

**ENVIRONMENTAL PROTECTION AGENCY****40 CFR Part 300**

[FRL-7542-7]

**National Oil and Hazardous Substances Pollution Contingency Plan; National Priorities List****AGENCY:** Environmental Protection Agency.**ACTION:** Direct final notice of partial deletion of the Monticello Mill Tailings (USDOE) Superfund Site from the National Priorities List.**SUMMARY:** The Environmental Protection Agency (EPA), Region 8, is publishing a direct final notice of partial deletion of the Monticello Mill Tailings (USDOE) Superfund Site (the Site), located in Monticello, Utah, from the National Priorities List (NPL).

The NPL, promulgated pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, is appendix B of 40 CFR part 300, which is the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This direct final notice of partial deletion is being published by EPA because EPA has determined that all appropriate response actions under CERCLA have been completed and, therefore, further remedial action pursuant to CERCLA is not appropriate. The State of Utah, through the Utah Department of Environmental Quality (UDEQ), concurs with the decision for partial deletion of the Site from the NPL provided that no adverse comments are received during the public comment period.

Partial deletion of an NPL site is provided for under the Partial Deletion Rule (November 1, 1995), which allows EPA to delete portions of NPL sites provided that deletion criteria are met. This partial deletion pertains to a portion of the Site designated as the Operable Unit (OU) II Non-Surface and Ground-Water Impacted Peripheral Properties, which are located within OU II of the Site. The OU II Non-Surface and Ground-Water Impacted Peripheral Properties are 22 of the 34 total properties that comprise OU II. These 22 properties were selected for deletion from the NPL because the primary contaminants of concern, radioactive materials in soils and sediment, have been removed to levels protective of human health and the environment, and because no radiological or nonradiological contamination is present in surface water or ground water

located on these properties. The remainder of the Site, which includes OU I, the 12 other properties within OU II, and contaminated surface water and/or ground water located on OUs I and II (designated as OU III), will remain on the NPL. Radioactive materials in soils and sediment have been removed from OU I and the 12 other properties within OU II; however, radiological contamination and other nonradiological contaminants of concern, such as arsenic, selenium, and vanadium, persist in the surface water and/or ground water in these areas.

**DATES:** This direct final partial deletion will be effective October 14, 2003, unless EPA receives adverse comments by September 12, 2003. If adverse comments are received, EPA will publish a timely withdrawal of the direct final partial deletion in the **Federal Register** informing the public that the partial deletion will not take effect.

**ADDRESSES:** Comments may be mailed to: Mr. Paul Mushovic (8EPR-F), Remedial Project Manager, U.S. EPA Region 8, 999 18th Street, Suite 300, Denver, Colorado 80202-2466, *mushovic.paul@epa.gov*, (303) 312-6662 or 1-800-227-8917.

**Information Repositories:** Comprehensive information about the Site is available for viewing and copying at the Site information repositories located at: U.S. Department of Energy-Grand Junction Office (DOE-GJO) Public Reading Room, 2597 B ¾ Road, Grand Junction, Colorado 81503, (970) 248-6089, Monday through Friday 7:30 a.m. to 4 p.m.; U.S. DOE Repository Site Office, 7031 South Highway 191, Monticello, Utah 84535, (435) 587-2098, Monday through Friday 8 a.m. to 5 p.m., or by appointment.

**FOR FURTHER INFORMATION CONTACT:** For information regarding Site deletion, contact Mr. Paul Mushovic (8EPR-F), Remedial Project Manager, U.S. EPA Region 8, 999 18th Street, Suite 300, Denver, Colorado 80202-2466, *mushovic.paul@epa.gov*, (303) 312-6662 or 1-800-227-8917. For other general Site information, contact Mr. Art Kleinrath, Program Manager, U.S. DOE, 2597 B ¾ Road, Grand Junction, Colorado 81503, *art.kleinrath@gjo.doe.gov*, (970) 248-6037, or Mr. David Bird, Project Manager, State of Utah Department of Environmental Quality, 168 North 1950 West, Salt Lake City, Utah 84116, (801) 536-4219.

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**I. Introduction**

EPA Region 8 is publishing this direct final notice of partial deletion of the Monticello Mill Tailings (USDOE) Superfund Site (the Site) from the NPL.

The EPA identifies sites that appear to present a significant risk to public health or the environment and maintains the NPL as the list of those sites. As described in 40 CFR 300.425(e)(3) of the NCP, sites deleted from the NPL remain eligible for remedial actions if conditions at a deleted site warrant such action.

Because EPA considers this action to be noncontroversial and routine, EPA is taking it without prior publication of a notice of intent to partially delete. This action will be effective October 14, 2003 unless EPA receives adverse comments by September 12, 2003 on this document. If adverse comments are received within the 30-day public comment period on this document, EPA will publish a timely withdrawal of this direct final partial deletion before its effective date and the partial deletion will not take effect. In such case, EPA will, as appropriate, prepare a response to comments and continue with the deletion process on the basis of the notice of intent to partially delete and the comments already received. There will be no additional opportunity to comment.

Section II of this document explains the criteria for deleting or partially deleting sites from the NPL. Section III discusses procedures that EPA is using for this action. Section IV discusses the Site and demonstrates how it meets the partial deletion criteria. Section V discusses EPA's action to partially delete the Site from the NPL unless adverse comments are received during the public comment period.

**II. NPL Deletion Criteria**

Section 300.425(e) of the NCP provides that releases may be deleted from the NPL where no further response is appropriate. Section 300.425(e) of the NCP governs partial deletions of releases from the NPL in the same manner. In making a determination to delete or partially delete a release from the NPL, EPA shall consider, in consultation with the State, whether any of the following criteria have been met:

Section 300.425(e)(1)(i): Responsible parties or other persons have implemented all appropriate response actions required;

Section 300.425(e)(1)(ii): All appropriate Fund-financed (Hazardous

Substance Superfund Response Trust Fund) response under CERCLA has been implemented, and no further response action by responsible parties is appropriate; or

Section 300.425(e)(1)(iii): The remedial investigation has shown that the release poses no significant threat to public health or the environment and, therefore, the taking of remedial measures is not appropriate.

Even if a site is partially deleted from the NPL, where hazardous substances, pollutants, or contaminants remain at the deleted portion of the site above levels that allow for unlimited use and unrestricted exposure, CERCLA section 121(c), 42 U.S.C. 9621(c) requires that a subsequent review of the site be conducted at least every five years after the initiation of the remedial action at the site to ensure that the action remains protective of public health and the environment. If new information becomes available which indicates a need for further action, EPA may initiate remedial actions. Whenever there is a significant release at a site partially deleted from the NPL, the deleted portion may be restored to the NPL without application of the hazard ranking system.

### III. Deletion Procedures

The following procedures apply to the deletion of the OU II Non-Surface and Ground-Water Impacted Peripheral Properties portion of the Site from the NPL:

(1) The EPA consulted with the State of Utah (UDEQ) on the partial deletion of the Site from the NPL prior to developing this direct final notice of partial deletion.

(2) The State of Utah (UDEQ) concurred with partial deletion of the Site from the NPL provided that no adverse comments are received during the public comment period.

(3) Concurrently with the publication of this direct final notice of partial deletion, a notice of the availability of the parallel notice of intent to partially delete published today in the "Proposed Rules" section of the **Federal Register** is being published in a major local newspaper of general circulation at or near the Site and is being distributed to appropriate federal, state, and local government officials and other interested parties. The newspaper notice announces the 30-day public comment period concerning the notice of intent to partially delete the Site from the NPL.

(4) The EPA placed copies of documents supporting the partial deletion in the Site information repositories identified above.

(5) If adverse comments are received within the 30-day public comment period on this document, EPA will publish a timely withdrawal of this direct final partial deletion before its effective date and will prepare a response to comments and continue with the deletion process on the basis of the notice of intent to partially delete and the comments already received.

Deletion or partial deletion of a site from the NPL does not itself create, alter, or revoke any individual's rights or obligations. Deletion or partial deletion of a site from the NPL does not in any way alter EPA's right to take enforcement actions, as appropriate. The NPL is designed primarily for informational purposes and to assist EPA management. Section 300.425(e)(3) of the NCP states that the deletion of a site from the NPL does not preclude eligibility for future response actions, should future conditions warrant such actions. Section 300.425(e)(3) of the NCP governs partial deletion of a site from the NPL in the same manner.

### IV. Basis For Partial Site Deletion

The following information provides EPA's rationale for deletion of the OU II Non-Surface and Ground-Water Impacted Peripheral Properties portion of the Site from the NPL:

#### *Site Location*

The Site is located in and adjacent to (primarily southeast) the City of Monticello (City), San Juan County, Utah. The Site consists of 36 private and public properties covering approximately two square miles. The Site is divided into OU I (the former Millsite and repository south of the Millsite), OU II (properties near the former Millsite, referred to as peripheral properties, primarily contaminated with windblown tailings, and properties with contaminated sediment from Montezuma Creek), and OU III (surface water and/or ground water contamination). The partial deletion area of the Site, designated as the OU II Non-Surface and Ground-Water Impacted Peripheral Properties, covers approximately one square mile within OU II. The OU II Non-Surface and Ground-Water Impacted Peripheral Properties are 22 of the 34 total properties that comprise OU II. These 22 properties are primarily vacant land, with portions of some properties being used for agricultural purposes. The following table lists the 22 OU II Non-Surface and Ground-Water Impacted Peripheral Properties that comprise the partial deletion area.

### MONTICELLO MILL TAILINGS (USDOE) SITE OU II NON-SURFACE AND GROUND-WATER IMPACTED PERIPHERAL PROPERTIES

Property DOE identification No.	Property location
MP-00105-VL ...	Parcel No. A33240316000 San Juan County Monticello, Utah
MP-00178-RS ..	Parcel No. A33240310008 San Juan County Monticello, Utah
MP-00180-CS ..	Parcel No. A33240313605 San Juan County Monticello, Utah
MP-00198-VL ...	Parcel No. A33240312409 San Juan County Monticello, Utah
MP-00211-VL ...	Parcel No. A33230367200 San Juan County Monticello, Utah
MP-00845-VL ...	Parcel No. A33240313604 San Juan County Monticello, Utah
MP-00886-VL ...	Parcel No. A33230369007 San Juan County Monticello, Utah
MP-00887-VL ...	Parcel No. A33230369000 San Juan County Monticello, Utah
MP-00888-VL ...	Parcel No. A33230369006 San Juan County Monticello, Utah
MP-00947-VL ...	Parcel No. 33S24E317201 San Juan County Monticello, Utah
MP-00948-VL ...	Parcel No. A33240310013 San Juan County Monticello, Utah
MP-00949-RS ..	Parcel No. A33240310014 San Juan County Monticello, Utah
MP-00950-VL ...	Parcel No. A33240310015 San Juan County Monticello, Utah
MP-00963-OT ..	Parcel No. A33240314200 San Juan County Monticello, Utah
MP-00964-VL ...	Parcel No. A33240312408 San Juan County Monticello, Utah
MP-00988-VL ...	Parcel No. 33S24E325400 San Juan County Monticello, Utah
MP-01040-VL (North Portion).	Parcel No. 34S24E061200 San Juan County Monticello, Utah
MP-01041-VL ...	Parcel No. 34S24E060600 San Juan County Monticello, Utah
MP-01042-VL ...	Parcel No. 34S24E060000 San Juan County Monticello, Utah
MP-01081-VL ...	Parcel No. 34S24E052400 San Juan County Monticello, Utah
MP-01083-MR ..	Parcel No. A33230317203 San Juan County Monticello, Utah
MP-01102-VL ...	Parcel No. A33240313610 San Juan County Monticello, Utah

A Locational Data Package that provides the latitudinal/longitudinal coordinates and a map of the Site and the OU II Non-Surface and Ground-Water Impacted Peripheral Properties is available to the public in the Site information repositories identified above.

#### Site History

The Monticello Millsite, located within OU I of the Site, was constructed with government funding in 1942 by the Vanadium Corporation of America (VCA) to provide vanadium, a steel hardener, during World War II. Vanadium was produced through the milling of uranium-bearing ore. The VCA operated the Millsite until early 1944 and again from 1945 through 1946, producing vanadium as well as a uranium-vanadium sludge for the Manhattan Engineer District. The U.S. Atomic Energy Commission (AEC) purchased the Millsite in 1948. Uranium and vanadium milling operations began again in 1949 under the auspices of the AEC. Vanadium milling operations ceased in 1955, with uranium milling continuing until 1960 when the Millsite was permanently closed. Four piles of tailings, the processing wastes remaining from uranium ore milling, were left at the Millsite following the cessation of milling operations. The total volume of tailings and soil mixed with tailings in these four piles was originally estimated to be approximately 1,570,000 cubic yards.

The tailings had significant radioactivity, especially from the presence of radium-226 (Ra-226), and contained certain potentially toxic, nonradioactive metals. Properties in and around the City became contaminated primarily by windblown tailings from these four piles. Tailings from the Millsite also were used as construction material and backfill on properties in and around the City. In addition, tailings were transported from the Millsite to downstream properties via Montezuma Creek. The Millsite and certain surrounding properties also became contaminated with residues from ore stockpiles and with by-product materials generated during Millsite operations. It was originally estimated that properties outside the boundary of the Millsite contained approximately 400,000 cubic yards of tailings-contaminated soils. Surface water and ground water on the Millsite and on certain properties outside the boundary of the Millsite became contaminated with radioactive materials and with toxic nonradioactive metals associated

with tailings, such as arsenic, selenium, and vanadium.

In 1961, the four tailings piles were stabilized and covered with uncontaminated rock and dirt to minimize the spread of contamination. Millsite buildings and equipment also were dismantled, some of which were buried on the Millsite. In 1974–1975, additional contouring of the Millsite and demolition of the mill foundations were undertaken to reduce exposure levels. In 1980, the Monticello Millsite was accepted into the U.S. Department of Energy's Surplus Facilities Management Program (SFMP), which was established for caretaking and decommissioning of inactive government facilities that still had radiological contamination. Also in 1980, the U.S. Department of Energy-Grand Junction Office (DOE-GJO) established the Monticello Remedial Action Project (MRAP) to isolate tailings-related sources and thereby prevent them from causing harm to human health or the environment.

Two separate NPL sites were established in the Monticello area because of the spread of radioactive mill tailings. On June 10, 1986, the Monticello Vicinity Properties (MVPs), which eventually totalled 424 private and commercial properties in the City, were established as the first NPL site, designated as the Monticello Radioactive Contaminated Properties (51 FR 21054 (June 10, 1986)). Mill tailings removed from the Monticello Radioactive Contaminated Properties Site were stockpiled temporarily at the Millsite pending final disposal in the repository south of the Millsite. Once removal of tailings-related contamination in accordance with project cleanup standards was completed, the Monticello Radioactive Contaminated Properties Site was fully deleted from the NPL on February 28, 2000 (64 FR 73423 (December 30, 1999)).

The Monticello Mill Tailings (USDOE) Superfund Site (the Site) was the other NPL site established in the Monticello area. In December 1988, EPA, UDEQ, and DOE entered into a Federal Facility Agreement (FFA), pursuant to section 120 of CERCLA, 42 U.S.C. 9620, to facilitate remediation of the Site. The FFA established that the DOE was a responsible party (RP) and the lead agency for remediation at the Site. The DOE-GJO was tasked with providing principal staff and resources to plan and implement response actions at the Site. The EPA was identified as the lead regulatory agency with ultimate responsibility and authority for oversight of activities performed by

DOE-GJO, but it was to share its decision making with UDEQ. In June 1989, prior to the Site being placed on the NPL, remedial action was initiated at the Site at one of the 22 OU II Non-Surface and Ground-Water Impacted Peripheral Properties. The EPA placed the Site on the NPL on November 21, 1989 (54 FR 48184 (November 21, 1989)). Removal of tailings-related contamination in accordance with project cleanup standards was completed at the last of the OU II Non-Surface and Ground-Water Impacted Peripheral Properties in January 2000. The EPA, UDEQ, and DOE-GJO agreed on March 28, 2000, that deletion of the Site from the NPL would be accomplished with partial deletions. Deletion of the OU II Non-Surface and Ground-Water Impacted Peripheral Properties from the NPL was deemed appropriate because radioactive materials in soils and sediment had been removed to levels protective of human health and the environment and because no radiological or nonradiological contamination was present in surface water or ground water located on these properties.

#### Remedial Investigation and Feasibility Study (RI/FS)

The RI/FS for the Site was completed in January 1990. The RI determined that Millsite operations had resulted in the spread of tailings-related contamination to the soil, surface water, ground water, and air. Most soils on the Millsite (OU I) were found to be contaminated with tailings and ore, some to a depth of 18 feet. Soils contaminated with tailings and ore were also identified on at least 200 acres of the peripheral properties (OU II) located adjacent to the Millsite. Tailings-contaminated sediments (OU II), transported off the Millsite by Montezuma Creek, were found approximately three miles down-gradient from the Millsite boundary. Radiological contamination was also detected in surface water (OU III) (Montezuma Creek) approximately three miles down-gradient from the Millsite boundary. Radiological contamination and other nonradiological contaminants of concern, such as molybdenum, selenium, and vanadium, were detected in ground water (OU III) beneath the Millsite and beneath properties located approximately 4,600 feet down-gradient from the Millsite boundary. Air at all locations sampled within the Millsite boundary was found to be contaminated with radon gas.

Besides characterizing the extent of contamination on the Site, analytical data collected for the RI were used to perform human health risk assessments.

These assessments addressed the health risks posed by both the radiological and nonradiological contaminants associated with tailings. The primary tailings-related radiological contaminants of concern were gamma radiation and radon gas. The highest risk tailings-related nonradiological contaminants of concern included arsenic, copper, lead, molybdenum, selenium, uranium, vanadium, and zinc.

The FS evaluated alternatives for remediation of the Site for each of OUs I, II, and III. The analytical data collected for the RI were used in the development and evaluation of these alternatives. The remedial alternatives evaluated for OUs I and II ranged from no action to removal of tailings contamination to a licensed off-site facility. The remedial alternatives evaluated for OU III ranged from no action to active ground and surface water collection, treatment, and discharge.

#### *Record of Decision Findings*

A Record of Decision (ROD) for the Site was signed by UDEQ and EPA on August 21 and 22, 1990, respectively. The ROD identified the selected remedy for remediation of OUs I and II. Because the selected remedy for remediation of OU III was dependent on the implementation of the selected remedy for OUs I and II and its effect on ground and surface water contamination, it was determined that a separate ROD would be issued for OU III at a later date. A ROD for an Interim Remedial Action at OU III was signed by EPA and UDEQ in September 1998. The interim selected remedy was to allow for passive treatment of contaminated ground water through natural flushing and to implement institutional controls that would limit access to ground water pending the collection of sufficient data to develop a final OU III ROD. Contamination in surface water was expected to diminish as a result of the removal of the source (tailings contamination) from OUs I and II and natural flushing of the ground water.

The selected remedy for remediation of OUs I and II of the Site, including the OU II Non-Surface and Ground-Water Impacted Peripheral Properties, was to remove radioactive materials to meet specific cleanup standards, modify existing structures to isolate radon sources from inhabitants, and restore with clean materials. Cleanup activities required excavation and, in some cases, demolition of structures and other property improvements. All affected structures and other improvements were reconstructed or the owner was compensated based on their current

value. The selected remedy also allowed for the implementation of supplemental standards and institutional controls such that tailings contamination exceeding the cleanup standards was permitted to remain on certain properties where cleanup would cause excessive risk of injury to workers or the public, where cleanup would cause excessive environmental damage, and/or where cleanup costs would be excessive relative to the benefits. Excavated materials were disposed of in a repository that was built approximately one mile south of the Millsite.

The ROD stipulated numerous applicable or relevant and appropriate requirements (ARARs) to govern remedial actions on OUs I and II. The following ARARs, used for the remediation of the OU II Non-Surface and Ground-Water Impacted Peripheral Properties, established contaminant-specific limits for the cleanup of radiologically contaminated soils and sediments:

- 40 CFR part 192—Sets forth contaminant-specific numerical cleanup standards for Ra-226, radon decay products, and gamma radiation at 40 CFR 192.12. Criteria for using supplemental standards in lieu of the numerical cleanup standards set forth at 40 CFR 192.12 are provided at 40 CFR 192.21.

- DOE's Guidelines for Residual Radioactive Material at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites (FUSRAP/SFMP)—Provides additional guidelines for cleanup of radiological contamination that exceeds the numerical standards of 40 CFR 192.12 that is located in an area of a given size (DOE "hot spot" criteria).

- Resource Conservation and Recovery Act (RCRA)—Identified as a potential ARAR with regard to the management of any hazardous wastes encountered during remediation that were not governed by the cleanup standards set forth at 40 CFR part 192.

- DOE Order 5400.5 "Radiation Protection of the Public and Environment"—This was not an ARAR identified in the ROD but was implemented to guide the cleanup of uranium materials on property MP-00211-VL, one of the OU II Non-Surface and Ground-Water Impacted Peripheral Properties.

- EPA Region III Risk-Based Concentration Table (First Quarter 1995)—This was not an ARAR identified in the ROD but was implemented to guide the cleanup of certain nonradiological hazardous

substances associated with uranium yellow cake, which was discovered during the remediation of property MP-00211-VL.

- State of Utah Underground Storage Tank Rules—This was not an ARAR identified in the ROD but was implemented to guide the excavation and disposal of underground storage tanks and associated wastes that were discovered during the remediation of certain Site properties.

The ROD stipulated that design components for the repository built south of the Millsite would be based on standards specified in 40 CFR 192.02, the Uranium Mill Tailings Radiation Control Act of 1978, the Uranium Mill Tailings Remedial Action (UMTRA) Program, and on standards that would enable the repository to meet the requirements for a RCRA Subtitle C hazardous waste disposal facility.

#### *Characterization of Risk*

The RI/FS identified gamma radiation and radon gas as the primary radiological contaminants of concern associated with uranium and vanadium mill tailings. Health risk assessments identified exposure to gamma radiation and inhalation of radon and radon daughters as the two most significant potential direct exposure pathways to these radiological contaminants. Gamma radiation emanates from tailings and delivers a radioactive dose to the entire body. Radon-222 and daughter products, which decay from Ra-226 contained in the tailings and migrate into the atmosphere, emit alpha radiation that affects the lungs when inhaled.

The RI/FS also identified the following eight elements as the highest tailings-related nonradiological contaminants of concern due to their potential chemical toxicity: arsenic, copper, lead, molybdenum, selenium, uranium, vanadium, and zinc (uranium was considered to be a higher risk due to chemical toxicity rather than radioactivity). The RI/FS health risk assessments determined that the two most significant potential exposure pathways to these nonradiological contaminants were ingestion of contaminated vegetables and ingestion of contaminated beef. These were considered to be indirect exposure pathways resulting from contaminated surface water being used to irrigate fields and water livestock, thereby introducing the nonradiological contaminants into the food chain. Direct exposures to the nonradiological contaminants through contact with contaminated soil, water, or air were determined to be negligible health risks.

Contact with contaminated water, the most significant potential direct exposure pathway, was considered to be a negligible health risk because contaminated surface and ground waters were not used as sources for drinking water.

Assessment of the various environmental media on the Site determined that certain contaminants of concern were within acceptable human health risk ranges and others were not. However, as established in the ROD, remediation of uranium mill tailings to meet specific cleanup standards was required on the Site regardless of risk assessment results. The numerical and supplemental cleanup standards set forth at 40 CFR part 192 for Ra-226, radon, and gamma radiation were the principal standards used to define acceptable health risk levels on the Site, including the OU II Non-Surface and Ground-Water Impacted Peripheral Properties. There were no human health risks associated with surface water or ground water located on the OU II Non-Surface and Ground-Water Impacted Peripheral Properties because these media were not contaminated on these properties.

All properties comprising the Site, including the OU II Non-Surface and Ground-Water Impacted Peripheral Properties, were individually evaluated to determine the presence of radiological contamination. After obtaining access permission from the property owner(s), a radiological inclusion survey was conducted by DOE-GJO or a DOE-GJO contractor to determine whether the property qualified for inclusion into the Site cleanup project. The property was excluded from the project and no further action was taken when radiological contamination exceeding project cleanup standards was not detected. When contamination exceeding project cleanup standards was detected, the property was included by DOE-GJO into the Site cleanup project.

The property owner(s) signed a Remedial Action Agreement (RAA), which granted access to the property for surveys and construction and defined any construction completion requirements or remuneration for dislocation or structure demolition. A DOE-GJO contractor performed a detailed radiological assessment survey of the property that was used as the basis for the Remedial Action Design (RAD) and cost estimate. When the presence of nonradiological hazardous substances was suspected, the property was surveyed to determine whether remediation of nonradiological

hazardous substances was required. A RAD report was approved by DOE-GJO and concurred with by UDEQ. The RAD report presented the assessment survey results and the design for remedial action for the property.

#### *Response Actions*

Radioactive materials, primarily in the form of soil contaminated with uranium mill tailings and residues from ore stockpiles, were removed from the OU II Non-Surface and Ground-Water Impacted Peripheral Properties. Remedial activities consisted of the following:

- Excavation of contaminated material from the OU II Non-Surface and Ground-Water Impacted Peripheral Properties began in June 1989. All contaminated soil and construction materials exceeding the cleanup standards specified in 40 CFR 192.12, except where supplemental standards were implemented, were excavated and disposed by the DOE-GJO Remedial Action Contractor (RAC).

- After removal of contaminated material and before backfilling, verification surveys were performed by the DOE-GJO RAC to demonstrate compliance with the 40 CFR 192.12 cleanup standards. For the supplemental standards properties and property MP-00211-VL, verification surveys were performed to demonstrate compliance with property-specific cleanup levels corresponding with current land use scenarios. Verification surveys were completed on the OU II Non-Surface and Ground-Water Impacted Peripheral Properties by January 2000.

- Post-construction monitoring of radon levels was performed, where applicable, to verify compliance with 40 CFR 192.12 cleanup standards.

- Backfill was placed in excavated areas and properties were reconstructed to a physical condition comparable to that which existed before remedial activities.

- EPA, UDEQ, and DOE-GJO conducted numerous Site visits throughout the course of remedial activities, including at the OU II Non-Surface and Ground-Water Impacted Peripheral Properties, to observe assessment surveys, remedial action, verification sampling, and restoration.

- Contaminated material removed from the OU II Non-Surface and Ground-Water Impacted Peripheral Properties was disposed in a repository built approximately one mile south of the former Millsite. The repository, part of OU I of the Site, contains a double high density polyethylene (HDPE) liner with a leak detection system, thereby

meeting the functional equivalence of a RCRA Subtitle C hazardous waste disposal facility. The repository cover is approximately 8.5 feet thick and includes a radon barrier.

- The DOE-GJO RAC prepared a Property Completion Report (PCR) for each of the remediated OU II Non-Surface and Ground-Water Impacted Peripheral Properties. The PCRs document the remedial activities performed for each property, including assessment results, verification surveys, and volumes and areas excavated. EPA and UDEQ approved all PCRs for the OU II Non-Surface and Ground-Water Impacted Peripheral Properties by March 5, 2001.

- Advanced Infrastructure Management Technologies (AIMTech) (formerly Oak Ridge National Laboratory (ORNL)), the DOE-GJO independent verification contractor (IVC), performed verification of field surveys and measurements, physical sampling, and laboratory analyses for 10 percent of the Site properties. AIMTech performed 100 percent reviews for DOE-GJO RAC documents that reported remedial activities for the OU II Non-Surface and Ground-Water Impacted Peripheral Properties.

- The DOE-GJO RAC prepared a Remedial Action Report (RAR) for the OU II Non-Surface and Ground-Water Impacted Peripheral Properties. The RAR summarizes the remedial actions completed on the properties, the performance standards used to direct the remedial actions, the cost of the remedial actions, and the operations required to preserve the effectiveness of the remedial actions. UDEQ and EPA approved the RAR on May 18, 2001, and June 4, 2001, respectively.

#### *Cleanup Standards*

Cleanup standards associated with radioactive materials in tailings-contaminated soils and sediment were the primary standards used to define acceptable health risk levels and to guide remediation efforts for the OU II Non-Surface and Ground-Water Impacted Peripheral Properties. No radiological or nonradiological contamination was identified in surface water or ground water located on these properties, therefore cleanup standards associated with these media were not applicable. Gamma radiation and radon gas were identified as the primary tailings-related radiological contaminants of concern. Reduction of gamma radiation and radon gas associated with uranium mill tailings was achieved through the cleanup of Ra-226. The principal source of radiological cleanup standards used for the

remediation of the OU II Non-Surface and Ground-Water Impacted Peripheral Properties, 40 CFR 192.12, specifies the following maximum allowable Ra-226 concentrations for land:

- 5 picocuries per gram (pCi/g) above background in the first 15 centimeters (cm) of soil, averaged over 100 square meters (m<sup>2</sup>) (the background Ra-226 concentration for Monticello is approximately 1.0 pCi/g); and
- 15 pCi/g above background in any 15-cm interval more than 15 cm below the surface, averaged over 100 m<sup>2</sup>.

40 CFR 192.12 specifies the following maximum allowable radon concentrations and gamma radiation levels for occupied or habitable structures:

- Radon decay-product concentrations (RDCs): less than 0.02 working level (WL) to the extent practicable, and shall not exceed 0.03 WL; and
- Gamma exposure rates: a maximum of 20 microroentgens per hour (μR/h) above background (the background gamma exposure rate for Monticello is approximately 15 μR/h).

In conjunction with the cleanup standards set forth at 40 CFR 192.12, the "hot spot" criteria specified in the DOE's Guidelines for Residual Radioactive Material at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites (FUSRAP/SFMP) were considered for cleanup standards. The DOE hot spot criteria specify the maximum radionuclide concentration allowable for a deposit of contamination of a given size that is still protective of human health and the environment.

Supplemental standards, as provided for in 40 CFR 192.21, were implemented in lieu of the 40 CFR 192.12 cleanup standards for the following OU II Non-Surface and Ground-Water Impacted Peripheral Properties. The supplemental standards were developed on a case-by-case basis and were based on health risk assessments. UDEQ and EPA approved the application for these supplemental standards on June 17, 1999, and July 1, 1999, respectively:

- Supplemental standards were implemented for radiologically contaminated material located in an environmentally sensitive piñon/juniper area on property MP-01041-VL. Supplemental standards were implemented on this property because remedial action would directly produce environmental harm that is clearly excessive compared to the health benefits (40 CFR 192.21(b)), and because the cost of remedial action would be unreasonably high relative to the long-

term benefits and the residual radioactive materials do not pose a clear present or future hazard (40 CFR 192.21(c)). The supplemental standards permitted radiological contamination exceeding the 40 CFR 192.12 cleanup standards to remain in place. In conjunction with the supplemental standards, institutional controls were implemented that will limit future public exposure to any remaining radiological contamination. The institutional controls, recorded in the San Juan County Courthouse, restrict ownership to a public entity, require the owner to manage the property as publicly accessible open space, prohibit the construction of habitable structures, limit land use to day-use recreation, and prohibit the removal of soil from the property. Institutional controls also include fencing to direct traffic to defined entry and exit points and a requirement for DOE to conduct regular inspections to ensure the selected remedy remains protective of human health and the environment.

- Supplemental standards were implemented for radiologically contaminated material associated with city-owned street and utility rights-of-way. Radiological contamination associated with city-owned street and utility rights-of-way was confirmed on property MP-00180-CS, and may exist within city-owned street and utility rights-of-way located on other OU II Non-Surface and Ground-Water Impacted Peripheral Properties. Supplemental standards were implemented on city-owned street and utility rights-of-way because the cost of remedial action would be unreasonably high relative to the long-term benefits and the residual radioactive materials do not pose a clear present or future hazard (40 CFR 192.21(c)). The supplemental standards permitted radiological contamination exceeding the 40 CFR 192.12 cleanup standards to remain in place. In conjunction with the supplemental standards, institutional controls were implemented that will limit future public exposure to any remaining radiological contamination. The institutional controls, established through a Cooperative Agreement between DOE and the City, require that city-owned street and utility rights-of-way remain open as public rights-of-way without any structures or encumbrances, define the responsibilities of DOE and the City with regard to excavating these areas and managing any radiological contamination that is encountered, and require DOE to conduct inspections to ensure the selected remedy remains

protective of human health and the environment.

Property-specific cleanup standards for contaminants in addition to those addressed in 40 CFR 192.12 were established for one property, MP-00211-VL. Cleanup standards were established for thorium-230 (Th-230), uranium, and vanadium for the Phase I portion of MP-00211-VL because of the presence of uranium yellow cake. The maximum allowable Th-230, uranium, and vanadium concentrations for Phase I of MP-00211-VL were:

- Th-230: 15 pCi/g above background in any 15-cm interval of soil more than 15 cm below the surface, averaged over 100 m<sup>2</sup> (derived from the DOE FUSRAP/SFMP guidance);
- Total uranium: 6,100 milligrams per kilogram (mg/kg) (approximately 4,290 pCi/g) in any 15-cm-thick layer of soil, averaged over 100 m<sup>2</sup> (derived from the EPA Region III Risk-Based Concentration Table, Soil Ingestion, Industrial Setting (First Quarter 1995)); and
- Total vanadium: 14,000 mg/kg in any 15-cm-thick layer of soil, averaged over 100 m<sup>2</sup> (derived from the EPA Region III Risk-Based Concentration Table, Soil Ingestion, Industrial Setting (First Quarter 1995)).

Cleanup standards were established for uranium for the Phase II portion of MP-00211-VL because of the proximity of this area to the former mill processing plant. The maximum allowable uranium concentration for Phase II of MP-00211-VL was:

- Total uranium: 300 pCi/g in any 15-cm-thick layer of soil, averaged over 100 m<sup>2</sup> (developed to meet the general radiation protection standards specified in DOE Order 5400.5 "Radiation Protection of the Public and the Environment").

The cleanup standards for these additional contaminants for MP-00211-VL are appropriate for the current industrial/recreational land use of this property. In conjunction with these additional cleanup standards, institutional controls were implemented that will limit public exposure to any remaining contamination should the land use change to residential in the future. The institutional controls, implemented through a zoning restriction (City Ordinance No. 2003-2), prohibit the construction of habitable structures on the property unless certain conditions prescribed by the zoning restriction are met. These conditions include a requirement for DOE to survey the excavated foundation footprint of any habitable structure being constructed to check for the presence of uranium. The zoning restriction also

defines the responsibilities of DOE and the City should the noted contaminants be encountered on the property in the future.

Cleanup requirements specified in the Utah Administrative Code, Title R311, "Utah Underground Storage Tank Rules," were used for the remediation of a leaking diesel fuel underground storage tank (UST) and associated petroleum-contaminated soils encountered on Phase I of MP-00211-VL. The abandoned UST and petroleum-contaminated soils were disposed in the repository south of the Millsite. The petroleum contamination that remains at MP-00211-VL in association with these remediated materials is at levels that allow unlimited use or unrestricted exposure.

In summary, radioactive materials in tailings-contaminated soils and sediment and additional contaminants have been removed from the OU II Non-Surface and Ground-Water Impacted Peripheral Properties to meet the prescribed cleanup standards for the current land use. The attainment of these cleanup standards signifies that acceptable health risk levels have been achieved.

*Operation and Maintenance*

To ensure the long-term effectiveness of the selected remedy, the following OU II Non-Surface and Ground-Water Impacted Peripheral Properties where supplemental standards were implemented for radiological contamination left in place have been included in DOE's Long Term Surveillance and Maintenance (LTSM) Program: property MP-01041-VL and properties such as MP-00180-CS where radiological contamination remains in association with city-owned street and utility rights-of-way. The LTSM Program will monitor these properties to confirm that the supplemental standards and the previously described institutional controls are maintained to limit future public exposure to any remaining radiological contamination. In addition, the LTSM Program will monitor property MP-00211-VL to confirm that the appropriate zoning restriction conditions are maintained to limit exposure to any remaining contamination. Monitoring of property MP-00211-VL includes a procedure for surveying the excavated foundation footprint of any habitable structure being constructed for the presence of uranium. No other operation and maintenance is required on the OU II Non-Surface and Ground-Water

Impacted Peripheral Properties to preserve the selected remedy.

*Five-Year Review*

Pursuant to CERCLA section 121(c), DOE must conduct statutory CERCLA Five-Year Reviews for the OU II Non-Surface and Ground-Water Impacted Peripheral Properties because contamination remains at certain properties above levels that allow unlimited use or unrestricted exposure. These are the previously cited property MP-00211-VL, supplemental standards property MP-01041-VL, and supplemental standards properties such as MP-00180-CS where radiological contamination remains in city-owned street and utility rights-of-way. These properties all have land use restrictions in place. CERCLA Five-Year Reviews ensure the selected remedy remains effective.

The first CERCLA Five-Year Review for the Site was completed on February 13, 1997. This CERCLA Five-Year Review, covering the period from 1991 through 1996 when remediation was ongoing at the Site, discussed the status of remedial actions and noted that the need for supplemental standards for certain properties on the Site, including the OU II Non-Surface and Ground-Water Impacted Peripheral Properties, was being negotiated with EPA and UDEQ. The most recent CERCLA Five-Year Review, completed in August 2002, evaluated the completion of remediation of radioactive materials in soils and sediment for OUs I and II, the completion and capping of the repository located south of the Millsite, transferral of the Millsite to the City, and restoration of the Millsite. The next CERCLA Five-Year Review for the Site is scheduled for June 2007.

*Community Involvement*

Public participation activities have been satisfied as required in CERCLA section 113(k), 42 U.S.C. 9613(k), and CERCLA section 117, 42 U.S.C. 9617. Documents in the deletion docket which EPA relied on for recommendation of the deletion of the OU II Non-Surface and Ground-Water Impacted Peripheral Properties portion of the Site from the NPL are available to the public in the Site information repositories identified above.

**V. Deletion Action**

The EPA has determined that all appropriate responses under CERCLA have been completed, and that no further response actions under CERCLA,

other than operation and maintenance and five-year reviews, are necessary. Therefore, EPA is deleting the OU II Non-Surface and Ground-Water Impacted Peripheral Properties portion of the Site from the NPL. The State of Utah (UDEQ) concurs with the decision to delete the OU II Non-Surface and Ground-Water Impacted Peripheral Properties portion of the Site from the NPL provided that no adverse comments are received during the public comment period.

Because EPA considers this action to be noncontroversial and routine, EPA is taking it without prior publication. This action will be effective October 14, 2003, unless EPA receives adverse comments by September 12, 2003. If adverse comments are received within the 30-day public comment period, EPA will publish a timely withdrawal of this direct final partial deletion before its effective date and the partial deletion will not take effect. In such case, EPA will prepare a response to comments and continue with the deletion process on the basis of the notice of intent to partially delete and the comments already received. There will be no additional opportunity to comment.

**List of Subjects in 40 CFR Part 300**

Environmental protection, Air pollution control, Chemicals, Hazardous waste, Hazardous substances, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Water pollution control, Water supply.

Dated: July 31, 2003.

**Robert E. Roberts,**  
*Regional Administrator, Region 8.*

■ For the reasons set out in this document, 40 CFR part 300 is amended as follows:

**PART 300—[AMENDED]**

■ 1. The authority citation for part 300 continues to read as follows:

**Authority:** 33 U.S.C. 1321(c)(2); 42 U.S.C. 9601–9657; E.O. 12777, 56 FR 54757, 3 CFR, 1991 Comp., p. 351; E.O. 12580, 52 FR 2923, 3 CFR, 1987 Comp., p. 193.

**Appendix B—[Amended]**

■ 2. Table 2 of appendix B to part 300 is amended by revising the entry for "Monticello Mill Tailings (USDOE)," Monticello, UT to read as follows:

**Appendix B to Part 300—National Priorities List**

\* \* \* \* \*

TABLE 2.—FEDERAL FACILITIES SECTION

State	Site name	City/county	Notes <sup>a</sup>
UT	Monticello Mill Tailings (USDOE)	Monticello	P

<sup>a</sup> \* \* \*

P = Site with partial deletion(s).

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