater issues, they may take years to resolve. Long lead-time activities could include additional modeling and reviews and concurrence by the regulator.

• **The LTS&M boundary is finalized.** Once the predicted extent of groundwater contamination has been determined and accepted by the regulator, the LTS&M site boundary can then be established.

### 3.3.3 Transition Team

DOE assembles a team that represents all the disciplines needed to evaluate the various aspects involved in transitioning a given site. The team may draw on subject matter experts in the fields of human health and ecological risk assessments, hydrology and groundwater, remedial action verification, or other disciplines as may be needed to evaluate site conditions.

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\(^9\) The LTS&M boundary includes areas subject to ICs and land-use controls.
3.3.4 Technical Evaluations

DOE has no formal role in site remedy selection. However, when notified that site transition is scheduled and during the O&M period immediately preceding transition, DOE evaluates the final implementation of the remedy and confirms post-closure care requirements that are a part of the remedy, which DOE will then define in the LTS&M plan.

With regard to ICs, DOE and USACE discuss final site conditions that would allow continued current land use without restriction. In some situations, less conservative uses would pose unacceptable risk. For example, a site released for unrestricted commercial or industrial land use might not be protective for residential land use. Therefore, DOE would have to monitor and prevent residential use of the property; in accordance with established ICs. Under any land-use scenario, DOE would have to ensure that residual contamination is managed properly if the contamination is disturbed or the property is redeveloped (see Section 3.2.2.2, "Final Site Conditions").

3.3.5 Document and Data Transfer

DOE will collect the necessary records to ensure adequate site knowledge is preserved for future custodians. Once records and information for a site are received, they will be coded into the appropriate category in the site file plan and the hard copies will be sent to the Records Management group for retention. If received electronically, data should be downloaded and a copy sent to the Records Management group. Real property data should be directed to the Legacy Management Support (LMS) Real Property group for proper coding and disposition. Electronic environmental monitoring and geospatial data should be forwarded to the LMS Environmental Support Services group for appropriate disposition and retention.

The following documents should be requested from USACE to facilitate transition activities and for retention in the site record collection, as appropriate for a specific site:

- CERCLA decision documents
- Remedial Investigation/Feasibility Study
- Human and Ecological Risk Assessment
- Remediation plan(s), including design-basis documentation and engineering calculations
- Site history (summary history of site operations and previous owners, historical photos of previous operations, etc.)
- Description of groundwater contaminant fate and transport model and model files
- Groundwater and surface water monitoring/data reports
- Water Sampling and Analysis Plan and associated Quality Assurance/Quality Control Plan
- Aerial photograph of site after remediation is completed
- As-built drawings and site topographic map
- National Environmental Policy Act documentation
- Stakeholder contact information and stakeholder issues and concerns
- Adjacent property ownership maps, including any rights-of-way across site property, access agreements, easements, ICs, if applicable
- Well completion logs for all wells transferred to DOE
- Any regulatory permits expected to be transferred to DOE
- Legal description of final LTS&M boundaries, including ICs or other boundaries addressed by land use controls
- Title documentation
- Specific reports on hydrogeology and geology of the disposal site area, if appropriate
- Electronic files for geospatial, environmental, and design data
- Any additional historical information or documentation that would be useful under LTS&M

Additional needs for site-specific information may develop during the site transfer process, and USACE may be asked to provide additional documents.

3.3.6 Real Property Transfer

No real property transfer will occur for FUSRAP site transitions. Only four of the FUSRAP sites are owned by DOE. All other active sites that are remediated or completed sites that have been remediated are privately owned. While DOE may have LTS&M responsibilities for residual contamination, no circumstances are foreseen where DOE will acquire any real property assets. However, if USACE has established ICs or has established agreements that DOE will need for LTS&M responsibilities, those agreements will be addressed in the transition activities.

3.3.6.1 Legal Survey and Land Instruments

Even though DOE will not acquire any additional real property, it will be useful for USACE to provide an electronic copy of the stamped/sealed land survey and legal description that defines the site boundary. DOE will use this information to create a site boundary within a geographic information system database and a description of the site features for site records. This description will help answer future questions about the remediated area. USACE will also establish any land agreements necessary for DOE to conduct LTS&M activities once a site is completed. DOE will plot the survey to ensure that it closes and matches the understanding of the boundaries. Any real property interests that are pertinent to DOE’s LTS&M of the site will be retrieved and incorporated into the digital data management systems.

3.3.6.2 Institutional Controls/Land Use Controls

This document uses the broad definition of ICs that is found in DOE Policy 454.1, Use of Institutional Controls. Most of the ICs developed for FUSRAP sites will fall into DOE’s category of administrative controls. These are FUSRAP-site controls that are legally enforceable mechanisms. Under DOE policy they generally fall into one of three categories: (1) proprietary controls, (2) governmental controls, and (3) other enforcement documents with ICs requirements (such as consent decrees). “Enforceable” means that an identified entity has the legal power to halt any activity that violates an established control. DOE recognizes the differences between EPA’s definitions of ICs (most likely used by USACE, since remediation is conducted in
accordance with the CERCLA process) and DOE’s definitions. However, DOE finds most of the
differences to be in terminology and not in the ability to apply and enforce restrictions where
they are needed.

In some instances, contamination may be left in place if it poses no unacceptable risk, and if the
benefit of remediation is not commensurate with the cost of, or damage caused by, removing the
contamination. The protectiveness of a completed site sometimes relies on properly managing
residual contamination to prevent any uses that could create an exposure pathway to the
contamination. In those cases, the knowledge about the contamination must be preserved over
time. This is accomplished with ICs, which ensure that the current owner or tenant of a site is
aware of the material left in place, and ensure that no pathway to exposure is created. If the
material is disturbed or becomes accessible, DOE must be informed so it can reevaluate the risk
and, if necessary, properly manage the material.

At sites where contamination is left in place, USACE has the authority to apply supplemental
limits to sites or areas of a site where cleanup cannot be achieved or where the cost of
remediation is unreasonable or where remediation creates an unacceptable risk to remediation
workers or the environment. At some locations where supplemental limits are used, it is assumed
that the land use will remain unchanged, which is the case at several industrial sites where
residual contamination was fixed in drain lines. Because no changes were assumed in land use,
the exposure scenarios were only developed for maintenance and utility workers. Risk resulting
from residential use of the property or facility was not addressed for all sites and ICs might not
have been developed to address all possible uses of the land. ICs must address all potential uses
of the property or facility and must remain in effect until the radiological contaminants cease to
be hazardous. Therefore, site evaluations for ICs should anticipate change and, if needed, should
be recorded in public records to preserve knowledge of the specific restrictions for all future
owners of the property or facility.

When remediation is complete at an active site, USACE will have determined the need for ICs
and will have put the appropriate mechanisms in place. The appropriate mechanism for the
required restrictions may depend on individual state laws and may require periodic reporting
about activities that could affect the ICs in place. USACE will provide all ICs documentation
that should be included in DOE’s LTS&M responsibilities.

DOE will specify requirements for long-term management of ICs in a site-specific LTS&M plan.

3.3.6.3 Facilities Information Management System

Once transition is complete, all DOE assets, including land instruments (i.e., existing easements
and ICs) and site structures (fences, disposal cells, and wells) must be entered into the Facilities
Information Management System (FIMS) database. If a FUSRAP site is designated as a records-
only site, there are no assets to track and FIMS data entry is not required. FIMS is DOE’s
repository for information to manage real property assets and interests and their associated costs.
DOE will ensure that all assets and land agreements are adequately captured and reported in
FIMS. If any portion of a DOE-owned site or other assets that DOE owns are later dispositioned
for beneficial reuse, only those entries representing DOE responsibilities will be retained
(e.g., ICs that DOE must track for LTS&M or monitoring wells). DOE will not own assets at
most FUSRAP sites because they are owned by a third party. FIMS entries will likely consist only of real property instruments, including ICs.

3.3.7 Readiness Review

As site transition work nears completion, DOE will assemble the transition team to conduct a transition readiness review. This review is to ensure that all information to support LTS&M has been captured and DOE is aware of all LTS&M requirements. It is an opportunity for USACE and DOE to address any outstanding concerns while the institutional knowledge of the site remediation is still available.

3.4 Referral of Completed Sites Back to USACE for Additional Remediation

There may be occasions when DOE determines that a completed site may require additional remediation. This can occur if unassessed contamination is found or site conditions and/or if land use have changed. Congress directed that only USACE has authority to conduct remedial action for FUSRAP sites. Therefore, if DOE is informed that a hazard exists on a completed FUSRAP site, DOE will confirm that the hazard exists and refer the site to USACE. USACE will conduct a preliminary assessment and perhaps a site investigation to determine if the contamination is eligible for FUSRAP remediation. If appropriate, USACE will formerly include the site in to the Program, the site status will be changed from completed to active, and the applicable provisions of the DOE/USACE MOU will apply. The referral process is shown as part of the life cycle flow chart (Figure 2).

The DOE/USACE MOU contains provisions that are applicable to a DOE referral of a completed site to USACE, including the following:

- **Article III, Section B.1.b**: DOE shall “request USACE to conduct additional FUSRAP cleanup in a manner consistent with those procedures described in Article III, Section D, FUSRAP ELIGIBILITY (NEW SITES)”.
- **Article III, Section B.2.a**: USACE shall “assume no responsibility for the completed sites listed in Attachment ‘A’ unless additional response actions are determined to be necessary under the provisions of Article III paragraph B.1.a. and Article III Section D”.
- **Article I, Section F.13**: “For purposes of this MOU, ‘completed sites’ become ‘active sites’ upon USACE determination that further response action is necessary in accordance with Article III of this MOU.”

3.4.1 Referral Process

The referral process is site-specific and all steps might not apply to every site. The referral process will generally follow these steps:

1. DOE is informed of additional contamination potential, loss of protectiveness, or a potential regulatory compliance issue at a completed FUSRAP site. The information can come from any source.
2. DOE investigates the report and reviews historical documentation to determine if contamination remains that poses an unacceptable risk to occupants under a current and reasonable future land use.

3. As appropriate, DOE makes the following notifications:
   a. Inform DOE management and GC of the report.
   b. Inform the source of the new information that the report has been received and request information substantiating the report.
   c. Inform regulators that the report was received and request information from their files.
   d. Inform USACE that the report was received and describe the proposed DOE response.
   e. Request that the DOE public affairs office prepare a management briefing, assess stakeholder interest, and monitor the media.

4. DOE evaluates the report of potential risk. The evaluation may entail the following:
   a. Reviewing site documents describing historical operations, contaminants of concern, final radiological conditions, and human health risk. For sites remediated by DOE before 1997, document sources include the CSD, Oak Ridge Operations Office remediation records, and records in the LM active records systems. For sites remediated by USACE after 1997, document sources include records in the LM active records systems (this collection will contain the administrative record, milestone documents, and certification documentation that DOE received at transition) and USACE records in the Federal Records Center in Lenexa, Kansas. The Finding Aid (see Section 5.1.1) should be consulted for other potential records caches if the available information is not sufficient.
   b. Collecting data available from the stakeholder and other sources.
   c. Conducting a site visit and obtaining field data sufficient to either eliminate the site from referral or demonstrate that a referral is appropriate.

5. Eligibility requirements stipulated in the DOE/USACE MOU are met for sites previously found to be eligible.

6. If DOE determines that FUSRAP-eligible contamination remains on the completed site, and that the contamination may pose an unacceptable risk or exceeds regulatory limits established for the site's release, then DOE will:
   a. Inform USACE of the determination
   b. Draft a referral letter to USACE
   c. Request that the GC review the determination and draft referral letter
   d. Transmit the referral letter to USACE
   e. Inform regulators and stakeholders of the referral

7. If DOE determines that site conditions remain protective and no further action is needed, then DOE will document the report, evaluation, and conclusions for the site record. DOE will make appropriate notifications of other parties, which may include DOE management, stakeholders, and regulators.
3.5 Long-Term Surveillance and Maintenance

DOE’s primary mission is to maintain protectiveness, which is accomplished by maintaining the approved remedy and by periodically evaluating the remedy performance. The means of verifying ongoing protectiveness is established at the time of transition and is documented in a site-specific LTS&M Plan. For most FUSRAP sites, LTS&M consists of organizing the site records collection, ensuring regulatory compliance for the remedy, and providing ongoing stakeholder support. DOE developed the *Long-Term Surveillance and Maintenance Requirements for Remediated FUSRAP Sites* (DOE 2011), which documents the specific LTS&M activities required at each site. DOE assumes that land use will change over time and that site knowledge will be lost. The LTS&M activities are designed to address these vulnerabilities. DOE maintains and updates this document to incorporate new sites and ensure that DOE continues to meet its LTS&M responsibilities.

3.5.1 Risk Management

LTS&M activities for remediated FUSRAP sites ensure that they are protective of human health and that there is no harm caused by residual radiation or radiological contaminants.

DOE conducted a systematic assessment of health risk at remediated FUSRAP sites, based on final radiological conditions documented in the reports available on the CSD (DOE 2011). The output from this process consisted of recommendations to further evaluate conditions at certain sites to determine if ICs or other land use restrictions are needed. ICs could be required to maintain protectiveness or to manage hazardous materials for disposal.

In assessing potential site risk, DOE paid particular attention to land-use assumptions and exposure scenarios used for certifying that a given site was suitable for “unrestricted use.” Some sites were remediated to a condition that poses no unacceptable health risks to a hypothetical subsistence farmer or resident with a home garden. These sites are considered suitable for UU/UE and no ICs are necessary. This level of protectiveness is not confirmed for all sites, and DOE has imposed surveillance requirements at sites where some land uses should be restricted; ICs are being pursued at some of these sites. DOE will reassess the need for ICs for a site if conditions change or if new information comes to light.

The documentation posted on the CSD demonstrates that most of the remediated FUSRAP sites are considered to be UU/UE and have no LTS&M requirements beyond records management and stakeholder support. For several other sites, the data supports allowing unrestricted use but certification process is not complete. DOE will evaluate final conditions at these sites and complete the certifications.

Supplemental limits were applied to inaccessible contamination at nine sites. These occurrences of residual contamination were determined to pose no unacceptable health or environmental risk as long as the physical configuration of the residual radioactive contamination is not disturbed.

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10 The DOE assessment focused on human health risk. Site conditions indicate that ecological risk is not a concern. Surface water is not contaminated at completed FUSRAP sites and most sites are located in urban areas with no habitat for sensitive species. There are no clear exposure pathways to ecological receptors. Sites remediated to conditions that allow UU/UE had close to background levels of residual radioactive contamination upon completion.
DOE will determine if ICs are needed at those sites where the contamination is buried and excavation should not occur without DOE oversight to manage contaminated materials that might be encountered. At other sites, ICs may be needed where supplemental limits were applied to structures and DOE must determine if demolition would result in unacceptable risk or if debris must be managed as radioactive waste.

DOE will conduct periodic visits to sites where DOE or USACE applied supplemental limits to ensure they remain protective. The specific objectives of these visits are to:

- Document that land use has not changed from the assumed land use that was the basis for determining that residual radioactive contamination in supplemental limits areas poses no unacceptable risk
- Ensure that supplemental limits occurrences have not been disturbed
- Ensure there has been no uncontrolled recycling, disposal, or dispersal of contaminated material

DOE also will contact owners and tenants of the sites where supplemental limits were applied to ensure those parties (1) remain aware of the residual contamination and (2) will contact DOE if redevelopment or demolition is planned so DOE can properly manage the residual contamination.

For those sites that were released for UU/UE and that do not contain supplemental limits areas, DOE will conduct periodic site visits to monitor changes in land use and anticipate community questions about site conditions when staff are in the region for other business. The visit frequency for these sites will be approximately every 5 years. Many of the sites are clustered in discrete areas: western Ohio; Buffalo, New York; central New Jersey; southern New York; and the New England coast. Sites in a cluster will be visited on the same trip. These visits are discretionary and are not LTS&M requirements for these sites.

3.5.2 Maintaining Protectiveness

DOE’s objectives for LTS&M at FUSRAP sites are to maintain protectiveness through the following actions:

- Controlling exposure to hazards
- Restricting site, facility, or site resource uses, if needed
- Establishing visible, durable, and enforceable ICs, if needed
- Preserving site knowledge

For LTS&M, DOE classifies FUSRAP sites under its jurisdiction in three categories. The categories define the level of LTS&M activities required. The majority of FUSRAP sites are Category 1, generally referred to as “records only”; these are sites that have been released for UU/UE and where activities typically include records-related actions and stakeholder support. Category 2 sites are sites whose LTS&M requirements include routine inspections (i.e., any site visit needed to verify the integrity of engineered barriers or institutional restrictions), monitoring and maintenance, records-related activities, and stakeholder support. The sites deemed Category 3 are those sites with operation and maintenance of active remedial action systems in
addition to all of the LTS&M functions required for a Category 2 site. The inventory and
categories of LM sites is provided in the LM Site Management Guide aka the “Blue Book.” The
Blue Book is updated twice a year and identifies all completed FUSRAP sites and their LTS&M
categories. Using information provided by USACE, the Blue Book also describes when the
active sites are expected to transition to DOE for LTS&M and the anticipated LTS&M category.
Should a site require additional LTS&M activities, such as adding ICs, or if a site is referred
back to the USACE for additional remediation, the Blue Book will reflect the revised category
and new transition date back to DOE.

Most FUSRAP sites were remediated to a condition that allows UU/UE. For UU/UE, the DOE
cleanup criterion was a Total Effective Dose Rate of 100 millirems per year (mrem/yr) for a
residential or subsistence farming exposure scenario. Sites remediated by USACE after 1997
typically used 25 mrem/yr as the release criterion. In both cases, through the As Low as
Reasonably Achievable process, final dose rates were typically far less than the DOE criterion of
100 mrem/yr.

Generic limits were applied for radium and thorium in soils, and site-specific limits were derived
for other radionuclides. At some sites, supplemental limits were applied to occurrences of
radiological contamination that exceeded the generic limits and were left in place. These
occurrences do not pose an unacceptable risk if the land use at the time of the certification
continues. DOE will determine if surveillance is necessary to track land use and confirm that the
exposure assumptions at the time of certification remain valid.

DOE must maintain protectiveness for as long as residual contaminants remain potentially
hazardous. The contaminant at many FUSRAP sites is natural uranium (i.e., uranium in natural
isotopic abundances, having been neither enriched nor depleted in uranium-235). The uranium at
these sites was refined at other locations and daughter products were removed. Other sites were
involved in processing uranium ore, so uranium daughter products were present in the waste
stream. In both cases, because of the long half-lives of uranium and its daughter products, DOE
assumes that LTS&M requirements will remain in effect in perpetuity or until the site conditions
change. Future land use cannot be foreseen at most FUSRAP sites. Often, if current land use is
industrial and conditions would not be acceptable for residential or another land use, the need for
ICs is implied.

3.5.3 Site Activities

DOE routinely visits completed sites to establish a baseline of site conditions, to detect changed
conditions, and to determine appropriate future oversight actions. The site visits are generally
drive-by visits to ascertain if land use has changed at the site or in the site vicinity. Physical
conditions are noted and any concerns are recorded for follow-up investigation. These trips are
conducted by staff trained to evaluate site protectiveness on the basis of the physical site
conditions, and are conducted in conjunction with inspection trips to other sites to reduce
LTS&M costs.

Site visits and routine investigations stipulated in the LTS&M Plan for a site may reveal that site
conditions are changed. Redevelopment or other land use changes can invalidate the land-use
assumptions and exposure scenarios used to assess the risk if residual contamination was left in
place. For example, a building may be constructed over buried contamination or site topography
may have been altered to change the isolation parameters of residual contamination left in place. When surveillance reveals that site conditions have changed, DOE must ensure that the new use or condition is protective. This will likely involve a reevaluation of the risk assessment to confirm the initial risk parameters are still valid. If not, new parameters are defined and the risk recalculated. If necessary, ICs will be established to address the new site conditions and the LTS&M requirements for the site will be amended to ensure the new restrictions are not ignored or forgotten.

Similarly, routine LTS&M investigations can uncover instances where residual radioactive contamination in a supplemental limits area has been moved or otherwise disturbed. If supplemental limits were applied because the material was inaccessible, removal cost outweighed the benefits, or removal posed an unacceptable risk, then disturbing the material implies that the material is no longer inaccessible or too expensive or risky to relocate. The contamination reverts to hazardous material that exceeds numerical limits. If dispersal of the material would result in unacceptable human health, environmental, or programmatic risks, ICs may be used to prevent dispersal. Changed conditions could result in referral of a site to USACE for additional evaluation and, if needed, additional remediation.

The possibility exists that supplemental limits material might be disposed of at some time in the future. Disposal must conform to applicable requirements, such as waste classification and acceptance requirements. If supplemental limits material requires management as regulated waste, DOE will establish appropriate ICs to ensure the material is managed and disposed of appropriately. The LTS&M Plan for the site will be amended to ensure these controls remain part of the site knowledge for future owners of the site or facility.

3.5.3.1 Maintaining the Remedy

For completed sites that have been released for UU/UE, there is no residual contamination that must be managed to ensure ongoing protectiveness. In such cases, LTS&M actions typically consist of managing the site information, making site information available to the public, and providing requested stakeholder support. For sites where some residual contamination remains, protectiveness is ensured by maintaining isolation of the contamination, restricting use of the land and improvements, or enforcing any other provision of the remedy that will control exposure.

After remediation is complete on an active site and the site has been transitioned to DOE for LTS&M, DOE conducts the activities necessary to ensure the site remains protective and in full compliance with applicable regulations. The specific requirements are those that have been defined by DOE or USACE for the completed sites and those required by the remedy selected by USACE and approved by the regulators for active sites. If residual contamination remains on the site, LTS&M actions may include maintaining access controls and ICs, conducting inspections and monitoring, and reporting site conditions to stakeholders. Other activities regarding the remedy will likely include periodic evaluations of site protectiveness (similar to CERCLA 5-year reviews), evaluations of monitoring results, and updating risk assessments.

3.5.3.2 Inspections and Monitoring

For completed sites with residual radioactive contamination, remedial action results in a protective end state as long as site conditions do not change. DOE will conduct site-specific
inspection and monitoring activities to assess the degree to which physical conditions at a site have changed. Inspection and monitoring may be appropriate for any site that cannot be released for unrestricted use. These activities can provide “negative data” to stakeholders to demonstrate that a site remedy continues to perform as designed, remains protective, and is experiencing no violations of the ICs.

DOE will design site-specific inspection and monitoring programs to provide early warning of a departure from final remediated site conditions and Program requirements and to generate sufficient data to reveal trends in site conditions. Other site conditions are noted, such as departures from compliance with applicable laws and regulations (e.g., offsite sediment transport, noxious weeds, litter; some of these conditions will be the responsibility of the owner and not DOE).

DOE will conduct follow-up inspections or focused monitoring as required in response to results from inspections or monitoring or to address stakeholder questions or concerns. For a site released for UU/UE, this entails the drive-by viewing of the site to check site conditions or activity, but may require more in-depth investigations, such as onsite measurements and subsequent evaluations by subject matter experts.

Monitoring of any environmental medium may be necessary. Monitoring could be required in perpetuity or for a specified time to demonstrate that performance assumptions for a given remedy remain valid. Using input from regulators and affected public agencies, USACE or DOE (depending on when the need for monitoring is identified and is documented as part of the remedy) must clearly define and document the monitoring objectives so that it will be clear when the objectives have been met and the monitoring can be terminated. Consultation with regulators and other agencies helps ensure that they support the need for monitoring and can respond to stakeholder concerns that are addressed to their agency. DOE may identify local resources for sites with routine but frequent inspection and monitoring requirements or for instances in which a site condition needs to be checked quickly to determine an appropriate response to a site concern. This has the added benefit of establishing some institutional knowledge in the local community.

DOE provides monitoring and inspections results to stakeholders through the LM public website at [http://www.LM.doe.gov](http://www.LM.doe.gov).

### 3.5.3.3 Maintenance

DOE will conduct maintenance activities to ensure site conditions remain protective. Site-specific maintenance requirements are driven by features of a selected remedy, laws and regulations, and best management practices. DOE policy and guidance can impose additional requirements for maintenance activities, such as compliance with worker safety regulations and environmental laws.

DOE must maintain the physical controls that are part of a remedy, including maintenance of engineered controls (disposal cells or other waste containment systems), configuration of supplemental limits areas, access controls (fences and gates), and notification devices such as signs and boundary monuments. Laws and ordinances that apply to landowners and other users of the property may drive other maintenance requirements, such as well maintenance, litter control, and noxious and invasive weed control.
Inspection and monitoring activities include evaluation of maintenance needs. DOE requests sufficient funding to keep maintenance current to ensure all physical and engineered structures function as designed. Maintenance is also required to maintain the site appearance to assure stakeholders that DOE is managing risk. As with inspections and monitoring, DOE often uses local resources to perform maintenance functions.

3.5.3.4  ICs Maintenance, Reporting, and Enforcement

ICs may be a part of the remedy if residual contamination remains on a site above a level that allows release for UU/UE. ICs often rely on governmental and private entities to restrict access to portions of the site or site resources. Well-planned and implemented ICs take advantage of established systems to retain institutional knowledge of the use restrictions. In some cases, the host state for a site may have requirements for ICs monitoring. DOE ensures that state or federal requirements of ICs monitoring and reporting are met.

ICs must be managed to ensure site ICs are visible (i.e., are known to owners, regulators, and other parties who may be affected by the restrictions), durable (i.e., will last as long as the contamination remains above a level that allows for release for UU/UE), and enforceable (i.e., some entity has the authority to enforce the restriction). DOE Guide 454.1-1, *Institutional Controls Implementation Guide for Use with DOE P 454.1, Use of Institutional Controls*, provides guidance for managing ICs in ways that are consistent with the principles underlying the CERCLA 5-year review. The methods and frequency of ICs monitoring to achieve these objectives are detailed in the LTS&M Plan (or an equivalent plan). State laws and regulations governing ICs can change as the concept and implementation of site protection matures. One of the essential components of managing ICs is to review state regulations to determine if laws and regulations have changed and to determine if there are new requirements for monitoring and reporting that must be met to maintain compliance.

DOE works to ensure the continued protectiveness of required ICs and so there is an ICs maintenance and monitoring plan to mitigate the potential of ICs failures. Possible consequences of ICs failure include no harm, harm or damage to human or environmental health, loss of control of hazardous or regulated materials, costly responses for loss of control, and diminished public perception of safety. In this context, “failure” is any loss of oversight and control, including failures that do not result in exposure to hazardous materials or diminished protectiveness. Failures have resulted when the party responsible for the IC oversight has not followed through in establishing, maintaining, or enforcing the necessary restrictions. This failure of oversight can result from the violating party being unaware of the ICs imposed on the property or facility.

ICs must be enforceable or there will be no assurance of risk control. The signatories to the ICs instrument (e.g., environmental covenant, deed notice) will use their inherent authority to enforce the restrictions. Examples of this authority include an injunction to cease the violating actions or governmental “police powers” granted to ensure compliance with laws and regulations. Ideally, effective oversight, including maintaining awareness of the restrictions over time, will prevent violations of the ICs that would lead to an enforcement action.

DOE will evaluate enforcement mechanisms to ensure that all required ICs can be enforced in case of violation. Through its management of ICs, DOE could be the first party knowledgeable of a violation. When this occurs, DOE notifies the regulators and the enforcement authority to
take appropriate actions to correct the violation and to determine if additional measures are needed to prevent recurrence.

3.5.4 Stakeholder Support

Stakeholder outreach activities are conducted to inform the public about FUSRAP activities. DOE also prepares documents that are designed to provide opportunities for open, ongoing, two-way communication. DOE actively seeks, considers, and in a timely manner responds to the views of its stakeholders, thereby giving them an opportunity to provide input to DOE’s decision-making process.

The primary methods of providing information to the public are the DOE Legacy Management public website and electronic communications. Engaged stakeholders, defined as those members of the public who have indicated their interest in receiving DOE Legacy Management communications and have provided DOE with an e-mail address, are notified by e-mail of the availability of FUSRAP documents, postings to the DOE website, scheduled meetings, and other information of interest to the public.

DOE maintains a webpage at http://www.LM.doe.gov/default.aspx?id=866 for FUSRAP and will post key documents associated with the cleanup and LTS&M of each site in the CSD. Prior to site transition from USACE to DOE, DOE will support USACE stakeholder outreach as requested. When transition is complete, DOE will update the CSD with pertinent information and create a fact sheet and other informational documents as needed to describe DOE monitoring and maintenance activities.

DOE designed the Geospatial Environmental Mapping System (GEMS) to provide dynamic mapping and environmental monitoring data display for LM sites. Stakeholders can use GEMS to view a map of a site, photographs, and water-quality and water-level data where relevant. Water-quality and water-level data are available in table and graph formats. DOE is developing a GEMS site for all four DOE-owned FUSRAP sites. The GEMS site is accessible through a link on the FUSRAP webpage.

DOE also welcomes direct stakeholder communication concerning FUSRAP at any time. Stakeholders may contact the FUSRAP program manager or the FUSRAP public affairs representative at FUSRAPinfo@lm.doe.gov. Direct communication may include technical discussions and briefings as requested. Attendance at such technical discussions and briefings is not restricted, and they are open to any interested stakeholder.

Public meetings may be conducted as warranted. DOE will post notification of such public meetings on the FUSRAP website and distribute electronic notification to engaged stakeholders and the local media. DOE may also utilize paid advertising in local media to publicize public meetings of broad community interest.

DOE will issue news releases or community advisories regarding DOE documents or significant monitoring and maintenance activities. These news releases or advisories will be distributed to news media and other engaged stakeholders and will be posted on the LM public website at http://www.LM.doe.gov.
3.5.5  Real Property Management

As of the date of this report, DOE owns four FUSRAP sites. These are active sites that are currently under the control of USACE for remediation. DOE will track the owned real property assets in FIMS (see Section 3.3.6.3, "Facilities Information Management System") for as long as DOE owns the sites. In addition, DOE must track any land agreements, such as ICs or easements or other agreements needed for access, as long as the agreements are needed for LTS&M activities. In support of DOE’s goal of returning sites for beneficial reuse, DOE intends to disposition the sites as quickly as possible after transition from USACE (see Section 4.0, "Site Disposition for Beneficial Reuse of DOE-Owned Sites"). Any rights DOE will need for protectiveness, such as ICs or rights needed for access to conduct LTS&M activities, will be retained in the property transfer documents and will continue to be tracked in real property records.

4.0  Site Disposition for Beneficial Reuse of DOE-Owned Sites

Final site conditions will determine if DOE can disposition the remaining DOE-owned FUSRAP sites for beneficial reuse after transition is complete. During the O&M period, DOE’s reuse team will begin evaluation of the transitioning site. The reuse team will work with the DOE site managers to ensure there is an accurate understanding of the final site conditions and to discuss viable entities to receive the site. If reuse potential does not exist, this will be documented and no further action will be taken during transition. If reuse potential does exist, DOE technical staff will incorporate reuse information into the LTS&M Plan with assistance from the reuse team, as needed.

5.0  Information Management

Information and records management for FUSRAP sites presents challenges not associated with records transfers of other programs or sites. The FUSRAP Program has been in operation continuously since the 1970s and has involved various DOE offices and other federal agencies. Records from MED and AEC operations and FUSRAP activities are distributed across many organizations and locations, including LM storage facilities and NARA facilities. Finding aids sometimes are difficult to use or lack detail, and essential program knowledge sometimes has not been captured. DOE began an evaluation of the available records in 2004 and determined that a focused effort was needed to identify records and preserve access to information. Since that time, DOE has established a records program for FUSRAP, has created tools to help identify and retrieve records (e.g., DOE 2010), and has included records and information transfer as an integral part of the site transition process.

5.1  Records

One of the primary missions of the Program is to establish a comprehensive knowledge base of information, both in LM custody and in the custody of outside parties, for use by future custodians. Records must describe site operations that resulted in waste generation, the extent of contamination, remedial action activities, final site conditions, site verification, and regulator concurrence. Records documenting post-closure protectiveness and use restrictions must be
preserved. Staff must be able to retrieve records in response to inquiries related to worker health and safety and the determinations of responsible parties or site eligibility. DOE FUSRAP records systems are designed to preserve knowledge of, and guide users to, needed records.

For many of the FUSRAP sites and ineligible candidate sites, the records are all that remain to document site history. These records are needed to determine eligibility and to respond to the stakeholder inquiries.

5.1.1 Finding Aid

The *FUSRAP Historical Record: Collections, Contents, Access, Custody, and Finding Aids* (DOE 2010) (Finding Aid) document was developed to help DOE and contractor staff locate information to answer questions regarding current or potential FUSRAP sites. The purpose of the document is to (1) assist in identifying and retrieving records created by and assembled in support of FUSRAP since its inception in 1974, and (2) assist in identifying and retrieving records created during legacy MED and AEC activities that may be relevant to current or potential FUSRAP sites. It provides background information for a person unfamiliar with FUSRAP to identify likely information sources for site information. The most frequently requested site information concerns radiological conditions at a site, eligibility of a contaminated site for remediation, worker and public exposure during operations or remediation, and liability for remediation.

The Finding Aid captures the accumulated knowledge of more than 30 years of FUSRAP operations. Specifically, the Finding Aid provides general information on MED and AEC, helps trace MED and AEC records from generation to their current location, and describes DOE’s current FUSRAP records collection.

The Finding Aid applies to sites that (1) are currently included in FUSRAP, (2) were considered for and eliminated from the Program but may need to be reconsidered on the basis of changed conditions or new information, or (3) were not previously considered for the Program and need an eligibility determination.

The Finding Aid includes the following information:

- Section 2 provides basic historical and technical information to aid in an effective and efficient search by targeting likely collections and selecting appropriate keywords for record searches.
- Section 3 provides information for acquiring a working knowledge of how federal records are managed and discusses the implications of agency custody, access restrictions, and finite retention times.
- Section 4 presents descriptions of principal FUSRAP-related records collections and how to search and access these collections.
- Section 5 describes NARA records-screening techniques and presents lists of records accessions currently in the Federal Records Centers that contain FUSRAP-related material. The lists are extracted from Accession Number Master Lists (01 Reports). The Finding Aid does not contain any more detailed data from NARA accessions.
Section 6 presents recommendations for FUSRAP records management that were identified as a result of the Finding Aid development and of capturing historical FUSRAP knowledge.

Information about FUSRAP records searches and the master FUSRAP considered sites list are appended to the Finding Aid.

The Finding Aid is revised as new records and record sources are identified. It is a controlled document restricted to internal distribution.

5.2 Considered Sites Database

DOE developed the CSD to present site information to the public in an organized manner and to make it easier to respond to questions about FUSRAP sites from stakeholders and the media. The database contains selected historical documents from the Considered Sites Library (CSL) (see Section 5.3.1) and subsequent documentation produced during the cleanup process. The CSD provides access to historical and programmatic documents proffered in response to 12 questions on an eligibility checklist related to identification, radiological characterization, and designation for cleanup or elimination of specific sites. If a site has successfully completed remediation, the certification documentation is available on the CSD.

The CSD is maintained by LM and is the most current and relevant information resource available for FUSRAP sites. Sites in the database are divided into two categories: sites that were remediated or are designated for remediation under FUSRAP and sites eliminated from further consideration for remediation under FUSRAP. If a site was eliminated from further consideration under FUSRAP, the document providing the rationale for the decision is provided in the CSD. The CSD is accessible on the LM public website at http://www.lm.doe.gov/Considered_Sites/.

An example page from the CSD is provided in Figure 4.
**Figure 4. Colonie, New York, Site Considered Sites Database Page**

<table>
<thead>
<tr>
<th>Alternate Name(s):</th>
<th>Colonie Interim Storage Site National Lead Industries</th>
<th>NY.06-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
<td>1130 Central Avenue, Colonie, New York</td>
<td>NY.06-1</td>
</tr>
<tr>
<td>Historical Operations:</td>
<td>Fabricated and processed uranium metal for the AEC, resulting in contamination from thorium and natural, enriched, and depleted uranium.</td>
<td>NY.06-4</td>
</tr>
<tr>
<td>Eligibility Determination:</td>
<td>Eligible</td>
<td>NY.06-3</td>
</tr>
<tr>
<td>Radiological Survey(s):</td>
<td>Assessment Surveys, Verification Surveys</td>
<td>NY.06-6</td>
</tr>
<tr>
<td>Site Status:</td>
<td>Cleanup in progress by U.S. Army Corps of Engineers.</td>
<td>NY.06-7</td>
</tr>
<tr>
<td>Long-term Care Requirements:</td>
<td>To be determined upon completion.</td>
<td></td>
</tr>
</tbody>
</table>

Also see Colonie, New York, Site

Documents Related to Colonie, NY

1. Colonie Site Aerial Photograph
2. FACT SHEET This fact sheet provides information about the Colonie, New York, Site. This site is currently managed by the U.S. Army Corps of Engineers but will eventually transfer to the U.S. Department of Energy Office of Legacy Management.
Figure 4 (continued). Colonie, New York, Site Considered Sites Database Page
5.2.1 Information Fields in the CSD

The following describes some of the fields in the CSD.

1. Sites Designated for Remediation under FUSRAP. As of 2011, 53 sites had been designated for remediation under FUSRAP. The following fields in the database provide historical and current-status descriptions of each site:

- **Alternate Site Name(s):** Over time, sites were referred to by different names or titles by the Department and by other federal agencies. The most common alternate names are included to help identify sites and prevent duplication of sites in the database.

- **Site Location:** If known, a complete street address, including number, street, city, and state, is provided. However, in most instances, particularly for those sites that involve large land areas where land use has changed over the years, specific street addresses are not available. In such cases, street intersections or legal descriptions are used if they are available.

- **Historical Operations:** This section provides a brief description of the operations conducted on the site in support of MED or early AEC programs and activities, including the radiological contamination that resulted from the operations.

- **Eligibility Determination:** If a site meets defined criteria, it is eligible for remediation under FUSRAP. Sites will be classified as “eligible,” “referred to USACE to determine eligibility,” or “no further action.”

- **Radiological Surveys:** All available assessment and verification surveys conducted are identified as reference documents.

- **Site Status:** This category is the current status of the site. Brief descriptions of typical responses are:
  
  - **Certified:** FUSRAP sites where DOE completed the cleanup and certified that radiological conditions conform to project standards by Federal Register Notice and distribution of a Certification Docket. To date, USACE has completed remediation of 5 sites and these are also listed as certified, and certification documents are posted to the CSD.

  - **Cleanup Complete—Certification Pending:** FUSRAP sites where DOE completed cleanup, and certification of site conditions is in process.

  - **Cleanup Pending by U.S. Army Corps of Engineers:** Sites currently under consideration for cleanup by USACE. A link to the USACE website is provided.

  - **Cleanup in Progress by U.S. Army Corps of Engineers:** FUSRAP-designated sites where cleanup is under way. A link to the USACE website is provided.

- **Long-Term Care Requirements:** If remediation of the site is complete, the requirements are defined in the *Long-Term Surveillance and Maintenance Requirements for Remediated FUSRAP Sites* document (DOE 2011). If the site is active, the requirements will be determined when remediation is complete.
Other information sources are listed to provide more comprehensive and current information on several of the sites eliminated from consideration under FUSRAP. Where appropriate, site names are linked to other webpages.

2. Sites Eliminated from Consideration for Remediation under FUSRAP.
Approximately 550 sites were eliminated from consideration for remediation under FUSRAP. Ten fields in the database provide concise historical and current status descriptions of each eliminated site:

- **FUSRAP-Designated Name:** A site's designated name is the official name used in formal documentation supporting the designation of the site for remedial action. For sites that were not designated for remediation under FUSRAP, "Not Designated" will be entered in this field.

- **Alternate Site Name(s):** Same as previous list.

- **Site Location:** Same as previous list.

- **Evaluation Year:** The year in which the decision was made to eliminate a site from FUSRAP.

- **Site Operations:** A brief description of the operations conducted on the site in support of MED or early AEC programs and activities.

- **Site Disposition:** The basis of the decision to eliminate a site from FUSRAP, such as "no authority" or "residual radioactivity below criteria," is provided. In most instances, a finding of "no authority" is followed by indication of a referral of the site to another federal or state agency for consideration.

- **Radioactive Materials Handled?** Yes, No, or None Indicated. If yes, the primary radioactive materials are identified.

- **Primary Radioactive Materials Handled:** The primary radioactive elements (thorium, uranium, and some transuranic elements) present on the site are identified. In some instances, nonradioactive elements such as beryllium, zirconium, and other rare metals are also identified.

- **Radiological Surveys Conducted?** Yes, No, or None Indicated. If yes, all available reports of surveys conducted are identified as reference documents.

- **Site Status:** This category indicates that these sites were considered for FUSRAP but were eliminated from the Program because of "no authority" or other indications that the site did not warrant inclusion in FUSRAP. Referral of the site to another federal agency may also be indicated.

- Other information sources are listed to provide more comprehensive and current information on several of the sites eliminated from consideration under FUSRAP. Where appropriate, site names are linked to other webpages. Furthermore, some of the site names are linked to summary narratives that provide data on eliminated sites for which little information is available.
5.3 Other Data Sources

FUSRAP records have been located in numerous collections across the country. This section describes the principal FUSRAP-related records collections. Information about accessing these collections is available in the Finding Aid.

5.3.1 Considered Sites Library

The CSL contains records supporting eligibility determinations for FUSRAP sites. This collection captures the results of the records searches that began in the 1970s and continued over the following two decades. By the early 1990s, the CSL included more than 16,000 documents. These records were organized by state into site files that serve as the core element of the library.

The CSL was built and maintained by EM and the predecessor organizations at DOE Headquarters. The library contained about 125 cubic feet of documents that included information on the FUSRAP headquarters program functions of program management, identification of candidate sites, determinations of eligibility, and certification of successful remediation of the contaminated sites.

Over the years, the scope and content of the library was expanded to include documentation of other management decisions and the activities and progress of remedial actions conducted at each of the sites. The primary value of this collection is that its contents are, by design, copies of federal records, are considered mission critical, and will be maintained for the life of the Program.

LM took possession of the CSL in 2004. The collection was reviewed for duplication, and nonrecords were discarded. Individual records were scanned and the original records were shipped to inactive records storage in the Federal Records Center in Kansas City, Missouri. LM relocated the paper records to the LMBC in Morgantown, West Virginia, and an index of the collection is maintained in LM records.

The electronic version of the CSL consists of files grouped by site, which are available on the LM document management system. Individual documents are located together in the scanned image files. The user may need to review the entire image file to complete a thorough search for a site. Researchers should consult the CSL File Plan in the Finding Aid to determine if information resides in other places within the CSL. Records Management staff will retrieve paper records from the LMBC, if needed.

5.3.2 Oak Ridge Remedial Action Records

Prior to 1997, when DOE had responsibility for FUSRAP remediation, the Oak Ridge Operations Office managed remediation activities. DOE contracted with Bechtel National Incorporated for technical support and records management. The records documenting remediation and verification activities from the start of FUSRAP through 1997 were located at Oak Ridge.

In 1997, when Congress assigned responsibility for remediation to the USACE, Bechtel National transferred the records for the active sites to the USACE and accessioned records for the
completed sites to the Federal Records Center in Kansas City. LM subsequently relocated the records to the LMBC. Indexes for the completed sites are kept by LM Records Management staff in Grand Junction, Colorado. Before Oak Ridge dispositioned the records collection, the entire collection was captured on microfilm, which was delivered to USACE District Offices.

5.3.3 U.S. Nuclear Regulatory Commission Records

Some FUSRAP candidate sites were operated under a license issued by the AEC and NRC. Each license is assigned a unique number, and information pertaining to that license is captured in a docket that also is identified by a unique number. The license and docket numbers for FUSRAP sites are captured in the CSD and CSL. Information provided in the license and associated docket is instrumental to assessing the potential for radioactive contamination and the determination of eligibility for cleanup under FUSRAP. A list of the AEC and NRC license and docket numbers is available in the Finding Aid. Many site records in the NRC system predate the inauguration of the NRC on-line records system and the requestor will need to contact NRC librarians for assistance in retrieving older records.

5.3.4 USACE Records

When USACE completes remediation of a site and transitions it to DOE, remedial action records will be sent to the Federal Records Center in Kansas City. USACE will retain custody of these records. The USACE site records will include active site remediation records transferred from Oak Ridge by DOE in 1997. DOE will add index materials for the USACE collections. Because the USACE collections contain proprietary and business sensitive information, USACE will allow DOE to have supervised access to the collections.

5.3.5 Historical Operations Records

These are predominantly records generated by MED and AEC, and include contracts, inspection and trip reports, and other documentation of site activities that are necessary for eligibility determinations. Some of these records are in Federal Records Centers or at DOE facilities, and remain in DOE custody. Other historical records have been submitted to the National Archives and are in the public domain. Many historical records are classified and remain in DOE custody.

5.4 Geospatial Data

USACE will provide environmental data, geospatial data, and engineering and construction data for evaluation and archiving, and for geospatial mapping applications. With DOE site manager approval, data specialists will work with their USACE counterparts to identify and gather information needed to meet long-term care requirements and to obtain data for accurate property description and mapping requirements. This information will also include hydrologic and geologic information and associated data to facilitate groundwater model evaluation and validation, if needed. Historical data, current data, and closure data will be requested in the existing format. Both hard-copy and electronic media are needed.

The collected electronic data will be converted and merged into several DOE databases to support transition data needs. Hard-copy data will be incorporated into DOE records management systems.
The following major categories of data will be requested:

- Stamped/sealed land survey (both ownership and long-term care boundary, if different)
- Site mapping features and metadata
- Design and as-built documentation of remedial action and engineered systems and structures
- Environmental monitoring data and associated applications
- Groundwater flow, fate and transport models, and associated applications

The environmental data will be used to support evaluation of groundwater compliance and surface closure and to determine if any modifications to the proposed long-term monitoring program are technically warranted. Survey and mapping data will be used to finalize the site boundary and support real property transition processes to identify and confirm regulated boundaries and restrictions. USACE-provided data will be gathered early in the process and periodically until site transition is complete. Data will be archived in its original form and incorporated into DOE systems.

DOE maintains site data in several databases. Environmental data are kept in the Site Environmental Evaluation for Projects (SEEPro) database and are available for data evaluation and document preparation. Mapping data are stored in geographic information system and computer-aided design databases, and once validated; they are available for mapping needs and for inclusion in documents and reports. These data are available to stakeholders through GEMS.

6.0 Program Management

6.1 Management of Budget, Scope, and Schedule

DOE implements a project control system based on the application of DOE Order 413.3B, "Program and Project Management for the Acquisition of Capital Assets," and DOE Order 430.1B Change 2, "Real Property Asset Management." A graded approach for the use of these orders is applied to each project based on its relative risk and complexity. The project control system consists of the basic components of technical, schedule, and cost baseline management.

DOE generates fiscal-year and life-cycle baselines. The fiscal-year baselines are highly detailed and are used to fund project work and measure performance. The life-cycle baselines are used to project FUSRAP costs for 75 years to support future appropriations requests and to estimate environmental liability. Fiscal-year and life-cycle baselines are updated annually. Baselines include a scope statement, cost and schedule estimates, assumptions, and a risk assessment.

6.1.1 Technical Baseline

Technical baseline development involves identifying the management actions that are necessary to fulfill the project mission and functional objectives; to obtain necessary information; and to define, plan, and control the scope of work.
The technical baseline is established in such a way that work can be managed and monitored, and that work performance can be measured. The technical baseline can be modified only through formal change control. The technical work scope is defined at different work breakdown structure levels, depending on project risk.

FUSRAP activities include program management, stakeholder outreach, technical support, transition, and LTS&M. The scope for these activities is based on historical requirements and site completion estimates provided by USACE.

6.1.2 Schedule Baseline

Schedule control is maintained through the development of a life-cycle schedule baseline for any given project. The schedule baseline depicts all major activities and milestones associated with a project. A project’s progress is measured against the approved schedule baseline.

The schedule is developed using critical path methodologies that allow for a detailed analysis of a project’s progress, provide early warning of possible problem areas, and provide “what-if” capabilities for problem mitigation. The schedule, shown in either a logic network or a Gantt chart format, graphically depicts the integrated relationships of the project activities. The schedule also ties directly to other project documents such as the work breakdown structure, the statement of work, the technical baseline, and the cost baseline. No changes can be made to the schedule baseline without formal documentation and approval.

The FUSRAP schedule includes a steady-state analysis of activities such as program management, stakeholder outreach, and technical support. These activities are generally scheduled and budgeted as level-of-effort tasks. Activities scheduled as discrete tasks include transition and LTS&M work. Transition dates are based on a site completion schedule that is updated by USACE annually.

6.1.3 Cost Baseline

Cost control is maintained through the use of a validated project control system that incorporates earned value performance measurement. Fiscal-year and life-cycle cost baselines are directly integrated with the schedule, the work breakdown structure, and the technical baseline. They are developed by using the schedule baseline as the guideline for planning task expenditures. No changes can be made to the cost baseline without formal documentation and approval.

6.1.4 Baseline Management

DOE compiles the technical, schedule, and cost baselines into a project baseline summary. The project baseline summary describes the current status of the site or activity and the anticipated end state. It also reconciles current year planning with previous estimates and evaluates hazards to the projected baselines.

The FUSRAP schedule and budget are based on historical costs. Costs for work budgeted as level-of-effort activities has remained generally steady and is projected to remain at current levels. Budgeting for discrete tasks relies on past costs for similar work. Extraordinary work is
added to the fiscal-year plan as discrete tasks, or can be added to the FUSRAP baselines through change control.

DOE analyzes and reports performance monthly, and updates schedule and cost estimates at the end of designated planning periods. Analysis can result in corrective action or baseline changes.

6.2 Health, Safety, and Environmental Compliance

DOE is committed to protecting the public, its workers, and the environment by complying with applicable requirements, preventing pollution, and continuously improving upon the work being conducted. Through its contracting mechanism, DOE invokes all appropriate DOE orders, regulations, and practices to ensure worker protection, protection of the human health and the environment, and quality products and services in all its activities.

6.2.1 Health and Safety

All DOE work is conducted under an Integrated Safety Management System in accordance with the Integrated Safety Management System Description with Embedded Worker Safety and Health Program (LMS/POL/S04328). This provides a comprehensive, systematic, standards-based, and performance-driven management system for setting, implementing, and sustaining safety performance and for meeting environmental expectations. Safety and environmental performance are normal and expected elements in all DOE activities. This concept establishes clear roles and responsibilities to ensure health and safety are part of day-to-day decision-making and long-term planning.

DOE incorporates health and safety concepts into work planning to identify the right actions to accomplish the work and is responsible to confirm that workers are competent and qualified to perform the work scheduled. All hazards that pose a risk to safety, the public, and the environment are identified and appropriately addressed by tailoring the safety controls to the hazards identified. Once the hazards are identified, DOE allows the work to proceed only if there are competent workers who understand the work, the associated hazards, and the measures needed to mitigate any risk. DOE gives all workers the authority to stop work if new hazards arise and when unsafe conditions exist. DOE gathers information to measure its performance against expectations for a safe working environment and uses every opportunity to improve on processes used.

6.2.2 Environmental Compliance

According to the objectives of Executive Order 13423, Strengthening Federal Environmental, Energy, and Transportation Management, and Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, DOE implements sound stewardship practices protective of the air, water, land, and other natural and cultural resources potentially affected by their operations. These orders require DOE sites to have an Environmental Management System (EMS) to implement these practices. The DOE EMS is a joint commitment between LM and its contractors, which was formally implemented in October 2005. It incorporates the federal mandates specified in the DOE Orders, and mandates full compliance with applicable federal, state, tribal, and local laws and regulations.
The EMS is a systematic process for reducing the environmental impacts resulting from DOE and contractor work activities, products, and services. It directs work to occur in a manner that protects workers, the public, and the environment. The process adheres to “Plan-Do-Check-Act” principles, mandates environmental compliance, and integrates green initiatives into all phases of work, including scoping, planning, construction, subcontracts, and operations. The EMS provides specific procedures that anticipate and mitigate negative impacts to the environment by promoting use of recycled materials; recycling to the extent practicable; conserving fuel, energy, and natural resources; and minimizing the generation of greenhouse gases, use of toxic chemicals, and generation of hazardous wastes.

In alignment with the EMS, proposed LTS&M activities will be assessed for opportunities to improve environmental performance and sustainable environmental practices. Some areas for consideration include reusing and recycling products or wastes, using environmentally preferable products (i.e., products with recycled content, such as office furniture and concrete and asphalt; products with reduced toxicity; and energy-efficient products), using alternative fuels, using renewable energy, and making environmental habitat improvements.

Federal facilities and projects are required to comply with NEPA, which mandates the evaluation of impacts of federal actions on the natural and human environment. The information that is collected during the transition preparation process will provide the basis for the NEPA review. Most actions associated with the transition of a FUSRAP site are within a class of actions that DOE has determined do not have a significant impact on the environment; however the proposed actions including LTS&M plans and potential beneficial reuse options must still be evaluated and documented with the appropriate level of NEPA documentation.

6.3 Quality Assurance

DOE ensures a consistent and focused approach for quality in all endeavors by invoking all appropriate DOE orders and by compelling its contractors to maintain a Quality Assurance (QA) program to meet this objective. The QA program ensures the delivery of defect-free products and services on time and within approved budgets. At the same time, all activities must be accomplished in a safe and environmentally protective fashion.

Achieving quality in the activities and products dictates the establishment and implementation of a formal QA program. This program is a management tool to ensure that quality standards are achieved throughout technical, administrative, and operational functions.

DOE’s contractor maintains the Quality Assurance Manual (LMS/POL/S04320) to provide a QA management system to implement the requirements and philosophy of DOE Order 414.1D, Quality Assurance. This manual also includes the requirements of other standards that are regularly imposed by customers, regulators, or other DOE orders. Applicable requirements of 10 CFR 830, Subpart A, “Quality Assurance Requirements”; Quality Systems for Environmental Data and Technology Programs: Requirements with Guidance for Use (ANSI 2004); and Environmental Management Systems – Requirements with Guidance for Use (ISO 2004) have been included. All of these standards are similar in content. Elements of management systems as required by DOE Order 226.1B, Implementation of Department of Energy Oversight Policy, and DOE Policy 450.4A, Integrated Safety Management Policy, are included within the quality assurance program as well.
Elements of the QA program apply to all activities and to all FUSRAP sites under DOE. The achievement of quality is the responsibility of the people who manage and, most importantly, the people who perform the work. Each person is expected to do his or her job in accordance with procedures and other requirements. In the performance of FUSRAP mission, all team members are expected to represent quality to themselves, to their customers, and to their suppliers.

7.0 Bibliography

7.1 Relevant Links

Considered Sites Database at http://www.lm.doe.gov/Considered_Sites/. Provides information with site-specific search capabilities.


LM Site Management Guide, also known as the “Blue Book,” at http://www.lm.doe.gov/Office_of_Business_Operations/Stakeholder_Relations.aspx. Provides a list of the all sites in the LM inventory (including FUSRAP) and each site’s LTS&M category, as well as anticipated transition dates and LTS&M categories for site undergoing remedial action or reclamation.

FUSRAP Public Affairs at FUSRAPinfo@lm.doe.gov. E-mail address for stakeholder inquiries.


7.2 References and Other Resources

Code of Federal Regulations

10 CFR 20. “Standards for Protection Against Radiation.”

10 CFR 20, Subpart E. “Radiological Criteria for License Termination.”

10 CFR 830, Subpart A. “Quality Assurance Requirements.”

10 CFR 851, “Worker Safety and Health Program”

40 CFR 300. “National Oil and Hazardous Substances Pollution Contingency Plan.”

United States Code


Other Documents


DOE (U.S. Department of Energy), 2010 or current version. FUSRAP Historical Record: Collections, Contents, Access, Custody, and Finding Aids, LMS/PRO/S04621, December.


413.3B Program and Project Management for the Acquisition of Capital Assets, November 29, 2010.

414.1D Quality Assurance, April 25, 2011.

430.1B Chg 2 Real Property Asset Management, April 25, 2011.

436.1 Departmental Sustainability, May 2, 2011.
5400.5 Radiation Protection of the Public and the Environment, (cancelled on June 6, 2011, by DOE Order 458.1 Chg 2).


454.1 Use of Institutional Controls, April 9, 2003.


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Attachment 1

Memorandum Of Understanding Between the U.S. Department of Energy and the U.S. Army Corps of Engineers Regarding Program Administration and Execution of the Formerly Utilized Sites Remedial Action Program (FUSRAP), March 17, 1999 (and E-mails)
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MEMORANDUM OF UNDERSTANDING BETWEEN
THE U.S. DEPARTMENT OF ENERGY
AND
THE U.S. ARMY CORPS OF ENGINEERS
REGARDING PROGRAM ADMINISTRATION AND EXECUTION OF
THE FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM (FUSRAP)

ARTICLE I - PURPOSE AND AUTHORITY

A. This Memorandum of Understanding (MOU) is entered into by and between the U.S. Department of Energy (DOE) and the U.S. Army Corps of Engineers (USACE), ("The Parties") for the purpose of delineating administration and execution responsibilities of each of the parties for the Formerly Utilized Sites Remedial Action Program (FUSRAP).

B. USACE is administering and executing cleanup at eligible FUSRAP sites pursuant to the provisions of the Energy and Water Development Appropriations Act, 1998, (Title I, Public Law 105-62, 111 Stat. 1320, 1328), the Energy and Water Development Appropriations Act, 1999, (Title I, Public Law 105-245, 112 Stat. 1838, 1843), and in accordance with, and subject to regulation under, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. 9601 et seq., and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R., Chapter 1, Part 300.

C. DOE and USACE acknowledge that DOE does not have regulatory responsibility or control over the FUSRAP activities of USACE or USACE contractors.

D. This MOU addresses the responsibilities of the parties with regard to the 25 completed sites, listed in Attachment "A" hereto, where response actions were completed by DOE as of October 13, 1997, and the 21 active sites listed in Attachment "B" hereto, where response actions were not completed by DOE as of October 13, 1997.

E. This MOU also addresses the responsibilities of the parties for determining the eligibility of any new sites and vicinity properties for response actions under FUSRAP, determining the extent of response actions necessary at any eligible site, and dealing with other matters necessary to carry out this Program.

F. USE OF TERMS.
1. The term "accountability" in regards to real property refers to the obligation imposed by law or regulation to keep an accurate record of real property, regardless of whether the person or agency charged with this obligation has actual possession of the real property, or any control over activities occurring on the real property.

2. The term "active site" means any "eligible FUSRAP site" which is undergoing or is programmed to undergo response actions by USACE, or which is determined to require initial or additional response action in accordance with the provisions of Article III, below.

3. The term "cleanup" means all response actions performed under FUSRAP.

4. The term "closeout" means the completion of cleanup and publication of notice in accordance with the provisions of CERCLA, the NCP and USACE procedures.

5. The term "completed site" means any site listed in Attachment "A", or any site closed out by USACE as defined in paragraph 4, above.

6. The term "completion of FUSRAP activities" means the conclusion of USACE responsibilities at active sites in accordance with the provisions of this MOU.

7. The term "eligible FUSRAP site" means any geographic area determined by DOE to have been used for activities in support of the Nation's early atomic energy program, or placed into FUSRAP pursuant to Congressional direction. (See Article III, section D, for designation of sites not part of FUSRAP on October 13, 1997).

8. The term "management" in regards to real property means the safeguarding of the Government's interest in property, in an efficient and economical manner consistent with the best business practices, including administering applicable National Pollutant Discharge Elimination System (NPDES) permits, National Emissions Standards for Hazardous Air Pollutants (NESHAPS) reports, and other applicable administrative environmental requirements.

9. The term "protection" in regards to real property means the provision of adequate measures for prevention and extinguishment of fires, special inspections to determine and eliminate fire and other hazards, and necessary guards to protect property against thievery, vandalism, and unauthorized entry.

10. The term "response" shall have the same meaning as in CERCLA at 42 U.S.C. § 9601(25).

11. The term "vicinity properties" means properties adjacent to or near eligible FUSRAP sites which have been contaminated by radioactive and/or chemical waste
materials attributable to activities which supported the nation's early atomic energy program.

12. For purposes of this MOU, "active sites" become "completed sites" upon USACE determination that completion of FUSRAP activities has occurred with necessary regulatory approvals under CERCLA and the NCP.

13. For purposes of this MOU, "completed sites" become "active sites" upon USACE determination that further response action is necessary in accordance with Article III of this MOU.

ARTICLE II - INTERAGENCY COMMUNICATION

To provide for consistent and effective communication between DOE and USACE, each shall appoint a Principal Representative to serve as its headquarters-level point of contact on matters relating to this MOU.

ARTICLE III - RESPONSIBILITIES

A. PROGRAM MANAGEMENT AND FUNDING.

1. USACE shall manage all activities and prepare program estimates, funding requirements, and budget justifications for all FUSRAP activities for which it is responsible under the terms of this MOU. USACE shall request FUSRAP appropriations in the annual Energy and Water Development Appropriations Act for these activities. USACE shall respond to inquiries from public officials, Congressional interests, stakeholders, and members of the press regarding USACE activities under FUSRAP. Except as otherwise provided in this MOU, USACE is responsible for all response action activities at FUSRAP sites until two years after closeout.

2. DOE shall use resources appropriated to it to meet its responsibilities under the terms of this MOU. Except as otherwise provided in this MOU, DOE is responsible for any required activities at FUSRAP sites beginning two years after closeout.

B. COMPLETED SITES.
1. DOE:

a. Shall be responsible for: surveillance, operation and maintenance, including monitoring and enforcement of any institutional controls which have been imposed on a site or vicinity properties; management, protection, and accountability of federally-owned property and interests therein; and any other federal responsibilities, including claims and litigation, for those sites identified as completed in Attachment "A". Should it be necessary to undertake further administrative actions to finalize the completion of those sites in Attachment "A", DOE will identify the administrative actions to be taken, coordinate funding requirements for those actions with USACE, and upon receipt of funds from USACE, complete the necessary administrative actions to finalize completion of those sites;

b. Shall request USACE to conduct additional FUSRAP cleanup in a manner consistent with those procedures described in Article III section D, FUSRAP ELIGIBILITY (NEW SITES);

c. Shall be successor to USACE in Federal Facility Agreements for long-term surveillance, operation and maintenance, for which DOE is responsible under the provisions of this MOU;

d. Shall be responsible for administration of payments in lieu of taxes for any federally-owned lands held in connection with FUSRAP; and

e. Upon completion of FUSRAP activities by USACE, shall be responsible for: surveillance, operation and maintenance, including monitoring and enforcement of any institutional controls which have been imposed on a site or vicinity properties; management, protection and accountability of federally-owned property and interests therein; and any other federal responsibilities, including claims and litigation, not directly arising from USACE FUSRAP response actions.

2. USACE:

a. Shall assume no responsibility for the completed sites listed in Attachment "A" unless additional response actions are determined to be necessary under the provisions of Article III paragraph B.1.a. and Article III section D; and

b. In accordance with Article III section B.1.a., will provide funding to DOE for administrative actions required to finalize completion of the sites in Attachment "A".
Such funding will be requested in USACE FUSRAP budget requests, or provided through Congressionally-approved reprogramming actions.

C. ACTIVE SITES.

1. DOE:

   a. Upon request from USACE, shall provide USACE with site designation decision documents and reports, contractual documents, program administration files, technical records, and documents related to federally-owned property, including associated financial records, cost estimates, schedules of program activities, and supporting data;

   b. Hereby provides USACE with authorization for access to such lands or interests in land for which DOE has administrative accountability or to which DOE otherwise is authorized to provide access pursuant to statute, permit, license or similar agreement, to the extent that it may do so under the terms of any such agreements;

   c. Upon request from USACE, to the extent permitted by law, shall acquire, using funds appropriated for FUSRAP activities, such additional real property and interests therein as may be required by USACE to execute the program, if USACE cannot otherwise accomplish the acquisition under its own authority;

   d. To the extent permitted by law, hereby agrees to provide such authorization to USACE as may be required to terminate any existing leases, licenses, permits, or other agreements for access to, and the use of, land or facilities which USACE determines are no longer required to execute FUSRAP;

   e. Beginning two years after closeout, shall be responsible for long-term surveillance, operation and maintenance, including monitoring and enforcement of any institutional controls which have been imposed on a site or vicinity properties, and, upon closeout, shall accept the transfer of federally-owned real property and interests therein, acquired by USACE for FUSRAP execution;

   f. Shall be responsible for administration of payments in lieu of taxes for any federally-owned lands held by either USACE or DOE in connection with FUSRAP;

   g. Shall be responsible, only after a determination of liability by a court of competent jurisdiction and exhaustion of applicable appeal rights, for payment of claims by property owners for damages to property and personal injuries due to DOE’s actions prior to October 13, 1997, provided that:

      i. This MOU does not alter or diminish the right of DOE to raise any defenses available under law, including sovereign immunity, in the case of any third party
claims, whether in an administrative or a judicial proceeding; and

ii. Nothing in this agreement shall be interpreted to require any obligation or payment of funds in violation of the Anti-Deficiency Act (31 U.S.C. § 1341);

h. Shall have accountability for federally-owned real property interests acquired by or transferred to DOE, including inventory reporting to the General Services Administration as may be required by that agency; and

i. To the extent permitted by law, hereby agrees to make such outgrants on federally owned real property interests, referred to in paragraph h. above, as may be requested by USACE in connection with the relocation of utilities and facilities or to otherwise facilitate FUSRAP execution.

2. USACE:

a. Shall be responsible for property management and response action activities at active FUSRAP sites, except for DOE's inventory reporting of federally owned real property interests related to FUSRAP under Article III paragraph C. 1.h. and as otherwise provided in this section;

b. Shall be responsible for site cleanup in accordance with its obligation to administer and execute FUSRAP imposed by Public Law 105-62; Public Law 105-245; any subsequent laws specifically relating to FUSRAP; CERCLA; and the NCP;

c. Shall accordingly be responsible for site closeout in accordance with CERCLA, the NCP, and USACE procedures;

d. During cleanup operations and for the first two years after site closeout, shall be responsible for surveillance, operation and maintenance, as required, and for management and protection of federally-owned real property in connection with FUSRAP;

e. Shall establish cleanup standards in consultation with federal, State and local regulatory agencies;

f. Within its authorities, may acquire real property and interests therein required for FUSRAP execution;

g. Shall maintain accountability for real property and interests therein which USACE
acquires under its authorities for FUSRAP execution, until such time as such real property and interests therein are transferred to DOE;

h. Shall be responsible, in cooperation with the Department of Justice, for identifying and for seeking recovery from Potentially Responsible Parties (PRPs) under CERCLA for response actions performed at eligible FUSRAP sites;

i. Shall accept responsibility as DOE's successor for all response actions required by Federal Facility Agreements executed between DOE and EPA at eligible FUSRAP sites;

j. Shall determine the need for response actions under FUSRAP of any vicinity property;

k. Shall conduct a technical review of the adequacy of USACE-selected remedies on the fifth anniversary of site closeout where necessary;

l. Shall execute and sign new FFA's and permits required for FUSRAP activities;

m. Shall coordinate with DOE as appropriate on issues relating to activities on:

   i. DOE's inventory reporting of federally-owned real property referred to in Article III paragraph C. 1.h., above;

   ii. Any DOE outgrants on federally-owned real property interests referred to in Article III paragraph C.1.i., above; and

   iii. Changes to existing FFA provisions or to new provisions that relate to long-term surveillance, operation and maintenance by DOE referred to in Article III paragraphs C.2.i. and l. above;

n. Shall be responsible, only after a determination of liability by a court of competent jurisdiction and exhaustion of applicable appeal rights, for damages due to the fault or negligence of USACE or its contractors, and shall hold and save harmless DOE free from all damages arising from USACE FUSRAP activities to the extent allowable by law, provided that:

   i. This MOU does not alter or diminish the right of USACE to raise any defenses available under law, including sovereign immunity, in the case of any third party claims, whether in an administrative or a judicial proceeding; and

   ii. Nothing in this agreement shall be interpreted to require any obligation or
payment of funds in violation of the Anti-Deficiency Act (31 U.S.C. § 1341);

o. Upon completion of FUSRAP activities, shall provide a copy of surveys, findings, decision documents, and access agreements for property not owned by the government, as well as close out documents, to DOE for the historical record. This includes all sites determined eligible, whether or not any response action was taken.

D. FUSRAP ELIGIBILITY (NEW SITES).

1. DOE:

a. Shall perform historical research and provide a FUSRAP eligibility determination, with historical references, as to whether a site was used for activities which supported the Nation’s early atomic energy program;

b. Shall provide USACE with the determination, a description of the type of processes involved in the historical activities at the site, the geographic boundaries of those activities. (as reflected by documentation available to DOE), and the potential radioactive and/or chemical contaminants at the site; and

c. Shall maintain records of determination of eligibility and other files, documents and records associated with the site.

2. USACE:

a. Upon receipt of DOE’s determination and its description of the type of processes involved in the historical activities at the site and potential radioactive and/or chemical contaminants, shall conduct necessary field surveys and prepare a preliminary assessment in accordance with CERCLA and the NCP;

b. Shall determine the extent of FUSRAP-related contamination at the eligible site, at vicinity properties, and at other locations where contamination originated from the eligible site;

c. Shall determine if the contamination is a threat to human health or the environment;

d. Shall consult with DOE if USACE surveys, investigations, and data analyses are inconsistent with the DOE description of the potential radioactive and/or chemical contaminants and processes involved in the historical activities at the site;

e. Shall determine the extent to which response action under CERCLA is required to address FUSRAP-related contamination at the site; and
f. Upon completion of FUSRAP activities, shall provide a copy of surveys, findings, decision documents, and access agreements for property not owned by the government, as well as close out documents, to DOE for the historical record. This includes all sites determined eligible, whether or not any response action was taken.

ARTICLE IV – FURTHER ASSISTANCE

DOE and USACE shall provide such information, execute and deliver any agreements, instruments and documents, and take such other actions, to include DOE assistance with technical and waste disposal matters, as may be reasonably necessary or required, which are not inconsistent with the provisions of this MOU, in order to give full effect to this MOU and to carry out its intent.

ARTICLE V - DISPUTE RESOLUTION

A. Every effort will be made to resolve issues between USACE and DOE by the staff directly involved in the activities at issue, through consultation and communication or other forms of non-binding alternative dispute resolution mutually acceptable to the parties. If a mutually acceptable resolution cannot be reached, the dispute will be elevated to successively higher levels of management up to, and including, the Secretary of Defense and the Secretary of Energy.

B. In the event such measures fail to resolve the dispute, the parties shall refer the matter to the Office of Management and Budget (OMB) for resolution, unless the dispute involves questions of law, which shall be referred to the Office of Legal Counsel of the Department of Justice pursuant to Executive Order 12146.

ARTICLE VI - AMENDMENT AND TERMINATION
ARTICLE VI - AMENDMENT AND TERMINATION

This MOU may be modified or amended in writing by the mutual agreement of the parties. Either party may terminate the MOU by providing written notice to the other party. The termination shall be effective sixty (60) days following notice, unless a later date is agreed to by the parties.

ARTICLE VII - EFFECTIVE DATE

This MOU shall become effective when signed by authorized officials of DOE and USACE.

U.S. Department of Energy

James M. Owendoff
Acting Assistant Secretary
For Environmental Management

Date: 3/17/99

U.S. Army Corps of Engineers

Russell L. Fuhrman
Major General, U.S. Army
Director of Civil Works

Date: 4/22/99

Attachments:
A. List of Completed Sites
B. List of Active Sites
### Attachment A
Completed FUSRAP Sites

<table>
<thead>
<tr>
<th>Site Name</th>
<th>City and State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kelllex/Pierpont</td>
<td>Jersey City, New Jersey</td>
</tr>
<tr>
<td>Acid/Pueblo Canyon</td>
<td>Los Alamos, New Mexico</td>
</tr>
<tr>
<td>Bayo Canyon</td>
<td>Los Alamos, New Mexico</td>
</tr>
<tr>
<td>University of California</td>
<td>Berkley, California</td>
</tr>
<tr>
<td>Chupadera Mesa</td>
<td>White Sands Missile Range, New Mexico</td>
</tr>
<tr>
<td>Middlesex Municipal Landfill</td>
<td>Middlesex, New Jersey</td>
</tr>
<tr>
<td>Niagara Falls Storage Site Vicinity Properties</td>
<td>Lewiston, New York</td>
</tr>
<tr>
<td>University of Chicago</td>
<td>Chicago, Illinois</td>
</tr>
<tr>
<td>National Guard Armory</td>
<td>Chicago, Illinois</td>
</tr>
<tr>
<td>Albany Research Center</td>
<td>Albany, Oregon</td>
</tr>
<tr>
<td>Elza Gate</td>
<td>Oak Ridge, Tennessee</td>
</tr>
<tr>
<td>Seymour Specialty Wire</td>
<td>Seymour, Connecticut</td>
</tr>
<tr>
<td>Baker &amp; Williams Warehouses</td>
<td>New York, New York</td>
</tr>
<tr>
<td>Granite City Steel</td>
<td>Granite City, Illinois</td>
</tr>
<tr>
<td>Aliquippa Forge</td>
<td>Aliquippa, Pennsylvania</td>
</tr>
<tr>
<td>C.H. Schnoor</td>
<td>Springdale, Pennsylvania</td>
</tr>
<tr>
<td>Alba Craft Laboratory</td>
<td>Oxford, Ohio</td>
</tr>
<tr>
<td>HHM Safe Company</td>
<td>Hamilton, Ohio</td>
</tr>
<tr>
<td>Associate Aircraft</td>
<td>Fairfield, Ohio</td>
</tr>
<tr>
<td>B &amp; T Metals</td>
<td>Columbus, Ohio</td>
</tr>
<tr>
<td>Baker Brothers</td>
<td>Toledo, Ohio</td>
</tr>
<tr>
<td>General Motors</td>
<td>Adrian, Michigan</td>
</tr>
<tr>
<td>Chapman Valve</td>
<td>Indian Orchard, Massachusetts</td>
</tr>
<tr>
<td>Ventrcon</td>
<td>Beverly, Massachusetts</td>
</tr>
<tr>
<td>New Brunswick Laboratory</td>
<td>New Brunswick, New Jersey</td>
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## Attachment B
### Active FUSRAP Sites

<table>
<thead>
<tr>
<th>Site Name</th>
<th>City and State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latty Ave. Properties</td>
<td>Hazelwood, Missouri</td>
</tr>
<tr>
<td>St. Louis Airport</td>
<td>St. Louis, Missouri</td>
</tr>
<tr>
<td>Vicinity Properties</td>
<td>Hazelwood &amp; Berkley, Missouri</td>
</tr>
<tr>
<td>St. Louis Downtown Site</td>
<td>St. Louis, Missouri</td>
</tr>
<tr>
<td>DuPont</td>
<td>Deepwater, New Jersey</td>
</tr>
<tr>
<td>Maywood</td>
<td>Maywood, New Jersey</td>
</tr>
<tr>
<td>Wayne</td>
<td>Wayne, New Jersey</td>
</tr>
<tr>
<td>Middlesex Sampling Plant</td>
<td>Middlesex, New Jersey</td>
</tr>
<tr>
<td>Ashland 1</td>
<td>Tonawanda, New York</td>
</tr>
<tr>
<td>Ashland 2</td>
<td>Tonawanda, New York</td>
</tr>
<tr>
<td>Seaway Industrial Park</td>
<td>Tonawanda, New York</td>
</tr>
<tr>
<td>Linde Air Products</td>
<td>Tonawanda, New York</td>
</tr>
<tr>
<td>Niagara Falls Storage Site</td>
<td>Lewiston, New York</td>
</tr>
<tr>
<td>Colonie</td>
<td>Colonie, New York</td>
</tr>
<tr>
<td>Bliss &amp; Laughlin Steel</td>
<td>Buffalo, New York</td>
</tr>
<tr>
<td>Luckey</td>
<td>Luckey, Ohio</td>
</tr>
<tr>
<td>Painesville</td>
<td>Painesville, Ohio</td>
</tr>
<tr>
<td>CE Site</td>
<td>Windsor, Connecticut</td>
</tr>
<tr>
<td>Madison</td>
<td>Madison, Illinois</td>
</tr>
<tr>
<td>Shpack Landfill</td>
<td>Norton, Massachusetts</td>
</tr>
<tr>
<td>W.R. Grace</td>
<td>Curtis Bay, Maryland</td>
</tr>
</tbody>
</table>
Dear General Griffin:

This is in response to your December 4, 2001, letter concerning procedures to be followed to meet our respective responsibilities under the Memorandum of Understanding (MOU) signed by the Department of Energy (DOE) and the U.S. Army Corps of Engineers (USACE) in March 1999. The MOU delineates the responsibilities of DOE and the USACE regarding program administration and execution of the Formerly Utilized Sites Remedial Action Program (FUSRAP). This letter summarizes the position of the Department regarding certain procedures that we propose to be followed regarding the addition of new sites to FUSRAP and the transfer of completed sites for long-term stewardship.

1. Addition of New Sites to FUSRAP:

The Department will evaluate the eligibility of sites for possible inclusion as new sites in FUSRAP against the criteria in the FUSRAP Summary Protocol-Identification-Characterization-Designation-Remedial Action Certification dated January 1986. This summary protocol is referenced and summarized in the DOE FUSRAP Management Requirements and Policies Manual dated May 5, 1997. Any site identified as a potential new site for FUSRAP will be referred to the USACE for further evaluation.

My staff will continue their practice of immediately notifying your staff of any inquiry that would result in an eligibility review. Typically, an eligibility review is undertaken based on several inquiries or new pieces of information regarding a site, rather than a single specific request. To ensure that the USACE is aware of inquiries into sites that are being considered for eligibility for inclusion in FUSRAP, it has been my staff’s practice for the past year to meet monthly with your staff and discuss FUSRAP activities. A portion of these meetings has been, and will continue to be, devoted to a discussion of any inquiries DOE or the USACE has received regarding FUSRAP.
2. Transfer of Completed Sites:

For privately owned FUSRAP sites where the long-term stewardship responsibility will be limited to record keeping, we support the three step transfer process outlined in your December 4 letter. For the number of sites that are currently Federally-owned, DOE would like to continue to work together with USACE at the staff level to facilitate the transfer of title to those properties to private or local government ownership, or to transfer the real property interests to other Federal agencies, as appropriate. Our two agencies have successfully coordinated the transfer of the New Brunswick FUSRAP site and the same procedure may be applicable for the remaining Federally-owned FUSRAP sites.

In addition, we will arrange a meeting so that our staffs have an opportunity to further discuss the 1999 MOU between our two agencies. I have designated Mr. James Owendooff, Deputy Assistant Secretary for Science and Technology as my representative for this effort.

If you have any further questions, please contact me at (202) 586-7710, or contact Jim Owendooff at (202) 586-6832.

Sincerely,

[Signature]
Jessie Hill Roberson
Assistant Secretary for
Environmental Management
DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

DECEMBER 4, 2001

Programs Management Division
Directorate of Civil Works

Jessie Roberson
Assistant Secretary for Environmental Management
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Dear Ms. Roberson:

The Memorandum of Understanding (MOU), signed by the Department of Energy (DOE) and the U.S. Army Corps of Engineers in March 1999, defines the roles and responsibilities of both agencies in the management and execution of the Formerly Utilized Sites Remedial Action Program (FUSRAP). It also establishes a framework for the execution of FUSRAP. It does not specify the procedures that each agency shall follow to meet its responsibilities. The Corps and DOE have identified two areas where agreement on the procedures to be followed is needed in order to address issues currently facing both agencies. These two areas are the addition of new sites to FUSRAP and the transfer of completed sites to long term stewardship. This letter summarizes the understandings regarding procedures in these two areas that the Corps has reached with your staff.

Addition of new sites to FUSRAP. Corps authority for the cleanup of radiologically contaminated sites is limited to the authorities provided under the Energy and Water Development Appropriations Acts, 1998, 1999 and 2000 for the Corps to serve as the lead agency for the cleanup of FUSRAP sites under the Comprehensive Environmental Response, Liability and Compensation Act (CERCLA). In addition, we do not believe Congress intended to increase the scope of FUSRAP to include sites that did not meet DOE criteria when it transferred responsibility for the administration and execution of FUSRAP to the Corps. Accordingly, we request that DOE evaluate potential new sites against the criteria in the DOE FUSRAP Management Requirements and Policies Manual (MRPM), dated May 5, 1997, and refer to the Corps for evaluation only sites meeting the DOE eligibility criteria.

Generally speaking, these are sites where there is a potential for radiological contamination (i.e., releases of radioactive material into the environment in amounts unacceptable when measured against federal or state standards, permits or licenses) and where DOE has liability for radiological contamination through predecessor operations in support of the Manhattan Project or early Atomic Energy Commission activities. Sites where remaining radioactive material is not due to DOE predecessor operations in support of the Manhattan Project or early Atomic Energy Commission activities, or where another
governmental organization is responsible for the radiological material (as would be the case if the material were subject to a Nuclear Regulatory Commission (NRC) license), or where the material is being addressed under another remedial action program are not eligible.

We also request that DOE coordinate its new site designation activities with the Corps to ensure that there is a smooth transition with minimal duplication of effort or lost time. Specifically DOE would notify the Corps as soon as an event occurs, a letter of inquiry for example, that could result in an eligibility review and a referral to the Corps, and provide the Corps with copies of all documentation and historical records pertinent to its eligibility determination at the earliest opportunity.

**Transfer of completed sites.** In accordance with the general process in the MOU, the Corps will employ a three-step process for transfer of completed sites, beginning when the Record of Decision (ROD) is signed. The Corps will provide DOE with a copy of the ROD, a separate general description of the site and remedial action goals, estimated remedial action schedule, and anticipated land use controls and operations and maintenance requirements.

The second step will occur after the site closure report is complete and a declaration of completed action has been signed. At that time, in addition to a copy of the site closure report and declaration, the Corps will provide DOE with letters from regulators acknowledging that remedial action goals have been met, as well as operations and maintenance, and land use control implementation plans, as required and available. The Corps will also advise DOE of the dates when short-term maintenance starts and ends and provide an estimate of annual out-year cost requirement, and general description of the remedial goals and any restrictions remaining on the property.

The third step will occur when the Corps has completed all remedial activities at the site and ninety days before the end of the two-year short-term operations and maintenance for which the Corps is responsible. At that time the Corps will notify DOE of the effective date of transfer to DOE for long-term operations and maintenance. Accompanying this notification will be a complete copy of the administrative record, the operations and maintenance plans and the actual costs of operations and maintenance for the first two years, and a description of the long-term actions required by DOE.

In addition the Corps will provide DOE with informational copies of draft site specific land use controls and implementation plans being coordinated with regulators and other stakeholders, and keep DOE informed of changes in completion schedules and other events/issues that might impact DOE’s future responsibilities at a site. Corps regional FUSRAP program managers have been encouraged to invite DOE to participate in public meetings, especially at sites that will require significant long-term operation and maintenance activities, and/or the maintenance of land use controls.
If the procedures described above are acceptable to the DOE, please notify me in writing. Once in place, these procedures will facilitate each agency's meeting its continuing FUSRAP responsibilities.

Sincerely,

[Signature]

Robert H. Griffin
Brigadier General, U.S. Army
Director of Civil Works
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Attachment 2

Legislative History
FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM (FUSRAP):

A Legislative History

CHRONOLOGY:

1974

FUSRAP is established in Atomic Energy Commission (AEC) under executive authority granted in the language of the Atomic Energy Act of 1954, as amended. The purpose was to evaluate and remedy as needed potential radiation at former GSA sites that had been used by the Manhattan Project or by the AEC and later sold. There was no authorizing legislation, nor was specific authorizing legislation ever passed, although in the early 1980’s DOE requested such authorization more than once.

October 1974

The Energy Research and Development Administration (ERDA) is established by the Energy Reorganization Act of 1974, combining the Atomic Energy Commission with the Office of Coal Research. ERDA becomes operational by executive Order 11834, January 19, 1975, bringing FUSRAP with it.

August 1977

The Department of Energy Organization Act folds ERDA into the newly formed Department of Energy. FUSRAP continues in the new agency.

July 25, 1978

A bill is introduced by Sen. Charles Percy to establish a Nuclear Waste Office in DOE for the oversight of nuclear waste management and disposal. However, this bill is reported out of committee.

October 1, 1980


December 4, 1981

Public law 97-88 is signed into law. Energy and Water Development Appropriations Act, 1982, covers DOE for FY 1982; no FUSRAP language.
July 14, 1983

Public Law 98-50 is signed into law. The conference report supporting Public Law 98-50, (Energy and Water Appropriations Act FY 1984) directs DOE to conduct decontamination research and development projects at the Latty Avenue site in St. Louis, the Maywood and Wayne sites in New Jersey, and the Colonie (NL industries) site in New York State. DOE assigns this work to FUSRAP.

July 16, 1984

Public Law 98-360 is signed into law. The conference report supporting Public Law 98-360 (Energy and Water Appropriations Act for FY 1985) specifies details on FUSRAP work at the St. Louis Airport site.

July 19, 1988

Public Law 100-371 is signed into law. Energy and Water Development Appropriations Act, 1989; covers DOE for FY 1989; no FUSRAP language.

September 28, 1988

House Conference Report 100-1002. Appropriations for the Department of Defense; bans Albany waste from Tonawanda, NY. Report accompanies H.R. 4781 and Public Law 100-463, which was signed into law October 1, 1988.

September 29, 1989

Public Law 101-101 is signed into law, Energy and Water Development Appropriations Act, 1990; covers DOE for FY 1990; no FUSRAP language.

November 5, 1990


August 17, 1991

Public Law 102-104 is signed into law. Energy and Water Development Appropriations Act, 1992; covers DOE for FY 1992; no FUSRAP language.

October 2, 1992

Public Law 102-377 is signed into law. Energy and Water Development Appropriations Act, 1993; covers DOE for FY 1993; no FUSRAP language.
October 28, 1993

Public Law 103-126 is signed into law. Energy and Water Development Appropriations Act, 1994; covers DOE for FY 1994; no FUSRAP language.

August 26, 1994

Public Law 103-316 is signed into law. Energy and Water Development Appropriations Act, 1995; covers DOE for FY 1995; no FUSRAP language.

July 16, 1996

Senate report no, 104-320 (s.1959), a bill authorizing appropriations for energy and water development for the fiscal year ending September 30, 1997. Recommendation includes funding to expedite the clean-up of the Wayne, NJ, Interim Storage Site under FUSRAP.

July 30, 1996

Public Law 104-206 is signed into law. Based on Senate Reports. 1959.

October 13, 1997

Public Law 105-62 is signed into law. Based on conference reconciliation of H. R. 2283 and S. 1004, it provides $140 million in funding for the U.S. Army Corps of Engineers (USACE) to administer and execute FUSRAP. This provision effectively removes management of FUSRAP from DOE and attaches it to USACE. (As originally written, S. 1004, continued previous funding of FUSRAP under DOE).

Public Law 105-62, Energy and Water Appropriations Act for FY 1998, authorizes $140 million for FUSRAP activities by USACE, effectively moving FUSRAP from DOE. The law mandates that the USACE "administer and execute the Formerly Utilized Sites Remedial Action Program to clean up contaminated sites throughout the United States where work was performed as part of the Nation's early atomic: energy program." The law, which is the annual Energy and Water Development Appropriations law, is based an H.R. 2263, sponsored by Congressman Joseph McDade. The Senate equivalent, S. 1004, had funded FUSRAP through DOE, as in previous years. However, in bargaining that occurred in the House-Senate Conference on the bill, Sen. Peter Domenici, Chairman of the Energy and Water Development Subcommittee of the Senate Appropriations Committee (whose equivalent in the House was chaired by McDade), accepted the House language on FUSRAP, approving the transferal to USACE. Congress passed the bill in that form.
November 18, 1997

Public Law 105-85 is signed into law. This legislation served as an act to authorize appropriations for FY 1998 for military activities of the DOD, for military construction, and for defense activities of the DOE Section 3170: Report on remediation under FUSRAP. Not later than March 1, 1998, the Secretary of Energy shall submit to Congress a report containing information responding to questions regarding FUSRAP.

Spring, 1998

An end date of 2002 is designated the term of an accelerated completion plan submitted by DOE in 1997. A similar completion date appeared in USACE’s spring 1998 evaluation of sites, which estimated various remediation scenarios. According to that report, an additional $40 million per year would be needed to finish the project in 2002.

October 7, 1998

Public Law 105-245 appropriates $140 million for FY 1999 operations of the FUSRAP by USACE, based on H.R. 2605, sponsored by Congressman Ron Packard.

October 15, 1998

The Natural Resources Defense Council (NRDC) petitions the U.S. Nuclear Regulatory Commission (NRC) to bring USACE’s remediation procedures under NRC environmental standards, based on the proposition that those standards applied to DOE; and DOE remains the owner of the sites; and that USACE was applying standards lower than NRC’s, creating environmentally dangerous conditions in the clearing of radioactive materials at the Tonowanda site in upper New York State. The petition cited provisions of the Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978, which placed management of radioactive byproduct materials under the NRC. On March 26, 1999, the NRC denied the petition.

October 17, 1998

Public Law 105-261 is signed into law. Section 3162 expresses the sense of Congress that the OMB, beginning with FY 2000, should transfer the FUSRAP from the defense 050 budget function to a non-defense discretionary budget function.

March 17, 1999

Memorandum of understanding between the U.S. Department of Energy and the U.S. Army Corps of Engineers regarding program administration and execution of the Formerly Utilized Sites Remedial Action Program (FUSRAP).
September 29, 1999

Public Law 106-60, the Energy and Water Appropriations Act for FY 2000 is signed, authorizing a budget of $150 million for FUSRAP in FY2000. House Report 106-253, which listed the budget recommendation for FY 2000, states, “the [House Appropriations] Committee intended to transfer only the responsibility for administration and execution of clean-up activities at eligible sites where remediation had not been completed. It did not intend to transfer ownership of and accountability for real property interests that remain with the Department of Energy. The Committee expects the Department to continue to provide the institutional knowledge and experience needed to best serve the Nation and the affected communities in executing this program.”

October 5, 1999

Public Law 106-65 is signed into law. Section 3131 says that USACE has no authority to use other than FUSRAP, appropriated and/or authorized funds, for treatment, storage, and disposal operations after FY2000.

March 29, 2000

H. R. 910 referred to Senate committee. This legislation served to authorize the Secretary of Army, acting through USACE and in coordination with other Federal agency heads, to participate in the funding and implementation of a balanced, long-term solution to the problems of groundwater contamination, water supply, and reliability affecting the San Gabriel groundwater basin in California, and for other purposes.

October, 2000

H. R. 4635, the Energy and Water Appropriations for FY2001, is passed by Congress, vetoed by the president, but, with more than a 2/3 majority the bill survived the veto. House Report 106-988, on the newly numbered H.R. 5483, specified funding of $140 million for FUSRAP in FY 2001, a reduction of $10 million. $5,000,000 was recommended to initiate remediation activities as appropriate at a new site at the Parks Township Shallow Land Disposal Area (SLDA), Parks Township, Armstrong County, PA.

November 12, 2001

Public Law 107-66 is signed into law. H.R. 2311 specified funding of $140 million for FUSRAP in FY 2002
January 20, 2002

Public Law 107-117, Section 8143, establishes that the Shpack Landfill in Attleboro, MA, and the Shallow Land Disposal Area (SLDA) in Parks Township, PA, shall be remediated under FUSRAP, and USACE shall seek to recover costs for remediation of SLDA.

February 20, 2003


November 18, 2003

Public Law 108-137 is signed into law. H.R. 2754 specified funding of $140 million for FUSRAP in FY 2004.

December 8, 2004


November 19, 2005

Public Law 109-103 is signed into law. H.R. 2419 specified funding of $140 million for FUSRAP in FY 2006.

June 29, 2006

Public Law 109-274 is signed into law. H.R. 5427 specified funding of $130 million for FUSRAP in 2007. The Act specified the “to complete expeditiously its Site Ownership and Operational History review and continue its Remedial Investigation/Feasibility Study toward the goal of initiating any necessary remediation of the former Sylvania nuclear fuel site at Hicksville, New York, consistent with current CERCLA cleanup standards…..The Committee directs the Corps to continue ongoing cleanup efforts at the Former Linde Air Products, Tonawanda, New York, consistent with current CERCLA cleanup standards.”

June 11, 2007

Public Law 110-185 is signed into law. H.R. 2641 specified funding of $130 million for FUSRAP in 2008.
July 14, 2008


October 28, 2009

Public Law 111-85 is signed into law. H.R. 3183 specified funding of $134 million for FUSRAP in 2010.

July 22, 2010

Public Law 111-228 is signed into law. H.R. 3635 specified funding of $130 million for FUSRAP in 2011. The Act specified “directs the Corps of Engineers during fiscal year 2011 to complete the Remedial Investigation/Feasibility Study for the former Sylvania nuclear fuel site at Hicksville, New York and to proceed expeditiously to a Record of Decision, if appropriate, initiate any necessary remediation in accordance with CERCLA.”

September 7, 2011

Public Lay 112-75 is signed into law. H.R. 2354 specified funding of $109 million for FUSRAP in 2012.
Attachment 3

Memorandum of Understanding Between the U.S. Nuclear Regulatory Commission and the U. S. Army Corps of Engineers for Coordination of Cleanup & Decommissioning of the Formerly Utilized Sites Remedial Action Program (FUSRAP) Sites with NRC-Licensed Facilities
MEMORANDUM OF UNDERSTANDING
BETWEEN
THE U.S. NUCLEAR REGULATORY COMMISSION
AND
THE U.S. ARMY CORPS OF ENGINEERS
FOR COORDINATION ON CLEANUP & DECOMMISSIONING OF THE FORMERLY
UTILIZED SITES REMEDIAL ACTION PROGRAM (FUSRAP) SITES WITH NRC-
LICENSED FACILITIES

ARTICLE I - PURPOSE AND AUTHORITY

A. This Memorandum of Understanding (MOU) is entered into by and between the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Army Corps of Engineers (USACE), ("The Parties") for the purpose of minimizing dual regulation and duplication of regulatory requirements at FUSRAP sites with NRC-licensed facilities. For activities where a potential for dual regulation could exist, the two agencies agree to cooperate, share information, and/or coordinate activities in their respective programs. This MOU applies to USACE response actions meeting the decommissioning requirements of 10 C.F.R. 20.1402, “Radiological Criteria for Unrestricted Use.” USACE Response actions meeting the restricted release requirements of 10 C.F.R. 20.1403, are outside the scope of this MOU.

B. The NRC has the statutory responsibility for the protection of the public health and safety related to the possession and use of source, byproduct, and special nuclear material under the Atomic Energy Act of 1954, as amended (Public Law 83-703, 68 Stat. 919). This includes ensuring the decommissioning of the nuclear facilities that it licenses. The Commission's licenses and regulations set out conditions to provide for the protection of the public health and safety and the environment. To terminate such licenses, NRC must ensure that licensees meet the Commission’s decommissioning requirements including the provisions of 10 CFR 20 Subpart E – Radiation Criteria for License Termination.

C. USACE is administering and executing cleanup at FUSRAP sites pursuant to a March 1999, MOU with the Department of Energy and the provisions of the Energy and Water Development Appropriations Acts for Fiscal Years 1998-2001 (Public Laws 105-62, 105-245, 106-60 and 106-377, respectively). Section 611 of Pub. L. 106-60 requires the USACE to remediate FUSRAP sites, in accordance with, and subject to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. 9601 et seq., and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R., Chapter 1, Part 300. Section 611 also confers lead agency status on the USACE for remedy selection. USACE, as provided for in section 121(e) of CERCLA and 40 C.F.R. 300.400(e), is not required to obtain a NRC license for its on-site remediation activities conducted under its CERCLA
authority. However, if a response action is required, CERCLA requires the remedy to be protective of human health and the environment.

D. This MOU describes how the two agencies will work together to meet their existing statutory responsibilities. It neither creates nor removes any agency responsibility or authority. This MOU is not an admission of responsibility or liability on the part of the United States with regard to any hazardous substances or operations at a licensed site; does not relieve a license holder of its responsibilities and liabilities under any law; and does not create rights in any third party against USACE, NRC, or the United States.

E. CERCLA obligations imposed on the USACE may duplicate the obligations established by NRC regulations and licenses, resulting in duplicate regulatory requirements at NRC-licensed FUSRAP sites that will impose an added regulatory burden without an added safety benefit. To avoid unnecessary duplication of regulatory requirements and effort, this MOU sets out the conditions, consistent with the protection of the public health and safety, that will permit NRC to exercise its discretion to suspend NRC issued licenses at FUSRAP sites so that NRC requirements do not hinder USACE in its remediation of sites under CERCLA.

F. Each agency will bear its own costs for actions consistent with this MOU, but this does not preclude each agency from recovering costs, based on it's statutory authority, from the licensee or responsible parties.

G. USE OF TERMS.

1. The term “response action” means response actions as defined in CERCLA at 42 U.S.C. 9601(25) including removal and remedial actions and related CERCLA enforcement actions.

2. The term “closeout” means that all construction activities and reports are complete, the cleanup goals specified in the final ROD are achieved, coordination with regulatory agencies, and publication of notice in accordance with the provisions of CERCLA, the National Contingency Plan (NCP) and USACE procedures have been completed.

3. The term “completed response action” means that all construction activities are complete; for components other than ground or surface water, the cleanup goals specified in the ROD are achieved; any ground and/or surface water restoration remedies are operating as designed; and a remedial or removal action report is complete.

4. The term “FUSRAP site” means any geographic area certified by the Department of Energy (DOE) to have been used for activities in support of the Nation’s early atomic energy program, and determined by USACE to require a response action pursuant to CERCLA or placed into the FUSRAP program pursuant to Congressional direction. A FUSRAP site may overlap all, or any part, of an NRC-licensed site.

5. The term “possession” means physical control of the property or materials for purposes of environmental restoration and protection of the health and safety of the
public. Possession does not require ownership nor is USACE assuming responsibility for the operations and activities of the NRC licensee or owner of the materials. The USACE will take control only of the FUSRAP-related materials on the licensed site as provided in paragraph III. B. Non-FUSRAP materials, unless the responsibility of the USACE under CERCLA, remain under control of the licensee.

6. The term "licensed site" means that a NRC license has been issued, and remains active or suspended, to possess and use material licensed under the Atomic Energy Act at the site.

ARTICLE II - INTERAGENCY COMMUNICATION

To provide for consistent and effective communication between NRC and USACE, each agency shall appoint a Principal Representative to serve as its headquarters-level point of contact on matters relating to this MOU. Written notices required by the MOU shall be sent to the USACE’s and NRC’s Principal representatives. The Principal Representatives are:

Chief, Decommissioning Branch
Division of Waste Management
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Chief, Environmental Division
Directorate of Military Programs
U.S. Army Corps of Engineers
441 G Street, N.W.
Washington, D.C. 20314-1000

ARTICLE III – AGREEMENT

A. At the request of USACE, NRC will initiate action for the suspension of the NRC license or portions of the license for a FUSRAP site to be remediated by USACE under CERCLA authority contingent upon USACE notifying the NRC in writing that:

1) USACE is prepared to take physical possession of all or part of the licensed site for purposes of control of radiation from FUSRAP materials subject to NRC jurisdiction and be responsible for the protection of the public health and safety from those materials consistent with 10 CFR Part 20 "Standards For Protection Against Radiation" and other requirements consistent with CERCLA;

2) USACE will conduct a response action at the licensed site under its FUSRAP and CERCLA authority, with regard to FUSRAP materials subject to NRC
jurisdiction, to meet at least the standards required under 10 C.F.R. 20.1402, and

3) USACE has no objection to, and will facilitate, NRC observing USACE in-process remediation activities.

Such written notification to the NRC should be provided after the final Record of Decision (ROD), or its equivalent, is issued, if one is prepared, and at least 90 calendar days prior to USACE's expected date of initiation of a site response action so that the NRC can initiate the process for suspension of the license. Prior to submitting the notification, USACE will make a reasonable attempt to obtain the licensee's consent to USACE's proposed action and document the results of this effort in the notification.

B. Depending on the extent of FUSRAP materials and their separability from other hazardous substances on the site, USACE's responsibility may encompass the entire site, portions of the site, all the radioactive materials or just the FUSRAP and commingled materials, as specified in the final ROD. USACE will notify NRC of its findings regarding the type and extent of hazardous substance on a licensed site prior to requesting license suspension. Prior to USACE submitting a request for license suspension on a site where the NRC license suspension will not encompass the entire site, USACE and NRC will meet to agree on the scope of the suspension. The licensee may be involved in these discussions.

C. NRC licensing action for the suspension of the license, or portions of the license, will be effective, subject to:

1) written notification from USACE to the NRC that USACE has taken physical possession of the licensed site for purposes of radiation control and is now responsible for the protection of the public health and safety consistent with the requirements of 10 CFR Part 20 and

2) the effectiveness rules of the NRC hearing process pursuant to 10 CFR Part 2, "Rules Of Practice For Domestic Licensing Proceedings And Issuance Of Orders."

Prior to license suspension, the licensee retains responsibility for meeting the Commission's requirements for protecting the environment and the health and safety of the public.

D. NRC may observe, as it deems warranted, remediation activities being conducted by USACE. For the purpose of scheduling in-process activity observation, USACE shall provide the NRC with the schedule of major activities, regular progress reports on sites' activities, studies, and/or remediation, and planned work stoppages.

E. The NRC shall keep USACE apprised in writing of questions, comments or concerns arising from any NRC observations of USACE response action activities and shall
immediately notify the USACE of any conditions having a potential to adversely affect the environment or the health and safety of the public.

F. USACE shall be responsible for the protection of the health and safety of the public consistent with the requirements of CERCLA and 10 CFR Part 20 during the time it is in physical possession of the licensed site or portions thereof which are suspended in accordance with the agreement at the time of license suspension.

G. USACE shall remediate the licensed site to meet at least the requirements of CERCLA and of 10 CFR 20.1402. The Applicable or Relevant and Appropriate Requirement (ARAR) in the final executed ROD will include 10 CFR 20.1402 or a more stringent requirement.

H. USACE shall manage all activities and prepare program estimates, funding requirements, and budget justifications for all FUSRAP activities for which it has been given responsibility as provided by the annual Energy and Water Development Appropriations Act, and the terms of this MOU. USACE shall request FUSRAP appropriations in the annual Energy and Water Development Appropriations Act for these activities. USACE shall respond to inquiries from public officials, Congressional interests, stakeholders, and members of the press regarding USACE activities under FUSRAP.

I. USACE shall consult with NRC if USACE surveys, investigations, and data analyses are inconsistent with the NRC description of the potential radioactive and/or chemical contaminants and processes involved in the historical activities at a licensed site at which the USACE is conducting a FUSRAP investigation or response action under CERCLA. USACE shall immediately notify NRC if, as a result of its Preliminary Assessments, Remedial Investigations, or other surveys prior to production of a ROD, conditions warrant a time-critical removal action, and the agencies will identify an appropriate response that protects the environment and the health and safety of the public.

J. USACE shall notify NRC in writing if there is a need for a radiological response action under FUSRAP on any property not covered by the license suspended or to be suspended (whether or not owned by the licensee) as a result of radioactive contamination from a licensed site undergoing a FUSRAP investigation or response action.

K. Following completion of the response action at a FUSRAP site with an NRC-licensed facility, USACE shall provide the NRC with a copy of the CERCLA Administrative Record for the NRC historical public record. At the time of close out USACE will provide NRC with copies of any additional information that has been placed in the CERCLA Administrative Record.

L. USACE shall notify the NRC in writing if there are NRC-licensed facilities on FUSRAP sites that may require coordination with the NRC in addition to the four known sites:
Maywood Site (Stepan), Maywood, NJ; CE-Windsor Site, Windsor, CT; St. Louis Downtown Site (Mallinkrodt), St. Louis, MO; and the Shallow Land Disposal Area, Parks Township, PA.

M. USACE shall keep NRC apprised in writing of progress toward completion of Preliminary Assessments and/or Site Investigations at licensed sites to determine:

1) Whether FUSRAP and commingled materials at the site are a threat or potential threat to public health and safety or the environment as a result of the licensed materials there; and

2) Whether the release requires a response under CERCLA.

N. The NRC will reinstate the license or portions of the license put into suspension due to USACE’s remediation if USACE:

1) is no longer controlling the FUSRAP-related portion of the licensed site for radiation protection purposes,

2) is no longer proceeding with a response action at the licensed site under CERCLA, or

3) has otherwise completed its response action.

At least 90 calendar days prior to USACE terminating its physical possession of the licensed site for purpose of control of radiation, USACE will notify the NRC in writing so that the NRC can initiate the process for reinstating the license. USACE shall promptly notify NRC in writing if annual funding for the FUSRAP response action at an NRC-licensed site does not appear to be sufficient to complete the response action.

O. NRC shall be responsible for appropriate regulatory action, including requiring any further decommissioning if necessary, following license reinstatement.

P. As may be necessary, NRC and USACE will develop working procedures to implement this MOU. Such procedures will be approved by the Principal Representatives.

ARTICLE IV – FURTHER ASSISTANCE

NRC and USACE shall provide such information as may be reasonably necessary or required, which are not inconsistent with applicable laws and regulations, and the provisions of this MOU, in order to give full effect to this MOU and to carry out its intent.
ARTICLE V- DISPUTE RESOLUTION

Every effort will be made to resolve issues between NRC and USACE by the staff directly involved in the activities at issue, through consultation and communication. If a mutually acceptable resolution cannot be reached, the dispute will be elevated to successively higher levels of management up to the signers of this MOU. If resolution cannot be reached, NRC may in its discretion reinstate the licenses involved after providing a written 30 calendar day advance notice to the USACE. Upon license reinstatement, USACE’s obligations under this MOU for the particular site shall cease and the licensee becomes responsible for control of radioactive materials on the licensed site, as well as protecting the environment and the health and safety of the public, subject to NRC regulation and other applicable law. Upon determining that the licensee has established control of the site and hazardous substances, USACE will relinquish possession of the site and hazardous substances, will cease remediation activities, and will vacate the site. License reinstatement constitutes notice of the shift in responsibility for control of the site and its hazardous substances.

ARTICLE VI- AMENDMENT AND TERMINATION

This MOU may be modified or amended in writing by the mutual agreement of the parties. Either party may terminate the MOU by providing written notice to the other party. The termination shall be effective 60 calendar days following notice, unless the parties agree to a later date. Termination of this MOU does not relieve USACE of its statutory responsibility for protecting the environment or the health and safety of the public until NRC has reinstated the license and the licensee has taken control of the site and its hazardous substances.
ARTICLE VII - EFFECTIVE DATE

This MOU shall become effective when signed by authorized officials of NRC and USACE.

U.S. Nuclear Regulatory Commission    U.S. Army Corps of Engineers

Martin J. Virgilio                   M.G. Hans A. Van Winkle
Director,                           Major General, U.S. Army
Office of Nuclear Materials Safety   Director, Civil Works
and Safeguards                      U.S. Army Corps of Engineers
U.S. Nuclear Regulatory Commission

Date: 7/2/01                         Date: 5/31/01

Signature                              Signature
Attachment 4

Site Transition Framework
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Site Transition Framework

This Site Transition Framework (STF) provides a framework for all U.S. Department of Energy (DOE) facilities and sites where DOE may have anticipated long-term surveillance and maintenance (LTS&M) responsibilities. It is a tool to help facilitate a smooth transition from remediation LTS&M, providing a systematic process for affected parties to utilize in analyzing the baseline to understand and manage the actions from completion of the Environmental Management (EM) mission through a site’s transition into LTS&M.

The STF is not meant to provide an exhaustive list of the specific requirements and information that are needed. Sites will have unique considerations that may not be adequately addressed by this tool, and it is anticipated that a team consisting of the transferring and receiving organizations will use judgment in utilizing these requirements and augmenting them with other DOE guidance. However, the STF should be followed to the extent possible at each site and adapted to accommodate unique site-specific requirements, needs, and documents.

Ideally, this STF should be used as early in the remediation process as possible. Subsequent applications of the STF to the site should be conducted periodically and used to verify that all appropriate steps have been or will be taken to close out the site and that actions by both organization to transfer the site to LTS&M are identified. The requirements are provided in the following sections of and attachments to this document:

- Section I. Authorities and Accountabilities Are Assigned and Documented
- Section II. Site Conditions Are Accurately and Comprehensively Documented
- Section III. Engineered Controls, Operation and Maintenance Requirements, and Emergency/Contingency Planning Are Documented
- Section IV. Institutional Controls, Real and Personal Property, and Enforcement Authorities Are Identified
- Section V. Regulatory Requirements and Authorities Are Identified
- Section VI. Long-Term Surveillance and Maintenance Budget, Funding, and Personnel Requirements Are Identified
- Section VII. Information and Records Management Requirements Are Satisfied
- Section VIII. Public Education, Outreach, Information, and Notice Requirements Are Documented and Satisfied
- Section IX. Natural, Cultural, and Historical Resource Management Requirements Are Satisfied
- Section X. Business Closure Functions, Pension and Benefits, Contract Closeout or Transfer, and Other Administrative Requirements Are Satisfied
- Attachment 1, Real Property Requirements
- Attachment 2, Post-Closure Benefit Information and Data Needs
I. Authorities and Accountabilities Are Assigned and Documented

All interested parties’ assignments of accountabilities and authorities for LTS&M have been identified and documented.

A. All documents allocating the roles and responsibilities of interested parties have been approved and signed (e.g., Memorandum of Agreement, Memorandum of Understanding, Interagency Agreement, Cooperative Agreement).

B. Each federal or non-federal entity that will be responsible for LTS&M activities listed in Section I-A has been identified. Funding sources for each activity have been identified and documented in Section VI.

C. Appropriate governmental requirements, policies, and procedures for managing resources have been incorporated into the LTS&M Plan and agreements.

D. The legal authority under which LTS&M will be conducted has been identified and documented or a “reservation of rights” has been indicated.

E. Section IV presents a discussion of authorities related to institutional controls.
II. Site Conditions Are Accurately and Comprehensively Documented

All documentation identifying site historical uses characterization, and remedial action, including the Preliminary and Final Closeout Reports, has been completed and made available to the public. Where available, the information identified in this section should be of survey quality and have Geographical Information Systems (GIS) references.

A. The site at the time of closure, including all remedies and remaining hazards, has been described. Examples include, but are not limited to, the following components:

1. Physical features of the site, including, site topography, geology, hydrogeology, geomorphology, seismicity, site and area boundaries, and other features relevant to the long-term performance of the site.
2. Locations of active, inactive, and decommissioned buildings, structures, and surface and subsurface infrastructure (e.g., utilities).
3. Locations of residual hazards and associated engineered and institutional control systems.
4. Locations of groundwater wells, wastewater outfalls, and air quality monitoring stations. Information has been depicted on site maps.
5. For those sites undergoing closure, locations of off-site buildings and structures, important ecological resources, and associated potential receptors in the vicinity of the site.
6. Characteristics of the remaining contaminants (e.g., radioisotope, activity, and physical form).
7. Descriptions of the initial risk at the site and the risk remaining at the site following remediation. This information will be used to provide a reference baseline.
8. The existence of and basis for decisions on cleanup levels for the end state, such as a “No Further Action,” should be indicated.

B. For those sites undergoing closure, a conceptual site model for LTS&M has been completed (if deemed applicable) that shows the relationships between existing residual hazards, environmental transport mechanisms, exposure pathways, and human/ ecological receptors.

C. All remedial action(s) and associated documentation have been completed and approved by regulators.

D. Results of any Natural Resource Damage Assessment claims, where applicable, with associated documentation have been identified. This assessment should discuss the Department’s potential environmental liability at the site.
III. Engineered Controls, Operation and Maintenance Requirements, and Emergency/Contingency Planning Are Documented

A. Engineered controls have been identified and documented. The information should include, but not be limited to, the following elements:

1. Design and construction drawings, specifications, and completion report.
2. Site physical and geotechnical data.
3. Locations of engineered controls accurately identified and depicted on site maps.
4. Identification of ongoing remediation and related waste management activities.
5. Performance history assessments indicating successful operation.

B. A life-cycle cost estimate, including basis and assumptions. The life-cycle cost estimate should be based on best available data but should also include a reasonable and prudent amount for future contingencies, recognizing that in most cases LTS&M activities may be ongoing until such a time that no hazards remain to human health and the environment. The results of the life-cycle cost should be documented in Section VI-B.

C. A master schedule of ongoing activities has been made available.

D. The risk-based end state, including exit criteria outlining if and/or when engineered controls will no longer be necessary, should be identified along with the supporting information. If exit criteria will be implemented while hazards to human health and the environment remain, a Probabilistic Risk Assessment over several half-lives should be provided to justify the exit strategy and the discontinuance of the engineered controls.

E. Operation and maintenance (O&M) activities have been documented, funding is in place, and a party has been selected to perform the necessary activities.

1. Surveillance and monitoring requirements have been documented (e.g., scope frequency, reporting, process descriptions, and analytical parameters and methods). This document should allow for optimization that is consistent with the selected remedy.
2. The cost, including basis and assumptions, of operations, maintenance, and surveillance activities has been estimated, documented, and revised periodically as experience dictates. The request for funding should be in accordance with applicable budget appropriations procedures.
3. An agreement and/or contract is in place for performance of all O&M activities during LTS&M if an outside party will be performing these activities.
III. Engineered Controls, Operation and Maintenance Requirements, and Emergency/Contingency Planning Are Documented (continued)

F. Emergency/contingency planning and the authority and responsibilities to implement have been identified.

1. Uncertainties associated with residual hazards, fate-and-transport mechanisms, exposure pathways, and the effectiveness of LTS&M activities have been identified.
2. Scenarios related to each uncertainty have been identified (e.g., failure scenarios).
3. Roles, responsibilities, and procedures to respond to each scenario have been established.
4. The conceptual site model developed in support of the remedial action or closure decision should be routinely reviewed, updated, and re-evaluated based on new technical information and on monitoring data collected during stewardship of the site.
5. Emergency and catastrophic planning for events such as fires, floods, etc., shall be documented.
IV. Institutional Controls, Real and Personal Property, and Enforcement Authorities Are Identified

A. Land use/institutional controls have been identified, approved by the regulator(s) (if applicable) and implemented. All institutional control components of each implemented remedy are described (e.g., future land-use assumptions upon which each implemented remedy is based, associated land-use restrictions). If engineered barriers will be relied upon as part of the remedy requiring institutional controls, assumptions regarding the longevity and performance of these barriers should be identified.

1. On-site and off-site land uses for each area (property) and its associated land-use assumptions have been identified.
2. Procedures for managing, assessing potential changes in, and enforcing on-site and off-site (as appropriate) land uses have been documented and are being conducted.
3. Institutional controls established as part of an implemented remedy have been identified, and a process is in place to monitor and document these institutional controls.
4. Roles and responsibilities that have been outlined for responding to requests to change existing land uses are consistent with the land use assumed during implementation of the selected remedy.
5. Procedures have been put in place for periodic review of land uses and institutional controls to ensure that they are being maintained and remain protective. Performance history indicating successful operation has been documented.
6. Procedures for management and periodic reassessment of institutional control restrictions are in place.
7. Off-site easements implemented to ensure the protectiveness of the remedy have been documented, and a process is in place to enforce/maintain these easements.
8. Exit criteria outlining when engineered controls/institutional controls will no longer be necessary have been documented, if not previously documented, in the Record of Decision (ROD) or other appropriate document.

B. Property records (as required by applicable regulations and/or guidance) are complete. Examples of property records follow; Attachment 1 provides a more complete list of property records.

1. The site’s real estate history has been documented, including identification of former property owners, deed restrictions, or other land-use restrictions.
2. Site boundaries and site markers are easily identified and have been documented.
3. On-site and off-site easements, rights-of-way, and other property access rights have been established and documented. Preferably, this information should be depicted on site maps.
4. Water, mineral, and other natural resource rights have been identified.
5. Tribal treaty rights and other U.S. Government obligations have been identified.
6. Areas where LTS&M activities will be conducted have been documented in the property records.
IV. Institutional Controls, Real and Personal Property, and Enforcement Authorities Are Identified (continued)

C. Personal Property Transfer Requirements

The personal property transfers are completed in accordance with Title 41 *Code of Federal Regulations* (CFR) Part 101, Federal Management Regulations, and DOE Property Management Regulations (PMR).
V. Regulatory Requirements and Authorities Are Identified

Regulatory requirements regarding residual contamination have been identified. Pertinent regulatory documents are maintained and available to the public (e.g., RODS, Resource Conservation and Recovery Act (RCRA) permits and Corrective Action Decisions, Consent Orders, Interagency Agreements, and Federal Facility Agreements).

A. All regulatory decision documents and associated site characterizations have been identified and are either complete or scheduled for completion (e.g., all remedial action activities regarding the soil have been completed, but the impacted groundwater is in the process of being resolved) and are maintained in accordance with regulatory requirements.

B. The implemented remedy and associated LTS&M activities are verified to be in compliance with all regulatory requirements [e.g., appropriate agreements have been entered into with appropriate regulator(s)].

C. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Five-Year Review or other review results are available. Future periodic reviews (not to exceed 5 years), including supplemental analysis of site-wide Environmental Impact Statements (if applicable and/or required), should be planned and consistent with existing guidance.

D. The U.S. Environmental Protection Agency (EPA) National Priority List (NPL) status and/or RCRA permit status or state requirements and the basis for these requirements have been clearly indicated (e.g., delisting, partial delisting, and non-NPL).

E. U.S. Nuclear Regulatory Commission (NRC) license status has been established. This status information should identify the license holder and the development of license transfer plans.

F. Locations of documents have been identified, and the documents are accessible. A process should be in place to ensure that the documents are maintained and kept current (e.g., new technology updates for records management).
VI. Long-Term Surveillance and Maintenance Budget, Funding, and Personnel Requirements Are Identified

Sites should be consistent with and follow their prescribed guidance in determining budget, funding, and personnel requirements. Some of the elements in this section may not apply.

A. A technical baseline document for LTS&M programs and activities at the site has been developed. The LTS&M baseline includes activities to be conducted by the receiving organization.

B. Funding (consistent with technical baseline) and supported by cost-estimates (Section VI).
   1. Any funds for LTS&M have been identified and are available.
   2. Estimates for the annual funding requirements for LTS&M activities, associated oversight, and information management requirements have been derived and have been included in the Annual Budget Request to Congress.
   3. Funding assurances have been made based on those estimates.
   4. Mechanisms to transfer funds required for LTS&M have been established.
   5. Funding mechanisms for LTS&M activities and regulatory oversight activities conducted by other federal and non-federal entities have been established (e.g., documentation of financial assurance agreements for long-term monitoring and surveillance funding).
   6. Estimates required for financial assurance payments have been determined.
   7. Authority has been granted to the steward to use, or have access to, funds related to LTS&M.

C. Personnel requirements have been identified (for activities not previously addressed within this set of criteria).
   1. All personnel functions and qualifications necessary for the technical implementation and administration of LTS&M activities have been identified.
   2. A determination for the need of other on-site personnel has been made and the specific duties that may be required have been identified.
   3. A closeout plan for the disposition of excess federal full-time equivalents has been developed.

D. A business closeout process has been developed (see Section X).
VII. Information and Records Management Requirements Are Satisfied

Records and information for LTS&M turnover or retention plans are reflected in post-closure or disposition plans.

A. Transfer of information and records.

1. Agreements are in place that identify the disposition of records that do not transfer to the receiving organization (e.g., current contract records, current litigation records, transuranic waste-related records, classified information).
2. Information and records needed for LTS&M, property management, contractor personnel benefits other than pensions, worker compensation, and Energy Employees Occupational Illness Compensation Program Act (EEOICPA) have been identified, including classified information.
3. Practices and procedures for the transition of information systems and records have been established. For example, guidance is provided in the document *Legacy Management Information and Records Management Transition Guidance*.
4. The guidance and operations information for information systems, including metadata, have been identified and transferred along with the information systems.
5. A Site Information and Records Transition Plan has been developed and approved that establishes a framework to address site-specific records and information requirements, including storage locations, special handling needs, spatial data, and access and retrieval requirements.
6. The location(s) for storage and maintenance of site records and information systems has been identified and approved.
7. A records tracking system has been implemented, and standards for data formats, finding aids, and indices have been provided to the transfer site.
8. Information from the transfer site’s records tracking systems has been migrated to the tracking system, along with locator guides and indices.
9. Records and record locations specified in agreements (Section V) are identified along with points of contact.

B. Information and records management planning has been performed and is acceptable to the stakeholders, as required under regulatory requirements for stakeholder involvement and public availability.

1. Systems and procedures for the archival of LTS&M information in one or more on-site or off-site repositories have been developed.
2. Retention schedules that are appropriate for the management of records for LTS&M and for continuity of benefits, worker compensation, and EEOICPA claims have been developed.
3. Systems and procedures to establish and facilitate public access to and retrieval of records and information critical to LTS&M are in place. Examples could include, but are not limited to, Internet access, local library, and on-site information center (e.g., Interpretive Center, museum).
VII. Information and Records Management Requirements Are Satisfied (continued)

B. Information and records management planning has been performed and is acceptable to the stakeholders, as required under regulatory requirements for stakeholder involvement and public availability (continued).

4. The National Archives and Records Administration (NARA) has been engaged, through the DOE Office of Chief Information Officer, to approve any transfer of records past their retention dates or the loan of current records to organizations outside of DOE.

5. The DOE Librarian and DOE Historian should be consulted regarding the transfer of non-record materials, such as library materials and other items that may have historic value, before agreements are made regarding their transfer to non-DOE entities.

6. Classes of LTS&M information users and their access requirements have been identified and solutions have been implemented.

7. Information in DOE-approved information systems, such as those identified in DOE Order 430.1B, Real Property Asset Management, required for LTS&M has been identified.
VIII. Public Education, Outreach, Information, and Notice Requirements Are Documented and Satisfied

Any community involvement and associated Community Relations Plans should be governed by existing participation standards and systems.

A. List of site stakeholders with associated address information has been developed and a process is in place for updating this list.

B. Annual or more frequent updates of the Administrative Record and on-site information repository are available to interested parties. Community involvement tools have been developed (e.g., fact sheets, newsletters, email notifications, public meetings, etc.).

C. Costs associated with public involvement have been estimated (e.g., oversight committees, meeting locations). Funds sufficient for public involvement should be included in the funding requests.
IX. Natural, Cultural, and Historical Resource Management Requirements Are Satisfied

A. A discrete system or process is in place to protect information about sensitive and natural resources from inappropriate or unauthorized use or access.

B. Biological resources, threatened and endangered species, archaeological and cultural resources, Native American treaty rights, and/or other natural and cultural resources requirements have been identified and satisfied.

C. Precise locations and characteristics of natural and cultural resources that require LTS&M have been identified. A management system is in place and operating successfully.
X. Business Closure Functions, Pension and Benefits, Contract Closeout or Transfer, and Other Administrative Requirements Are Satisfied

Actions required by the completing organization and the receiving organizations related to business closeout functions are identified and reflected in requirements, policies and procedures (Section I-C), schedules and cost estimates (Sections III-B and III-C), and budget (Section VI)

A. Responsibilities have been determined for the administration and funding of

1. Retiree benefits and pension fund(s)
2. Workforce transition services (e.g., outplacement assistance)
4. Worker compensation claims
5. EEOICPA claims

B. Current contractor pensions and benefits needs are identified and planned (see Attachment 2 for more details):

1. Information about current pensions and benefit plans has been obtained.
2. Post-closure benefits administrator and providers have been identified and appointed.
3. Employment dates, salary, and security clearances have been verified.
4. Personnel-related databases (including manual systems) and records responsibility have been identified:
   a. Employment history and personnel files
   b. Historical radiological dose records
   c. Medical records
   d. Retiree pension and benefit records
   e. Security clearance history files
   f. Training records

C. Status of pending litigation and liabilities identified (Generally, these actions should be completed by the transferring organization.):

1. Pollution liability policy
2. Auto liability policy
3. General liability policy
4. Fiduciary/crime/medical malpractice liability policy
5. Government rating plan for workers compensation
6. Non-government rating plan workers compensation claims
7. Equal Employment Opportunity (EEO) and discrimination cases
8. Unresolved hourly employee claims
9. Beryllium liability claims
10. State or community litigation or claims
X. Business Closure Functions, Pension and Benefits, Contract Closeout or Transfer, and Other Administrative Requirements Are Satisfied (continued)

C. Status of pending litigation and liabilities identified (generally, these actions should be completed by the transferring organization) (continued)

11. Pending citizen action suits
12. Department of Labor, Administrative Review Board cases, and/or Federal court litigation relating to Labor Standards (e.g., Service Contract Act, Davis-Bacon Act)

D. Contract termination actions (These actions will normally be completed by the transferring organization unless contracts are required for LTS&M.):

1. Contract closeout actions for closure of restoration contracts shall be identified.
2. Contracts and financial agreements required for LTS&M identified (see Section I-B).

E. Requirements of DOE orders satisfied.

1. Facility Authorization Basis terminated
2. Price Anderson Authorities oversight
3. Reporting to International Atomic Energy Association (IAEA) terminated
4. Disposition of personal property items
Attachment 1, Real Property Requirements

I. Real Property Information Requirements

All real property information requirements must be identified and documentation must be obtained prior to the transfer of any site to the Office of Legacy Management (LM). Real property assets are defined as any interest in land, together with the improvements, facilities, structures, and fixtures located thereon, including prefabricated movable structures and appurtenances thereto, under the control of DOE. Real property assets are further defined in the Federal Management Regulations, Sections 101-476.103-12. Consider the following elements, as applicable:

- Determine what interests will remain at closure both on site and off site, including land, easements, minerals, water rights, well permits, licenses, and permits.
- Determine any other in grants or out grants proposed for transfer to LM.
- Determine future land use for property.
- Obtain as-built drawings for any remaining improvements and utilities.
- Obtain existing maintenance/operations plans and procedures.
- Perform a physical inspection of facility.
- Complete information on any ongoing acquisition/disposal efforts.

Where applicable, the following real property information requirements must be met prior to transfer of a property to LM.

II. General Information Needed

All the following information should be documented, stored, and available for LM use:

- Identification of authority used to acquire the interests
- Identification of all jurisdictions that exist
- Identification of proprietary, exclusive, or other federal interests, including off-site interests such as easements, licenses, and permits
- Identification of each grantor
- Indemnification granted

III. Budget and Accounting Data

- The budget authority for any area, such as leases, operation and maintenance of improvements, and infrastructures, that will be transferred to LM.
- PILT money
- Integrated facility infrastructure documentation
- MARS record
- Quarterly maintenance
Attachment 1, Real Property Requirements (continued)

IV. Land

All the following information should be documented, stored, and available for LM use:

- Identification of the type of title and the holder of the title (the agency or the United States).
- Request U.S. Army Corps of Engineers or other agency real estate records.
- Identification of where original real estate records are located and whether the real estate record is complete, including acquisition instrument and deeds, withdrawal records and Federal Register Notices, title plats, legal descriptions and plats, surveys, and maps.
- Identification of outstanding interests, such as out leases or easements, deed restrictions, or non-federal controls or other burdens on the property (such as highway and utility rights-of-way).
- Identification, if applicable, of any federally funded off-site improvements (e.g., roads, traffic lights).
- All unneeded real property in grants and out grants must be terminated prior to transfer.
- Identification of any RCRA/CERCLA transfer restrictions.
- Identification of local government with jurisdiction for the property.
- Realty instruments have been recorded and any zoning or tax issues have been identified.
- Real Property Asset Management (RPAM)-required, 10-Year Plan has been completed.
- Identification of existing land uses, zoning, and proposed land use if available.
- Identification of any subsurface (mineral, oil, gas) rights.
- Identification of any water rights and well permits.
- PILT requests granted or pending.
- FIMS is complete and up to date.

V. Maps, Plats, and Exhibits

All the following information should be documented, stored, and available for LM use:

- Official land surveys, monumentation records, and cadastral surveys records stored and available for use.
- Official site maps, mineral rights maps, water rights maps, well permit maps, easement maps and legal descriptions, oil and gas lease maps, and tribal trust land properly geo-referenced in accordance with state or latitude/longitude coordinates and standards.
- Master title plats, title plats, and county title plats.
- Legal descriptions and recorded data.
- Existing and abandoned utility improvement easements maps.
- Locations of monuments.
Attachment 1, Real Property Requirements (continued)

VI. Mineral Rights

All the following information should be documented, stored, and available for LM use:

- Identification of mineral interests owned by the United States
- Locations of minerals severed from the surface estate
- Locations of any permitted mining operations

VII. Water Rights

All the following information should be documented, stored, and available for LM use:

- Identification of water rights owned by the United States.
- Location of water rights retained by the former owner of the property.
- Location of outstanding water conveyances on the property and information on the easement holders; provide copies of the easements.
- Description of surface water rights.
- Description of the surface water impoundments.

VIII. Well Permits

All the following information should be documented, stored, and available for LM use:

- Identification of well permits that exist for the United States.
- Identification of any state abandonment requirements.
- Identification of the state regulatory authority and point of contact.
- Identification of any off-site permits and access agreements; provide copies of the records and instruments to LM
- Data for FIMS are complete and up to date.

IX. Leasehold Interests:

All the following information should be documented, stored, and available for LM use:

- Identification of any existing leases and expected expiration dates; provide copies of the contracts to LM.
- Identification of any granted leaseholds to others (out grants).
- Data for FIMS are complete and up to date.
Attachment 1, Real Property Requirements (continued)

X. Other Real Property Interests

All the following information should be documented, stored, and available for LM use:

• Identification of any real estate institutional controls, such as deed restrictions, covenants, zoning agreements, or easements.
• Identification of any restrictions on the use of airspace over the site and point of contact if there are any restrictions.
• Subordinated rights of others.

XI. Infrastructure

All the following information should be documented, stored, and available for LM use:

• Identification of buildings or other structures that will remain.
• Identification of any leasehold interests associated with any buildings and other structures that will remain; if so, provide addresses of the leaseholders and copies of the contract.
• Identification of the costs, restoration requirements, cancellation or termination costs, and time frame for notices.
• Identification of any dam safety requirements or required annual inspections and reports:
  o Power generation systems
  o Treatment systems
  o Fencing
  o Disposal facilities
  o Electrical distribution stations
  o Extraction wells
  o Injection systems
  o Surface water structures (e.g., drainage channels, streams, dams, ponds flow controls, flow diversions)
• Identification of existing utilities that will remain.
• Identification of types and names of service providers (e.g., transmission or service, electric, natural gas, domestic water, sewage).
• FIMS requirements must be met, and applicable fields must be populated, complete, and up to date.
• Identification of the FIMS administrator for the property.
• Identification of security requirements that will remain or will be needed with the transition.
• Identification of maintenance management system used.
Attachment 2, Post-Closure Benefit Information and Data Needs

I. Pension Plans

Provide a list of current defined benefit plans. The following information is needed for each plan.

A. Financial/Custodian Data

1. Statement of assets
2. Reconciliation of market value of assets from period to period
3. List of benefits paid

B. Actuarial Information

1. Complete table of disability rates
2. Complete table of withdrawal rates
3. Actuarial valuation for each plan
4. Any assumption studies that have been performed in the past 5 years
5. Any other assumptions not explicitly detailed in the actuarial reports
6. The census data used for the actuarial valuations for the most recent plan year

C. Employer Plan Documents

1. With all updated amendments and Summary Plan descriptions for all plans
2. Most recent 5500 filings

II. Health and Welfare Benefit Plans

The following information is needed for each health and welfare plan (such as medical, dental, life insurance, vision and prescription drug) that is currently extended to or continues post-employment and is likely to continue for retirees and/or for other selected former employees post-closure (if different). The types of financial data required will vary based on the plan’s funding arrangement, as outlined in the following subsections:

A. Financial Data

1. Fully Insured Plans
   a. Current rates
   b. Rates for the prior 2 plan years
   c. Copies of renewal letters
   d. Claims experience and participation history for the past 2 years (separated by plan)
   e. Premium history for the past 2 years
Attachment 2, Post-Closure Benefit Information and Data Need (continued)

II. Health and Welfare Benefit Plans (continued)

A. Financial Data (continued)

2. Self-Funded Plans
   a. Premium equivalent rates for the past 2 years
   b. Administrative rates for the past 2 years
   c. Reinsurance rates for the past 2 years
   d. Monthly participation history for the past 2 years
   e. Monthly incurred/paid claim data for the past 48 months (separated by plan, and by actives and retirees)

3. All Plans Regardless of Funding
   a. Employee and retiree contribution rates for the past 2 years
   b. Claim utilization reports for the past 2 years

B. Insurance Company Documents

1. Insurance contracts
2. Certificates of Insurance
3. Reinsurance contracts for self-funded plans

C. Employer Plan Documents (including Section 125 document, if applicable, and retiree health care document)

D. Employee Communication Materials

1. Summary Plan Descriptions
2. New hire orientation
3. New hire benefit enrollment (both health and welfare and retirement benefits)
4. Annual benefit enrollment materials and employee contributions
5. Employee newsletters and other regular communication
6. Retiree communications

E. Pension and Health and Welfare Benefit Plans Census Data Elements

1. Status [active, disabled, Consolidated Omnibus Budget Reconciliation Act (COBRA), terminated vested, retired]
2. Employee identification
3. Name
4. Date of birth
5. Sex
6. Date of hire
7. Zip code
8. Salary (base pay only)
II. Health and Welfare Benefit Plans (continued)

E. Pension and Health and Welfare Benefit Plans Census Data Elements (continued)

9. Pension compensation [a description of the salary being provided (e.g., W-2 wages plus 401(k) deferrals)]
10. Prior plan year’s hours
11. Job description (or title)
12. Employee classification (salaried or hourly)
13. Other employee classification (if applicable)
14. Prior pension plan accrued benefits (if applicable)
15. January 1, 1976, accrued benefit
16. Any supplemental benefits being paid (if applicable)
17. Date of disability, retirement, or COBRA qualifying event
18. Date of pension benefit commencement (if applicable)
19. Monthly pension benefit (if in pay status)
20. Form of benefit (if in pay status)
21. Beneficiary date of birth for pension (if applicable)
22. Medical plan election
23. Medical coverage tier (individual, family, etc.)
24. Dental coverage tier (individual, family, etc.)
25. Vision coverage tier (individual, family, etc.)
26. Amount of basic life insurance

In addition to the documents and data LM needs to collect, LM needs to develop an understanding about what is expected to happen to the plans and the workforce through site closure and beyond. The following questions include some of the questions LM has regarding pension and health and welfare benefit plans:

- Does the site anticipate changing the asset allocation in any of the pension plans from now until closure?
- What baseline date is the site using for site closure? What is the possibility that the actual site closure will be sooner or later?
- Does the site expect to hire any new employees (additional or replacement) from now until closure?
- What turnover pattern does the site expect for the site employees from now until closure (please provide separately for salaried and hourly employees)?
- What salary increases does the site expect from now until closure?
- Does the site expect to implement early retirement incentive programs or any changes to the site pension or health and welfare plans from now until closure?
- Does the site expect any cost of living adjustments for retirees in the pension plans from now until closure?
- When do terminated vested participants generally start collecting benefits?
Attachment 5

FUSRAP Transition Checklist
Introduction and Site Information

This Checklist was developed for the U.S. Department of Energy (DOE) Office of Legacy Management (LM) as part of the process of transferring responsibilities for remediated Formerly Utilized Sites Remedial Action Program sites from the U.S. Army Corps of Engineers into LM for long-term surveillance and maintenance. The purpose of this Transition Checklist is to provide an effective and consistent method to initiate collection of site information prior to transfer of site responsibilities from the private licensee into LM. Additionally, the data collected via this checklist should be used as a guide to verify all requirements of the Site Transition Framework are adequately addressed and understood. The data and information collected will ensure DOE’s concerns are addressed in the transition process and will support development of long-term surveillance and maintenance plans and supporting documents.

Information collected to complete the checklist should be directed toward the expected end-state conditions at the site rather than current conditions. Activities not completed when the site transition begins will be completed prior to site transition. As the date nears to transition the site into LM, end-state conditions may differ from previous expectations. These changes should be monitored to ensure they appropriately reflect the final site conditions.

Site Name ____________________________________________ Site Mnemonic ________

Site Location (Address/T, R, Sec)____________________________________________________
State_____
Zip Code __________

Nearest Major City/Town ________________________________________________________

Licensee Contact Person_________________________________________________________

Licensee Contact Phone Number (______)___________________

DOE Site Lead _______________________________ Phone (_____)____________________

DOE Realty Officer ___________________________ Phone (_____)____________________

LMS Site Lead _______________________________ Phone (_____)____________________


1.0 General Information

1.1 Principal Stakeholders

Who are the principal stakeholders and their affiliations? Which groups will continue after transition? (See Section 8.0 for additional details)

1.1 Notes:

1.2 History of Site

What documents provide a brief overview of the site history for Office of Legacy Management (LM) personnel to gain a better perspective of the overall site issues in the past? What is the current status of remediation at the site?

1.2 Notes:

1.3 Site Conditions (See Section 6.0 for additional details)

What are the end-state conditions expected for the site?

Site Maps and Drawings
• Has the U.S. Army Corps of Engineers (USACE) provided or identified locations where site features and environmental data are available?

Surrounding Landowners/Users
• Who are the current landowners and users of adjacent properties?
• What are the implied or written expectations with these landowners?
• What are the existing surrounding land uses?

Future Plans
• What future plans are being developed for the site and are they available for review?
• Does the site have a future land-use map?
• What are the future land-use plans for adjacent properties?
• What are the impacts, if any, of local zoning on future plans?
• Who will be the site owners after transfer to LM?

Institutional Controls (ICs) (See Section 4.5 for additional details)
• What ICs exist in the form of deed restrictions, interagency agreements, cooperative agreements, memorandums of understanding, etc.?
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2.0 Regulatory Drivers

2.1 General Information
- Under what authority or authorities are the cleanup and the long-term surveillance and maintenance (LTS&M) being undertaken?
- What are the regulator (EPA, state, NRC, etc.) roles in the cleanup and LTS&M?
- What other regulatory agencies have roles in the cleanup and LTS&M?
- List any Notices of Violation that have been received.
- List any compliance actions that have not been completed.
- Have any groundwater standards been exceeded?

2.2 Federal
Federal regulations might be related to the RCRA; CERCLA; UMTRCA; the Clean Water Act; the Clean Air Act; the Endangered Species Act; the National Historic Preservation Act; floodplains/wetlands regulations, etc.
- What federal regulations apply?
- List all federal statutory requirements that have yet to be completed or transferred.
- Are there legislative constraints or requirements for the property?

2.3 Tribal/Native American
- What tribal regulations apply to cleanup and LTS&M?

2.4 State
- What State regulations apply (e.g., solid waste disposal, mined land reclamation, well permits, water
- (e.g., noxious weeds, well permits, groundwater regulations both onsite and offsite)?
- List all state requirements that have yet to be completed or transferred water or surface water points of compliance.)

2.1 Notes: ____________________________________________

2.2 Notes: ____________________________________________

2.3 Notes: ____________________________________________

2.4 Notes: ____________________________________________
2.5  Local
    • What local governmental regulations apply?
    • List any local requirements yet to be completed or transferred.

2.5 Notes:


2.6  Other
    • What U.S. Department of Energy (DOE) orders apply?
    • List any other regulatory drivers not already addressed.
    • What regulatory issues are unresolved?
    • What, if any, lawsuits or pending natural resource damage claims exist?

2.6 Notes:


3.0 Program Management

3.1 Roles and Responsibilities (DOE/Contractor)
- Who is responsible onsite (both DOE and USACE) for major activities that will be transitioned?

3.2 Points of Contact/Interfaces
- Who are the primary points of contact between USACE and LM personnel?
- What are the protocols for communicating between LM and USACE personnel?

3.3 Programmatic Plans: Health and Safety, Quality Assurance, Program Management, Life-Cycle Baseline, etc.
- What are the pertinent programmatic planning documents and procedures and where are they located or available?
- What changes to the programmatic plans are required as the site closes and LTS&M begins?
- What management systems (e.g., Integrated Safety Management, Quality Assurance, Environmental Management System, Radiation Protection/Price Anderson) are established that will need to be maintained? Where are the implementing plans located or available?

3.4 Budget Projections and Schedules
- What budget estimates for out years have been developed? Are they still adequate?
- When should site budget and LM budget transition?
- What are the programmatic reporting requirements, such as for performance, milestones, costs, funding, safety statistics?

3.5 Costs/Schedules
- Major Milestones
  — What are the major milestones for closure and their current statuses?
  — When is the official target closure date?
  — What other dates are significant to the site in regard to transitioning activities (i.e., regulatory closeout)?
• Cost Structures
  — What is the site’s work breakdown structure (WBS) structure?
  — Has LTS&M scope been identified and have costs been estimated?

3.5 Notes:

3.6 Agreements, Orders, or Treaties

• Cooperative Agreements
  — What, if any, cooperative agreements are in effect with other entities, such as Native American Tribes, other federal agencies, states, or local governmental agencies, and where are they located or available?

• Interagency Agreements
  — What, if any, agreements are in effect with other federal agencies, such as Memorandums of Understanding with USACE, the U.S. Fish and Wildlife Service, or others?

• Federal Facility Agreements
  — Is this site subject to the Federal Facility Compliance Act? If yes, where is the agreement located or available?
  — What, if any, post-closure agreements have been discussed, started, or completed?

• Outgrants/Use Agreements
  — Are use agreements in effect for portions of the property or for the entire site? If yes, where can these be obtained?
  — Are there outgrants for grazing, access, or research? If yes, describe the revenues generated and the procedure for processing them.

• Ingrants/Access Permits, Easements, and Licenses
  — Are there any access agreements that are needed for ongoing operations, reuse, or existing third-party activities? If yes, where can these be obtained?

• Others/General
  — Are there any other types of legal agreements that LM will need to consider accepting, maintaining, or be aware of?
  — What closeout actions, regarding agreements, are in progress that need to be completed?
  — Are there any state oversight Agreements in Principle to establish for LTS&M?

3.6 Notes:
4.0 Remedy Management

4.1 Compliance Strategy

- Technical Documents
  - Which documents describe the compliance strategies at the site? Where are they located or available? These may include:
    - Site characterizations (conceptual site models, risk assessments, feasibility studies)
    - Remedial Action Plans/activities/reports
    - Compliance documents
    - Closure documents
  - List any areas where LTS&M requirements are not yet defined.
  - Are LTS&M requirements established that will be incorporated into the long-term surveillance plan (see also Section 4.2)?

4.1 Notes:

4.2 Monitoring

- Sampling and Analysis
  - What sampling requirements will be required by LM and are they in place (e.g., surface water, air, groundwater, soil, biota, threatened and endangered species)?
  - What types of long-term monitoring are required by permits or other documents?
  - Obtain procedures and protocols for sampling and analyses.
  - What equipment and automated data collection systems are in use?

- Data Validation
  - What are the requirements and procedures for data validation?
  - Who is on the distribution list to receive various types of monitoring data (e.g., regulators, landowners, or lessees)? Is there an information repository receiving groundwater quality data? How do they receive the information?

- Database Management (See Section 6.0 for additional details)
- What real estate permits or instruments, such as access agreements, exist for monitoring? Are they in written form and, if so, where are the records?
4.3 Performance Evaluations

- Verification Process
  - What is the process for verifying that the remedy is operating properly and how is it documented?
  - How often is the remedy verified and who performs the verification?
  - What contingency plans are required and in place?
  - Obtain copies of procedures, plans, etc.
  - Who is on the distribution list for remedy verification reports?

4.4 Revegetation/Reclamation

- What are the revegetation/reclamation commitments for the site? What are the maintenance and inspection requirements for these measures?
- Is there, or will there need to be, noxious weed control for the site?
- Who will be responsible for the monitoring?

4.5 Institutional Controls (ICs)

- What ICs are necessary for any or all of the site for any medium (e.g., for groundwater, but not surface use)?
- What agreements that document required ICs, such as an environmental covenant with the state, a deed restriction with a landowner, have been prepared? Where are these instruments located and are they recorded?
- What are the physical controls that are in place or will be needed for the site (e.g., fencing, roads, signs, and other controls)? Are any of these physical ICs considered interim (e.g., temporary for clean-up action or security)? If so, when will they be terminated?
- Is there residual contamination on the site that requires administrative controls (e.g., mechanism to prohibit drilling or land disturbance)?
- Have the ICs been accepted/adopted by all parties that are affected?
  - If not, what is the process for reaching agreement?
  - How will the ICs be enforced?
4.6 Regulatory Reporting

- Identify reports, regulatory drivers, and due dates for all reporting requirements.

4.6 Notes:

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________________________________________________________________________
5.0 Records and Information Management Systems

5.1 Records Identification and Administration

- Identify the Licensee and contractor points-of-contact knowledgeable of the site records.
  - Identify agency and contractor points-of-contact for Freedom of Information Act (FOIA) and Privacy Act requests and responses.
    - What are the projected volumes and types of FOIA and Privacy Act requests at the time of closure?
  - Does the Licensee or contractor have any policies and procedures being used for records management? Has LM received copies of the current documents?
  - If applicable, identify agency and contractor points of contact for Energy Employees Occupational Illness Compensation Program Act (EEOICPA) and any other compensation programs.
  - Identify all reference/library collections and the Licensee and contractor points of contact for each.
    - Identify those required for LTS&M activities.

- Is a Records Transition Plan required? If so, when will it be completed?

- Does language in site contracts adequately address records ownership and disposition?

- Has an activity schedule been developed to identify information and records activities? If yes, does this schedule include actions, responsibilities, and milestones? Are updates adequate?

- Have all site records been inventoried and scheduled?
  - Does the inventory include volumes, media types, records schedule identification, and storage locations?
  - Are there any electronic records? If so, what is their planned disposition?
  - What indices, tracking databases, and finding aids are used?
  - Will training be provided to LM in the use of the finding aids, databases, and any other tools needed to access and retrieve information and records from the Licensee and its contractors?
  - Have copies of the transmittal and archive forms been provided (SF-135s and SF-258s)? What is the media (e.g., electronic and/or paper)?
  - Has an SF-115 been prepared for any unscheduled records?

- Have all records to be received by LM to support LTS&M been identified and segregated for post-closure maintenance of the site?
  - Has the media been identified and accepted by LM?
  - Has a process been established for their transfer?
• Have all records and information to be received by LM to support other LM post-closure activities been identified (e.g., records and information needed to support LM administration of contractor pensions and benefits)?

• Is an Administrative Record or similar information repository been created and maintained?
  — What are the requirements and is there a plan to manage the collection post-closure?
  — What is the volume and media?
  — Where will this collection be located after site turnover and who will have long-term maintenance?

• What are current and projected volumes and costs for records at records storage locations?

• Are there any special needs records (e.g., contaminated, damaged, deteriorating x-rays,)? If so, what is the plan of action for these records?

• Are there any records-related issues that will impact LM?

5.1 Notes:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
6.0 Environmental, Engineering, and Technical Information

6.1 Existing Engineered Systems and Structures
- Obtain the following drawing sets or documents associated with sitewide and remedy systems at transition:
  - Final design drawings
  - Design specifications
  - As-built drawings
  - Operating manuals and procedures

6.1 Notes:________________________________________________________________________

6.2 Official Land Survey
- Obtain the official land survey documents and drawings associated with
  - Plats
  - Other legal and real property instruments (deeds, restrictions, ICs, etc.)
  - Drawing and/or coordinate listing of all horizontal and vertical control points used to establish site features and legal boundaries. This must include the controlling monument and other set or found monuments.
  - Coordinate system information, geographic or projected (horizontal and vertical datums).
  - Coordinate system conversion information (if any information, data or drawings to be provided is in a modified or local system).

6.2 Notes:________________________________________________________________________

6.3 Site Mapping Features and Metadata
- Obtain detailed mapping information and metadata for the following in electronic format. (It is assumed that the information provided will be in a single geographic or projected coordinate system and that coordinate system information will also be provided).
  - Imagery (orthophotography, quad sheets, etc.)
  - Existing features
    - Political/institutional control boundaries
    - Vegetation/wetlands
    - Structures (buildings, tanks, fences, etc.)
    - Topography
    - Contamination areas (soil, groundwater, etc.)
    - Geology
- Water features (lakes, rivers, drainages, etc.)
- Easements/rights of way
- Property ownership (site boundary; land ownership, current and future; etc.), including surface and mineral ownership
- Land use (current and future)
- Transportation (roads, railroads, etc.)
- Survey control and other monuments
- Utilities (gas, electric, water, phone, other piping, etc.), both active and abandoned; utility corridors; and easements
  - Historical features (former features of historic significance)

6.3 Notes:

6.4 Environmental Monitoring Data

- Determine what databases/data sets exist and will likely be required for the following:
  - Basic site data (name, location, coordinate systems, etc.)
  - Sampling locations (both onsite and offsite)
  - Well/borehole construction/lithology data
  - Well/borehole construction/lithology logs
  - Well permit data
  - Sampling location access agreements
  - Chemistry data (water, soil, sediment, vegetation, biota, air filter, etc.)
  - Sampling field measurements
  - Water levels
  - Automated measurements
  - Pumping/flow data
  - Air monitoring data
  - Meteorological data
  - Ecological data (wildlife and plant surveys, etc.)
  - Radiation measurements
  - Standards, site-specific standards, permit limits, action levels, cleanup goals, etc.
  - Sampling plans

6.4 Notes:
7.0 Real Property

7.1 Real Property

- Identify and obtain documentation for the real property assets listed below. Real property assets are defined as any interest in land, together with the improvements, facilities, structures, and fixtures located thereon, including prefabricated movable structures and appurtenances thereto, under the control of DOE. Consider the following, as applicable:
  - Determine what interests will remain at closure both onsite and offsite, including land, easements, minerals, water rights, well permits, licenses, and permits.
  - Determine any other ingrants or outgrants proposed for transfer to LM.
  - Determine future land use for property.
  - Obtain as-built drawings for any remaining improvements and utilities.
  - Obtain existing maintenance/operations plans and procedures.
  - Perform a physical inspection of facility.

- Maps, Plats, and Exhibits
  - Where are the official land surveys, monumentation records, and cadastral surveys records stored and available for use?
  - Where are the official site maps, mineral rights maps, water rights maps, well permit maps, easement maps and legal descriptions, oil and gas lease maps, and tribal trust land maps stored and available for use?
  - Where are the master title plats, title plats, and county title plats stored and available for use?
  - Where are the legal descriptions and recorded data stored and available for use?
  - Where are the existing and abandoned utility improvement easements maps stored and available for use?

- Well Permits
  - What well permits exist for the United States?
  - Are there abandonment requirements by the state? Who is the state regulatory authority and point of contact?
  - List any offsite permits and access agreements. Provide copies of the records and instruments.

- Leasehold Interests
  - List any granted leaseholds to others (outgrants).

- Real Property Interests
  - List any real estate ICs, such as deed restrictions, covenants, zoning agreements, or easements.
  - Are there any restrictions on the use of airspace over the site? If yes, who is the point of contact?
7.2 **FIMS (Asset Management)**

- List any other structures that will remain. List any dam safety requirements or annual inspections and reports required. Consider the following:
  - Power generation systems
  - Treatment systems
  - Fencing
  - Disposal facilities
  - Electrical distribution stations
  - Extraction wells
  - Injection systems
  - Surface water structures (e.g., drainage channels, streams, dams, pond flow controls, flow diversions)

- What existing utilities will remain?
  - Identify types and names of service providers (e.g., transmission or service, electric, natural gas, domestic water, sewage)

7.3 **Reuse**

- Has the site been evaluated for reuse?
- Has reuse information been included in the LTSP?

7.0 Notes:

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8.0 Community Relations

8.1 Stakeholders

- Who are the major stakeholders and key individuals who may be interested in the site after transition?
- What is the relationship between the site and these entities (e.g., is it cooperative or adversarial)
- Have any major issues with any stakeholder groups been identified? Who is actively involved and what is the resolution status?
- How active are the stakeholders (what is their interest level, how organized are they)?
- How does the site communicate with the stakeholder groups?

8.2 Contact Information

- Obtain electronic copies of key contacts mailing lists.
- Has all stakeholder contact information been provided to the LM Stakeholder database?
- Will information be made available to the public via the LM Website?

8.3 Websites

- Have all the required documents and links for the site website been identified and generated?
  — Site Fact Sheet
  — LTSP
  — Inspection/Sampling Schedule
  — Annual Inspection Reports
  — Regulatory Framework
  — Additional Site-Specific Documents

8.1 Notes: ____________________________________________________________

8.2 Notes: ____________________________________________________________

8.3 Notes: ____________________________________________________________