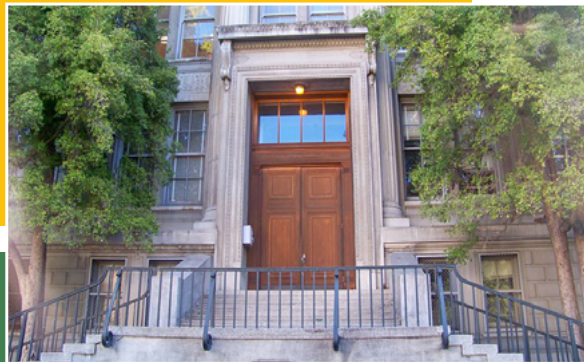


FUSRAP

Formerly Utilized Sites Remedial Action Program



Stakeholder Report

April 2022



📷 Cover Photos

Clockwise from top left: Oak Ridge, Tennessee, Warehouse Site; Berkley, California, Site; Wayne, New Jersey, Site; and Attleboro, Massachusetts, Site.

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CONTACT US

Visit our website or send questions via email below. Let us know if there is more we can do to keep you informed of FUSRAP.

🖱 **Web** FUSRAP

[www.energy.gov/lm/
legacy-site-programmatic-framework](http://www.energy.gov/lm/legacy-site-programmatic-framework)

✉ **Email:** FUSRAPinfo@lm.doe.gov
public.affairs@lm.doe.gov

📞 **Phone:** (970) 248-6070

📄 **Stakeholder Report:**
[www.energy.gov/lm/articles/
fusrap-stakeholder-report](http://www.energy.gov/lm/articles/fusrap-stakeholder-report)

Message to Stakeholders

The U.S. Department of Energy (DOE) has managed the Formerly Utilized Sites Remedial Action Program (FUSRAP) since its establishment in 1974. During that time, we have identified and remediated sites that were contaminated with radioactive materials in support of the nation's early atomic energy programs. DOE remediated FUSRAP sites until 1997, when that task was assigned to the U.S. Army Corps of Engineers (USACE). DOE remains responsible for researching site eligibility and for long-term stewardship (LTS) of remediated sites.

The DOE Office of Legacy Management (LM) is responsible for 34 remediated FUSRAP sites (see the map on the next page). Our mission is to protect human health and the environment at these sites. To accomplish this, we evaluate risk for the sites and define long-term surveillance and maintenance (LTS&M) requirements to monitor site conditions, prevent unsafe activities where needed, and keep stakeholders informed.

We are responsible for determining if a site is eligible for inclusion in FUSRAP, and for keeping remediated sites safe by conducting LTS&M. Most FUSRAP sites have been remediated to a condition that allows unrestricted use. For all sites, LM manages site information to preserve knowledge of site conditions.

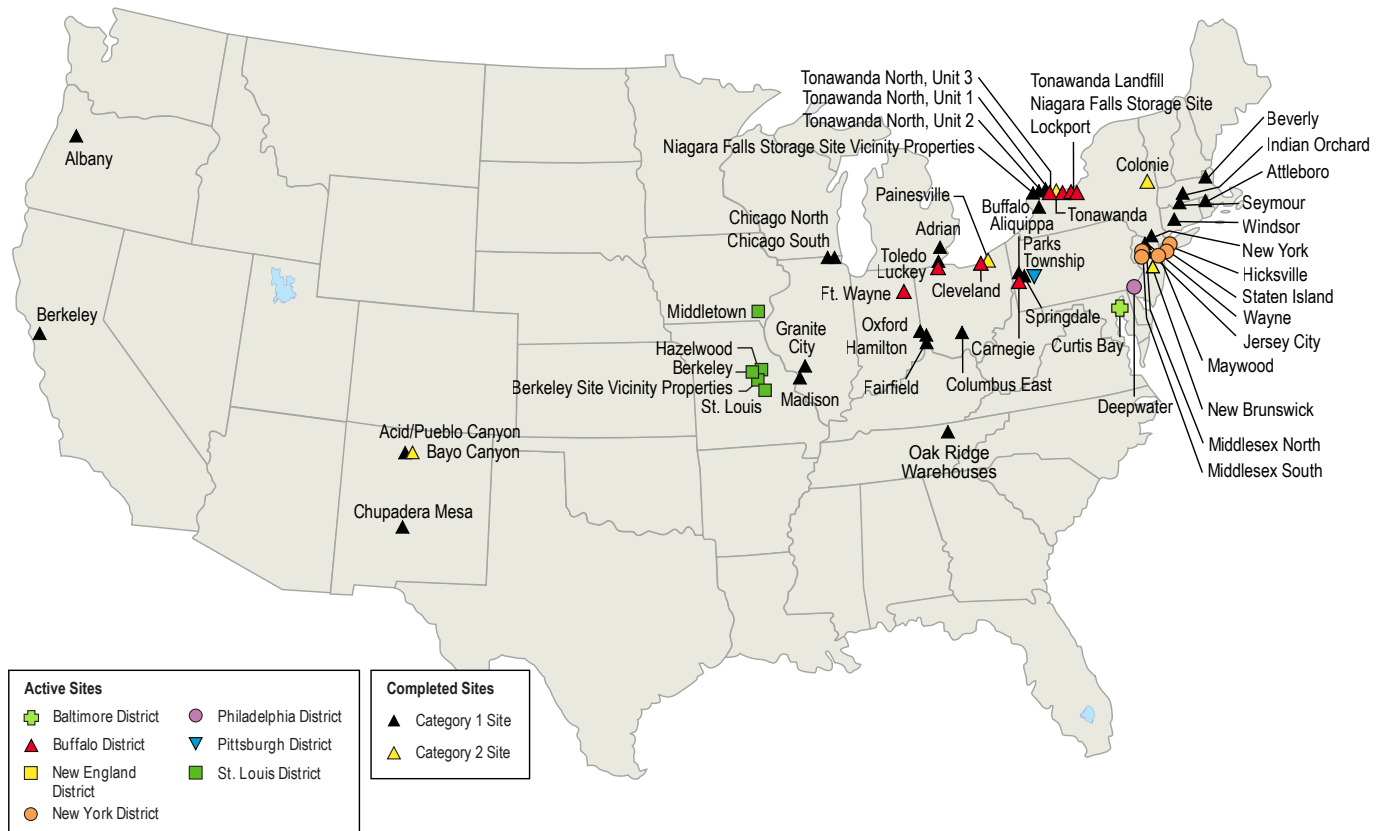
FUSRAP activities in the last five years include:

- **Successfully transferred five completed FUSRAP sites to LTS.**
- **Completed transition planning for another three sites, which are scheduled to transfer to LM for LTS within the next five years.**
- **Performed sampling and site inspections for a Category 2 completed site.**
- **Modernized LTS&M efforts, including utilization of geospatial maps for planning and monitoring.**
- **Updated the *Legacy Management Program Management Plan for Formerly Utilized Sites Remedial Action Program*.**
- **Collaborated with USACE for referral and transition of responsibilities between agencies including annual site tours and meetings.**

This report is part of our active outreach to stakeholders to ensure that the public and other stakeholders remain aware of FUSRAP sites and that essential FUSRAP knowledge is preserved.

Darina Castillo, Ph.D.
LM FUSRAP Program Manager

FUSRAP SITES



What Is FUSRAP?

The Formerly Utilized Sites Remedial Action Program was established in 1974 to identify, investigate, and clean up or control exposure to residual contamination at sites that had supported Manhattan Engineer District (MED) or U.S. Atomic Energy Commission (AEC) activities.

When the nation began developing atomic weapons during World War II, no government-owned infrastructure existed to provide the specialized services needed to accomplish that task, so the federal government contracted for services from private enterprises with the needed expertise and facilities. As government-owned facilities were developed, the contracted facilities were cleaned up to standards in effect at the time and released for unrestricted use.

In the early 1970s the U.S. government strengthened cleanup requirements. Radiological and chemical contamination that remained at some of the former MED-contracted sites exceeded the new standards. AEC initiated FUSRAP to review the radiological conditions at the early atomic energy program sites, determine if a given site was eligible for government cleanup, and

remediate any remaining contamination to current standards at eligible sites.

Two Types of FUSRAP Sites

An “active” FUSRAP site is a site being remediated by USACE. A “completed” FUSRAP site has been remediated and transferred to LM to maintain records and perform LTS&M.

Early Atomic Weapons Research and Production

In August 1942, the USACE created MED to develop the technology and production facilities for the first atomic weapons. Popularly known as the Manhattan Project, MED hired contractors throughout the United States to store, sample, assay, process, and machine the uranium and thorium ores and metal used in the first atomic bombs. FUSRAP sites conducted many of the operations and processes used in early atomic weapons production and nuclear research. These sites were typically

smaller facilities, usually privately owned, that were released for private use when their government contracts had been fulfilled.

In August 1946, President Harry S. Truman signed the Atomic Energy Act, which created AEC, a civilian-controlled federal agency that replaced MED and assumed the responsibilities for atomic weapons and early atomic energy programs. AEC continued to contract with private industry to support the nation's nuclear weapons and energy programs until 1975, by which time a government industrial base had been established. AEC was reorganized as the Energy Research and Development Administration in 1975, and in 1977 that agency was reorganized as DOE, which was established as a cabinet-level agency that consolidated the energy-related functions of a number of government agencies.

During the 1940s, uranium ore was obtained from the Belgian Congo, the western United States, and Canada. Uranium ore concentrates were refined to various compounds, which were then either converted to metals used in nuclear fuel fabrication or for use as enriched uranium. Machined uranium metal was sent to production reactors — primarily to Oak Ridge, Tennessee, or the Hanford Reservation in Washington State in the 1940s and the Savannah River Plant in South Carolina in the 1950s — to produce plutonium used to make nuclear weapons. Plutonium and enriched uranium provided by other federal operations were then sent to weapons-production facilities.

Wastes from uranium ore-processing and other operations were sent to storage and disposal facilities. Tailings waste from uranium mills were encapsulated in disposal cells approved by the U.S. Nuclear Regulatory Commission (NRC).

Other FUSRAP sites involved in early weapons production were used for beryllium and thorium production or were research facilities.

FUSRAP Sites Status

Although most FUSRAP sites were cleaned up to guidelines that were in effect at the time and released, by the 1970s some of those guidelines had been replaced by more stringent standards. AEC and DOE reexamined more than 600 sites to identify potential risks to public health, safety, and the environment where levels of radioactive contamination might exceed current standards. DOE identified 46 sites that required cleanup and began the cleanups in 1979. Nine additional sites have since been added to FUSRAP, for a total of 55 FUSRAP sites today.

DOE remediated 25 sites before Congress transferred responsibility for FUSRAP site characterization and remediation to USACE in 1997. As of April 2022, USACE has completed remedial action at ten sites, and 21 active sites are currently undergoing remedial action. LM is responsible for determining whether a site is eligible for remediation under FUSRAP and for long-term care of completed FUSRAP sites. LM assumes perpetual responsibility for completed FUSRAP sites.

LM manages DOE's FUSRAP responsibilities to ensure FUSRAP sites remain protective of human health and the environment after a site remedy is in place. LM accomplishes this through its LTS program, which is designed to control residual risk and maintain safe conditions at completed sites.

Radioactive Contamination at FUSRAP Sites

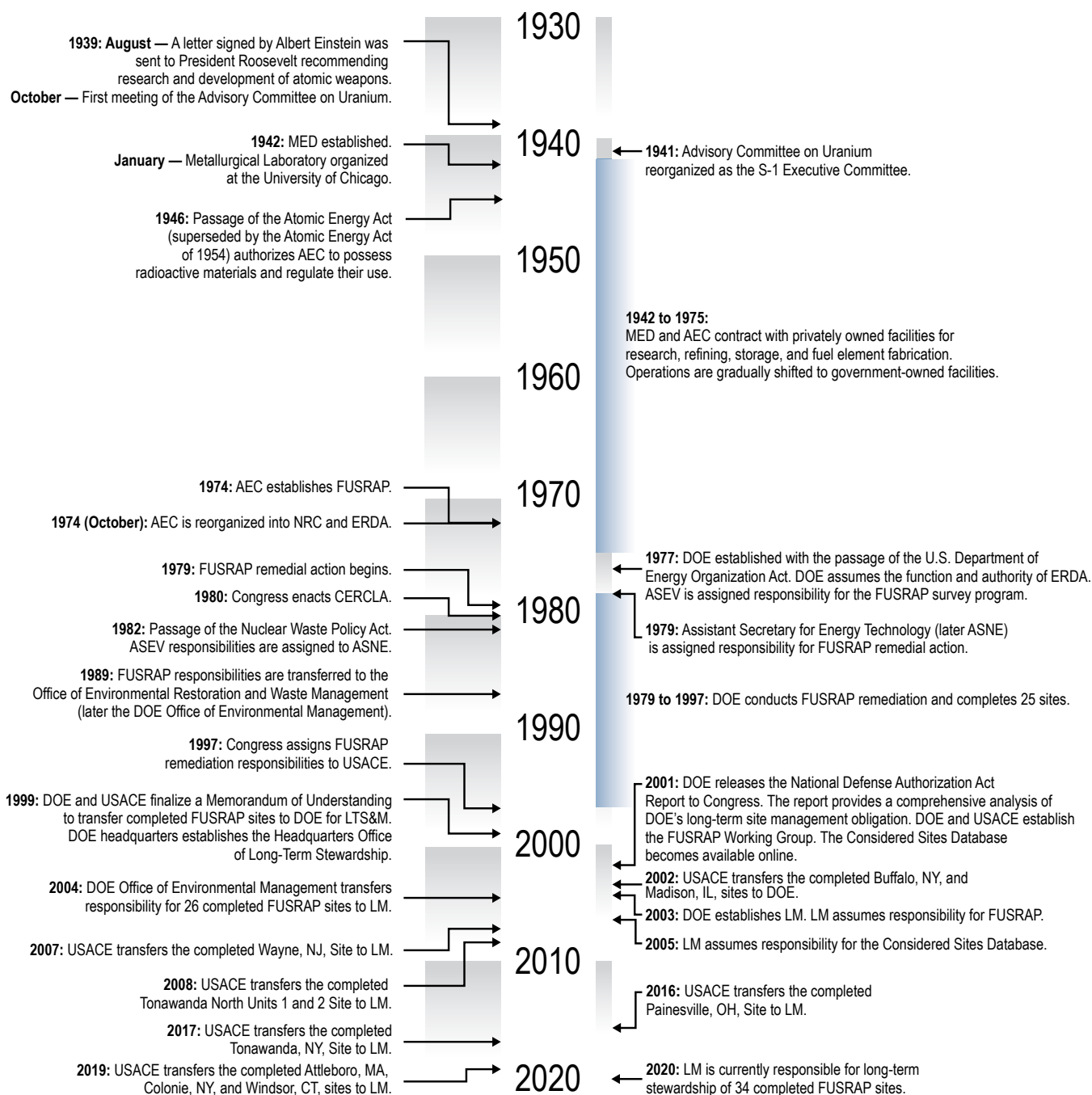
Residual radioactive contamination at FUSRAP sites usually consists of uranium and its decay products. Uranium is a naturally occurring element that is radioactive. Atoms of a radioactive element are unstable and spontaneously decay to lighter elements (decay products), while giving off gamma rays, alpha particles, or beta particles (electrons). The decay products are also radioactive and undergo decay, which leads to an entire series of ever-lighter elements in a decay chain that eventually ends with a stable isotope of lead.

Uranium ore contains all the elements in the uranium decay chain. Ore handling, analysis, and research resulted in radioactive contamination from uranium and its decay products at some FUSRAP sites. The ore was processed to remove the uranium, leaving the decay products as waste. In separate processes, the uranium was converted to metal or other forms, generating radioactive waste. Additional waste was generated when uranium metal was machined, creating uranium dust.

The research and development of these processes also generated radioactive waste at some FUSRAP sites.

Some FUSRAP sites were involved in thorium handling and processing. Thorium is also radioactive and has its own decay chain. Some sites, which were not involved in AEC or MED activities or ineligible for remediation under FUSRAP, were added to the program through congressional action. Waste from other processes may be present at these sites.

FUSRAP TIMELINE



AEC	U.S. Atomic Energy Commission	FUSRAP	Formerly Utilized Sites Remedial Action Program
ASNE	Assistant Secretary for Nuclear Energy	LM	Office of Legacy Management
ASEV	Assistant Secretary for the Environment	LTS&M	long-term surveillance and maintenance
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	MED	Manhattan Engineer District
DOE	U.S. Department of Energy	NRC	U.S. Nuclear Regulatory Commission
ERDA	Energy Research and Development Administration	UMTRCA	Uranium Mill Tailings Radiation Control Act
		USACE	U.S. Army Corps of Engineers

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ROLES AND RESPONSIBILITIES

The responsibilities of DOE and USACE in implementing FUSRAP are independent and require coordination between the agencies to accomplish the FUSRAP goal of maintaining protectiveness. DOE and USACE signed a Memorandum of Understanding that defines roles and responsibilities and promotes coordination between the two agencies.

LM Responsibility: Preserving Historical Knowledge

Preserving historical knowledge by maintaining legacy site records is a core FUSRAP function. Records that describe site operations, the extent of contamination, remedial action activities, final site conditions, site verification, and regulator concurrence are all critical to LM's ability to confirm that sites were cleaned up to the appropriate standards and remain protective. LM also relies on historical records to determine whether a site is eligible for remedial action under FUSRAP. LM indexes site records and preserves them for future custodial and stakeholder use.



DOE
DETERMINATION
OF POTENTIALLY
ELIGIBLE SITES



USACE
SITE ACCEPTANCE,
REMEDiation, CLOSURE
AND TRANSFER



DOE
LONG-TERM
SURVEILLANCE
AND MAINTENANCE

LM also provides information to the public on legacy sites that were evaluated to determine whether they were eligible for remediation under FUSRAP, and for remediated FUSRAP sites. The Considered Sites Database (available on the LM website: www.energy.gov/lm/considered-sites-overview) presents the results of eligibility evaluations for the more than 600 candidate FUSRAP sites. It contains documentation that supports the eligibility decisions as well as cleanup and site closure documentation for the remediated sites.

LM Responsibility: Eligibility Determination and Referral

LM evaluates a site to determine whether it is eligible for remediation under FUSRAP and then refers the eligible site to USACE. Referrals can occur when a new site is evaluated or when additional assessment or remediation is required for a previously completed site. LM determines FUSRAP eligibility based on the following criteria:

- **Work was conducted in support of MED or AEC activities (typically during the 1940s to early 1960s).**
- **The activities resulted in residual radioactive contamination (primarily uranium, thorium, radium, and their daughter elements) that exceeds current cleanup criteria.**
- **The authority to conduct remedial action at the site is prescribed within the Atomic Energy Act.**
- **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.**
- **Congress can add a site to FUSRAP through the Energy and Water Development Appropriations Act.**

What Does Protectiveness Mean?

Protectiveness means that the potential risk to human health and the environment from exposure to residual radioactive contamination has been eliminated or reduced to acceptable levels.

Some sites can be released for unrestricted use and unlimited exposure, as they have been remediated to a condition that poses no unacceptable health risks under any land use scenarios.

The protectiveness of a completed site sometimes relies on properly managing land use to prevent exposure to the contamination. For sites where some residual contamination remains, protectiveness is ensured by controlling potential exposure to contamination by implementing land use controls and other restrictions as necessary.

In the case of previously completed sites, LM determines if new information or changed site conditions warrant the referral of a site to USACE for additional assessment or remediation. LM uses one of the two following criteria to determine if a site should be referred to USACE for further assessment:

- **A third-party characterization or survey reveals residual MED/AEC-related contamination that was not previously identified.**
- or
- **A review of historical records indicates the potential for existing MED/AEC-related contamination that was not previously identified; or an individual with credible institutional knowledge provides information that additional MED/AEC-related contamination might exist that was not identified in previous assessments.**

Once an eligibility evaluation begins, LM informs USACE of the potential referral and keeps USACE staff informed of the progress of the evaluation. This allows USACE to begin to plan for the referral.

LM conveys site documentation to USACE in conjunction with a site referral, which includes operations documentation establishing that work was performed at the site for MED or AEC. In addition, the documentation defines the processes and potential contamination and any available radiological survey information about potential radiological contamination remaining on the site.

USACE Responsibility: Assessment and Remediation

In 1997, Congress directed USACE to conduct assessments and remedial action to clean up FUSRAP sites in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process. When LM determines that a site is eligible, USACE determines whether the site should be designated as an active FUSRAP site requiring further action. The assessment may result in a finding that no further action is required on the basis that no radiological contamination that exceeds cleanup criteria is present or that the contamination is not FUSRAP-related. If remedial action is required, USACE assesses site conditions, selects and implements a remedy, and works with the U.S. Department of Justice on cost-recovery actions.

Once it is determined that additional action is required, USACE assumes responsibility for the site until cleanup is completed with the remedy in place. If residual contamination remains on the property after completion of remedial action, and radiological conditions are such that the property cannot be released for unrestricted use, USACE will develop land use restrictions,

which LM refers to as institutional controls (ICs), as part of the remedy. After cleanup is completed and the remedy is in place, USACE conducts a two-year-long operations and maintenance period to demonstrate that site hazards are controlled. Before a site can be transferred to LM, the regulator must concur that the selected remedy is operating successfully, which indicates the site is protective of human health and the environment.

Transition from USACE to LM

LM and USACE have established a process to transition site responsibilities to LM when remedial actions are completed. The process ensures that LM will be informed of necessary actions to ensure that the remedy remains protective, essential site knowledge is transferred and preserved in LM records, and stakeholders are informed that LM will provide LTS&M and respond to inquiries about site conditions.

Pre-transition activities may include an orientation visit and joint environmental monitoring, interviews with USACE project staff, and participation in public and stakeholder meetings.

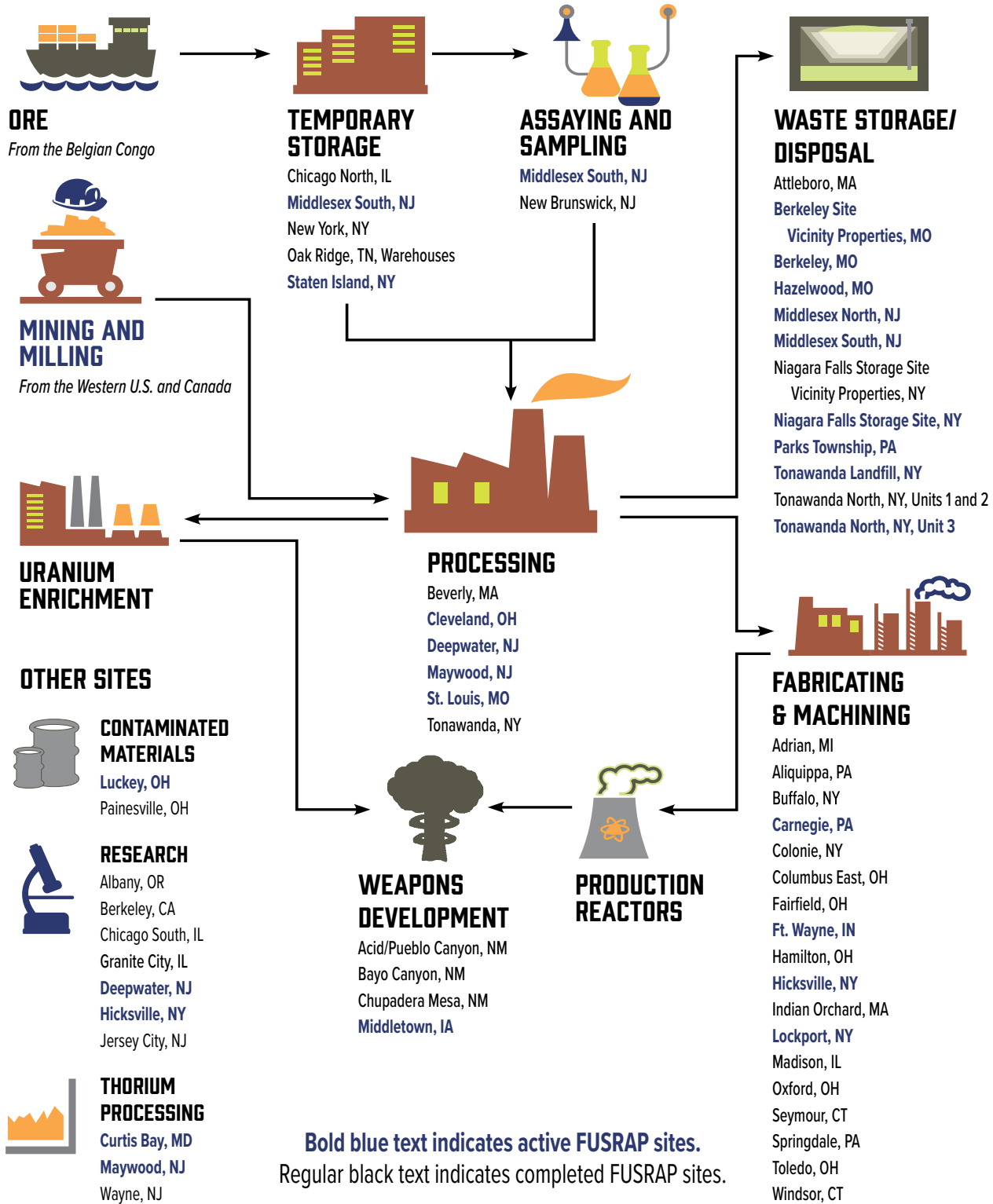
The 2022 *Legacy Management Program Management Plan for Formerly Utilized Sites Remedial Action Program* establishes procedures for managing LM-related FUSRAP activities, including LTS&M and referral and transition processes.

LM Responsibility: LTS&M

Some FUSRAP sites can be released for unrestricted use, based on final radiological conditions at the site, and LTS&M requirements will consist of managing records and responding to stakeholder inquiries. Other sites may require specific long-term maintenance actions to maintain protectiveness. For those sites, LM develops site-specific LTS&M plans that establish the additional activities needed.

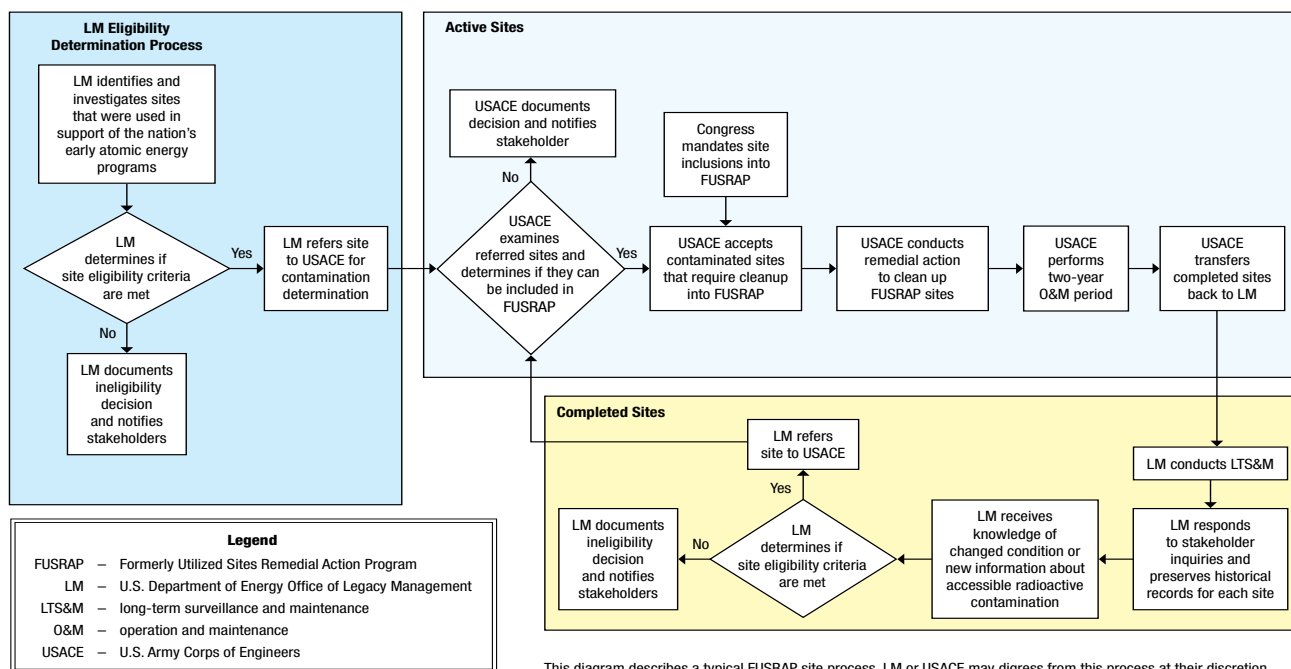
Site-specific LTS&M plan activities can include periodic inspections, environmental monitoring, maintenance, managing ICs, and conducting reviews. Although no current FUSRAP sites are expected to require ongoing remedial actions, such as groundwater treatment, maintaining and operating any such required system would also be a part of the site LTS&M plan.

FUSRAP Sites Involved in MED and AEC Processes



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FUSRAP LIFE CYCLE



This diagram describes a typical FUSRAP site process. LM or USACE may digress from this process at their discretion.

Beneficial Reuse

Beneficial reuse refers to the productive use of an LM site that no longer has a DOE mission after remediation, by LM or other entities, while being protective of human health and the environment. Reuse activities maintain protective use of lands and remedies, including revitalization of real property and disposal of land. DOE owns the real property at the Maywood, New Jersey; Colonie, New York; Middlesex South Sampling Plant, New Jersey; and Niagara Falls Storage Site, New York, sites.

The Colonie site transferred to LM in 2019. The U.S. General Services Administration (GSA) is currently handling the disposition process for this site. The Middlesex South site is also with the GSA for disposition. Upon transfer of the remaining DOE-owned sites from USACE, LM will evaluate whether the property can be transferred to a private owner or another government agency for beneficial reuse. Other FUSRAP sites are government or privately owned, and LM does not control land use except through ICs where applicable.

What Are Institutional Controls?

When a site is not released for unlimited use or unrestricted exposure institutional controls (ICs) may be used to prevent certain activities.

ICs are mechanisms that prevent exposure to contamination. Usually the control consists of a legal agreement, such as a deed restriction, that prohibits certain activities. For example, a deed restriction at the New Brunswick, New Jersey, Site prohibits excavating into an area where contaminated soil was left under a clean soil cover. ICs are legally enforceable by an agency with the authority to halt an activity that has the potential to violate the restriction. Some regulatory systems consider any restriction to be an IC, including physical access barriers, markers, and engineered structures that isolate contamination from the environment.

Cleanup regulations followed by LM and USACE allow leaving contaminated material in place if (1) it poses no unacceptable risk if left undisturbed and (2) certain other criteria are met, such as if the cost to remove the contamination far exceeds the benefit, or remediation would be unsafe or cause environmental harm. LM manages ICs through (1) surveillance of the site to ensure that IC restrictions are not violated and (2) contact with owners, tenants, regulators, or local governments to ensure that they remain aware of the ICs.

FUSRAP SITE DESCRIPTIONS

Acid/Pueblo Canyon, New Mexico, Site

(DOE COMPLETED FUSRAP SITE)



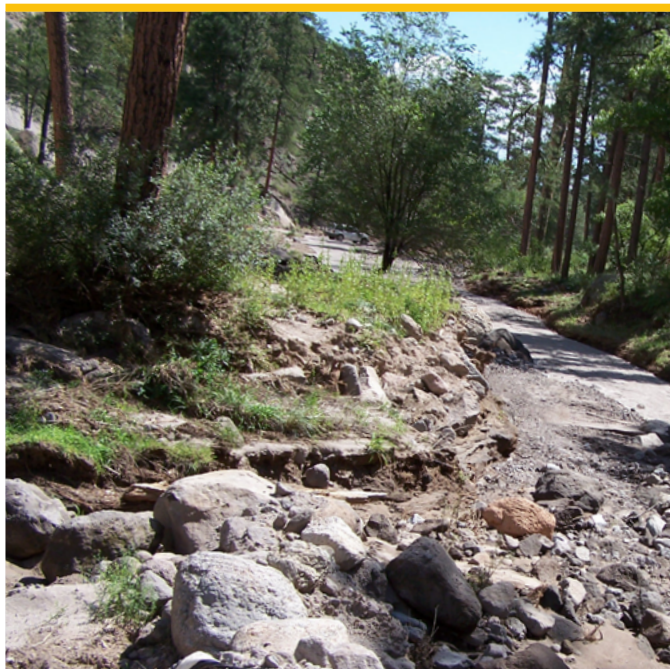
The Acid/Pueblo Canyon site, owned by Los Alamos County, is located in the Pajarito Plateau region, near Los Alamos. Between 1943 and 1964, MED and AEC conducted nuclear weapons research that resulted in contaminated soil and rock in the canyon beneath the Los Alamos laboratory complex.

AEC remediated the contaminated areas in 1966 and 1967. DOE completed additional remediation of the site under FUSRAP in 1982. DOE certified that the site conformed to applicable cleanup criteria in August 1984 and released the affected areas for unrestricted use. The Los Alamos National Laboratory currently manages the site under an Order of Consent.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Acid/Pueblo Canyon Fact Sheet

www.energy.gov/lm/articles/acidpueblo-canyon-new-mexico-site-fact-sheet



Acid/Pueblo Canyon, New Mexico, Site

The Acid/Pueblo Canyon FUSRAP site is near the location of the Los Alamos Nature Center/Pajarito Environmental Education Center, which opened in 2015. The open areas of the site are used by the public for recreational purposes.

Adrian, Michigan, Site

(DOE COMPLETED FUSRAP SITE)



The Adrian site (General Motors) was operated by Bridgeport Brass Company in the 1950s. Uranium metal was extruded at the site for use in the fabrication of fuel elements for production reactors. General Motors Corporation remediated radioactive contamination at the site in the 1970s, and additional remediation was conducted under FUSRAP in 1995. Supplemental limits were applied to residual radioactive contamination left in below-grade utilities, and DOE released the site for use without radiological restrictions.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Adrian Fact Sheet

www.energy.gov/lm/articles/adrian-michigan-site-fact-sheet

Albany, Oregon, Site

(DOE COMPLETED FUSRAP SITE)



The Albany site is owned and operated by the DOE Office of Fossil Energy. Metallurgical research was conducted at this site for AEC and the Energy Research and Development Administration from 1948 to 1978. Activities involving radioactive thorium and uranium resulted in contaminated buildings, equipment, and soils.

The U.S. Bureau of Mines remediated portions of the site between 1948 and 1978. DOE remediated buildings, equipment, and soils under FUSRAP in 1987, 1988, 1990, and 1991. In 1993, DOE certified that applicable cleanup criteria had been achieved, and the site was released for unrestricted use. Supplemental limits were applied to drains and other inaccessible areas.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Albany Fact Sheet

www.energy.gov/lm/articles/albany-oregon-site-fact-sheet

Supplemental limits may be applied in place of limits established in DOE guidelines in situations where the cost of remediation would be unreasonably high compared to the long-term benefits and the residual contamination does not pose a present or future risk to workers or the public in its current configuration.

Aliquippa, Pennsylvania, Site

(DOE COMPLETED FUSRAP SITE)



At the Aliquippa site, the Vulcan Crucible Steel Company heated and rolled uranium metal into rods for AEC from 1948 to 1949, resulting in contaminated building surfaces, equipment, and soil. The site is currently used for light manufacturing.

The former owner decontaminated the site to then-applicable guidelines in 1950 while under contract with AEC. DOE conducted additional remediation under FUSRAP in 1988, 1993, and 1994. Supplemental limits were applied to uranium dust left in inaccessible areas. In 1996, DOE certified that applicable cleanup criteria had been achieved, and the site was released for unrestricted use.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Aliquippa Fact Sheet

www.energy.gov/lm/articles/aliquippa-pennsylvania-site-fact-sheet

Attleboro, Massachusetts, Site

(DOE COMPLETED FUSRAP SITE)



Congress added the Shpack Landfill site to FUSRAP in 2002. The 9.4-acre Shpack Landfill is located about 40 miles southwest of Boston in the towns of Norton and Attleboro. The landfill was operated from 1946 until the 1970s. Metals and Controls Incorporated, now Texas Instruments, disposed materials associated with nuclear fuel production. Contents of this landfill include domestic and industrial waste (inorganic and organic chemicals) as well as radioactive waste. The FUSRAP-eligible contaminants are uranium and radium in soil and groundwater. The site was listed on the National Priorities List (NPL) in 1986. Remedial action started at the site in 2005 and was completed in 2014. USACE issued the Site Closure Report in 2016. The U.S. Environmental Protection Agency (EPA) removed the site from the NPL in 2017.

The site transferred to LM for LTS in 2019. The site is currently maintained by the city of Attleboro, which performs groundwater monitoring and enforces groundwater ICs.

Multiple overhead transmission lines owned by National Grid cross the site, and low levels of inaccessible radioactive contamination remain under the power poles. Contact with the inaccessible soils is prevented by ICs maintained by National Grid.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Attleboro, Massachusetts, Site Fact Sheet

www.energy.gov/lm/articles/attleboro-massachusetts-site-fact-sheet

Bayo Canyon, New Mexico, Site

(DOE COMPLETED FUSRAP SITE)



The Bayo Canyon site, owned by Los Alamos County, is located in the Pajarito Plateau region, near Los Alamos. Los Alamos National Laboratory radiochemistry operations and explosives experiments, conducted between 1943 and 1961, contaminated buildings, sewer lines, and soils at this site.

AEC remediated contaminated areas from 1960 to 1963. DOE implemented additional remedial action under FUSRAP in 1982. DOE imposed an excavation restriction by erecting six permanent monuments to demarcate a 1.5-acre contaminated soil area until the year 2142, when the remaining residual subsurface radioactive contamination will decay and allow the release of the affected area for unrestricted use. DOE certified that the site conformed to applicable cleanup criteria and released the affected areas for restricted use. In 2019, LM conducted a radiological survey and completed removal of a fence surrounding the 1.5-acre FUSRAP-remediated site, leaving only survey monuments and protective bollards in place. No additional protective measures or maintenance is warranted at this time.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Bayo Canyon Fact Sheet

www.energy.gov/lm/articles/bayo-canyon-new-mexico-site-fusrap-fact-sheet

Attleboro, Massachusetts, Site

The Attleboro Site transferred to LM for LTS in 2019. The site is currently maintained by the city of Attleboro.



Berkeley, California, Site

(DOE COMPLETED FUSRAP SITE)



Gilman Hall is a four-story building on the campus of the University of California, Berkeley. Floors, wood sills, walls, and baseboards in the building were contaminated by radioactive materials in the 1940s while research under contract to MED and AEC was being conducted on the production and chemical properties of plutonium.

DOE designated the site for remediation under FUSRAP in 1979. Lawrence Berkeley Laboratories completed remedial action of the site in 1983. Residual contamination was fixed in place beneath floors or left in inaccessible areas. In 1985, DOE certified that the condition of the site was radiologically acceptable for restricted use, such as research and instructional purposes.

Other than operating within the controls of the University of California's state general license, no institutional controls are in effect at the site. The university performs health physics monitoring under the state of California radioactive materials license.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Berkeley Fact Sheet

www.energy.gov/lm/articles/berkeley-california-site-fact-sheet

Beverly, Massachusetts, Site

(DOE COMPLETED FUSRAP SITE)



From 1942 to 1948, the Metal Hydrides Corporation, which became the Ventron Corporation in 1965, conducted uranium-processing operations that converted uranium oxide to uranium metal powder and uranium metal for MED and AEC. The Beverly site was later used by another private company to purify thorium compounds.

In 1986, DOE designated the site for remediation under FUSRAP. DOE remediated the site and certified that the site complied with applicable cleanup criteria in 2003. The privately owned property was released for unrestricted use. The site was redeveloped as a multi-unit residential housing complex in 2019.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Beverly Fact Sheet

www.energy.gov/lm/articles/beverly-massachusetts-site-fact-sheet

Buffalo, New York, Site

(DOE COMPLETED FUSRAP SITE)



In 1952, the Bliss and Laughlin Steel Company machined and straightened uranium rods under subcontract to National Lead of Ohio, an AEC contractor. The activities generated waste cuttings, which were shipped to the Lake Ontario Ordnance Works. A 1992 preliminary survey of the building interior and exterior identified radioactive material in the floor of the finishing area.

Remediation of the Buffalo site began in December 1998 and continued through March 1999. USACE remediated the contaminated areas to site-specific numerical standards. After obtaining concurrence from the state of New York that site radiological conditions complied with the cleanup criteria, USACE issued the Site Closure Report and Declaration of Completion for Remedial Action on Sept. 30, 1999. USACE released the site for unrestricted use and transferred stewardship responsibility to DOE in 2002.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Buffalo Fact Sheet

www.energy.gov/lm/articles/buffalo-new-york-site-fact-sheet

Chicago North, Illinois, Site

(DOE COMPLETED FUSRAP SITE)



The Chicago North site is owned by the state of Illinois and used as a National Guard armory. Between 1942 and 1951, MED and AEC used the building to store and process uranium metal, and the building was the central procurement and shipping location for the MED Metallurgical Laboratory. In 1951, AEC terminated use of the building, and the property was returned to the state of Illinois.

Radiological characterizations of the site in 1977, 1978, and 1987 indicated that residual radioactive contamination exceeded DOE guidelines. In 1987 and 1988, DOE removed radiological contamination from interior building surfaces and exterior catch basins and soils. DOE certified that the site complied with applicable cleanup criteria and released the property for unrestricted use in 1989.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Chicago North Fact Sheet

www.energy.gov/lm/articles/chicago-north-illinois-site-fact-sheet

Chicago South, Illinois, Site

(DOE COMPLETED FUSRAP SITE)

In 1941, the National Defense Research Committee contracted the University of Chicago to construct a uranium and graphite pile to achieve a sustained nuclear chain reaction for use in developing the atomic bomb. That same year, the work was transferred to the Metallurgical Laboratory, where it continued until 1946, when AEC was created. Work continued under the AEC contract through 1952, when the nuclear activities were transferred to the new Argonne National Laboratory site in DePage County. The Chicago South location was decontaminated using then state-of-the-art techniques.

In 1976, AEC directed Argonne National Laboratory to conduct radiological surveys, which identified only minimal contamination in the Kent, Jones, and Ryerson laboratories and Ekhart Hall.

Remediation of those areas was completed in 1987. DOE has released the site for unrestricted use by the university.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Chicago South Fact Sheet

www.energy.gov/lm/articles/chicago-south-illinois-site-fact-sheet

Chupadera Mesa, New Mexico, Site

(DOE COMPLETED FUSRAP SITE)

The Chupadera Mesa site is privately owned land northeast of the White Sands Missile Range and the city of Bingham. The site is located within the fallout zone of the first nuclear weapons test, the Trinity test, conducted on July 16, 1945, under the Manhattan Project. AEC and successor organizations monitored the site between 1945 and 1985. In April 1986, DOE

determined that residual radioactive materials met applicable standards. No remediation was conducted under FUSRAP, and DOE released the site for unrestricted use.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Chupadera Mesa Fact Sheet

www.energy.gov/lm/articles/chupadera-mesa-new-mexico-site-fact-sheet

Colonie, New York, Site

(DOE COMPLETED FUSRAP SITE)

The industrial site was previously owned and operated by National Lead Industries (NL) from 1937 to 1984 and is currently owned by the federal government. In 1958, NL began producing items manufactured from uranium and thorium, under licenses issued by AEC and the state of New York. These activities resulted in residual radiological contamination co-located with metals in soil on portions of the site as well as impacts to site groundwater and to neighboring privately owned properties (known as the vicinity properties). All buildings and contaminated soils were removed.

USACE transferred the site to LM on Sept. 30, 2019. DOE determined that the site should be made available for future redevelopment to benefit the community and is currently pursuing selling the property.

LTS&M requirements consist of maintaining an environmental easement for inaccessible soil contamination, monitoring groundwater, conducting long-term periodic reviews, managing site records, and responding to stakeholder inquiries.

► Colonie Fact Sheet

www.energy.gov/lm/articles/colonie-new-york-site-fact-sheet



Colonie, New York, Site

The Colonie site transferred to LM in 2019 and is currently listed with the GSA for disposition.

Columbus East, Ohio, Site

(DOE COMPLETED FUSRAP SITE)



At the former B&T Metals site, uranium metal was heated and extruded into rods for MED, contaminating building surfaces, drains, equipment, exterior soils, and manholes in nearby streets.

The owner removed contamination from site facilities and equipment after extrusion activities ceased in 1943. DOE conducted additional remediation of contaminated areas under FUSRAP in 1996. DOE certified that applicable cleanup criteria had been achieved in June 2001 and released the site for unrestricted use.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Columbus Fact Sheet

www.energy.gov/lm/articles/columbus-east-ohio-site-fact-sheet

DuPont Chambers Works Site, Deepwater, New Jersey

(USACE ACTIVE FUSRAP SITE)



DuPont conducted uranium-refining activities under contract to MED and AEC in support of the nation's early atomic energy program. Operations involving uranium at the Chambers Works site began in 1942. As part of its work on the MED program, DuPont worked on developing a process for converting uranium oxide to produce uranium hexafluoride and small quantities of uranium metal. Other research activities were also performed. All MED activities were transferred to AEC in 1946. DuPont continued its research for AEC until late 1947. In 1948 and 1949, AEC conducted radiological surveys and decontaminated building surfaces at the site, primarily at locations of former AEC activities. Using then-existing criteria, AEC released the buildings to DuPont in 1949.

USACE performed a time-critical removal action in 1998 to remove a contaminated building. USACE completed a site-wide Remedial Investigation in 2009 and a Feasibility Study and a Proposed Plan in 2012. The remedy includes excavation of radiologically impacted soil and monitored natural attenuation of groundwater. The Record of Decision was signed in 2013. Remedial action is ongoing.

Anticipated transfer date — 2030

Anticipated LTS&M requirements consist of monitoring groundwater, conducting long-term periodic reviews, managing site records, and responding to stakeholder inquiries.

► Deepwater Fact Sheet Chamber Works Site

www.nap.usace.army.mil/missions/fusrap/chambers-works-site/

Fairfield, Ohio, Site

(DOE COMPLETED FUSRAP SITE)



In 1956, uranium metal was machined and shaped at the former Associate Aircraft site for AEC, resulting in contaminated interior building surfaces, drains, equipment, and soils.

The former owner removed some contamination in late 1956. DOE conducted additional remediation at the property under FUSRAP in 1994 and 1995. Supplemental limits were applied to uranium in the soil beneath the floor slab of a later building addition. DOE certified that applicable cleanup criteria had been achieved in September 1996, and the site was released for unrestricted use.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Fairfield Fact Sheet

www.energy.gov/lm/articles/fairfield-ohio-site-fact-sheet

Granite City, Illinois, Site

(DOE COMPLETED FUSRAP SITE)



In the late 1950s and early 1960s, two federal government-owned betatron particle accelerators were used at the Granite City Steel site to X-ray uranium metal ingots. The procedure allowed AEC to check the quality of the metal and detect metallurgical flaws before fabrication and machining were performed.

In 1992, DOE designated the site for remediation under FUSRAP. Several discrete localized areas of contamination in the interior of one of the X-ray buildings were remediated in 1993. DOE certified that the site complied with applicable cleanup criteria and standards in June 1994 and released the property for unrestricted use.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Granite City Fact Sheet

www.energy.gov/lm/articles/granite-city-illinois-site-fact-sheet

Guterl Specialty Steel Site, Lockport, New York

(USACE ACTIVE FUSRAP SITE)



MED and AEC used this 70-acre site for atomic energy and defense activities between 1948 and 1956. The facility was used for foundry work and rolling mill operations on approximately 25 million pounds of uranium metal and 30,000 pounds of thorium metal. Simonds Saw and Steel was sold to Wallace and Murray, which was then sold to Guterl Specialty Steel Corporation. In March 1984, Allegheny International (now Allegheny Ludlum Corporation) purchased the entire site except for those areas that had been used for AEC-related activities.

USACE completed the remedial investigation in 2010. A Feasibility Study and Proposed Plan were developed in 2021, in which USACE presented preferred remedial alternatives for dismantling and disposing buildings; removing and disposing contaminated soil; and recovering, treating, and releasing groundwater by using extraction wells and a drain. USACE began preparation of the Record of Decision in fiscal year (FY) 2022.

Anticipated transfer date — 2038

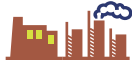
Anticipated LTS&M requirements consist of monitoring groundwater, conducting long-term periodic reviews, managing site records, and responding to stakeholder inquiries.

► Guterl Specialty Steel Fact Sheet

www.lrb.usace.army.mil/missions/htrw/fusrap/guterl-steel-site/

Hamilton, Ohio, Site

(DOE COMPLETED FUSRAP SITE)



Intermittently between 1943 and 1951, the Herring-Hall-Marvin Safe Company fabricated slugs from rolled natural uranium metal stock for use by MED and AEC in production reactors.

In 1994, DOE designated the Hamilton site for remediation under FUSRAP. DOE remediated areas of contamination identified on surfaces and in floor drains in the interior of the building in 1994 and 1995. DOE certified that the site complied with applicable cleanup criteria and standards in December 1996 and released the property for unrestricted use. The building was demolished in 2013, and a gas station was built on the southwest portion of the site in 2015.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Hamilton Fact Sheet

www.energy.gov/lm/articles/hamilton-ohio-site-fact-sheet

Harshaw Chemical Company Site, Cleveland, Ohio

(USACE ACTIVE FUSRAP SITE)



The 55-acre site is located at 1000 Harvard Avenue, approximately 3 miles southwest of downtown Cleveland, in Cuyahoga County. The Harshaw Chemical Company began production of chemical and radiological compounds for MED in late 1942. From 1944 to 1959, various forms of uranium were processed in Building G-1 (formerly known as Plant C) for isotopic separation and enrichment at Oak Ridge, Tennessee. The site was included in FUSRAP in spring 2001.

The Remedial Investigation was completed in 2009. USACE issued the Record of Decision for Operable Units (OU) 1 and 2 in November 2021. The selected remedy for OU-1 is complete excavation and off-site disposal, using remediation goals based on an industrial-reasonable, future land use. The selected remedy for OU-2 is complete excavation and off-site disposal using residential remediation goals based on a residential reasonable future land use.

Anticipated transfer date — 2030

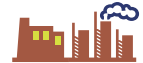
Anticipated LTS&M requirements consist of conducting long-term periodic reviews, managing site records, and responding to stakeholder inquiries.

► Harshaw Chemical Site Fact Sheet

www.lrb.usace.army.mil/missions/htrw/fusrap/harshaw-site/

Indian Orchard, Massachusetts, Site

(DOE COMPLETED FUSRAP SITE)



The Indian Orchard site is privately owned. Interior surfaces of a building at this site were contaminated in 1948 by machining of uranium metal for MED and AEC to support Brookhaven National Laboratory defense-related projects.

DOE designated the site for remediation under FUSRAP in 1992, and remediation was completed in 1995. DOE certified that the site conformed to applicable cleanup criteria and standards and released the property for unrestricted use in January 2004. The building was subsequently demolished.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Indian Orchard Fact Sheet

www.energy.gov/lm/articles/indian-orchard-massachusetts-site-fact-sheet

Iowa Army Ammunition Plant, Middletown, Iowa



(USACE ACTIVE FUSRAP SITE)

The Iowa Army Ammunition Plant (IAAAP) is an active, government-owned, contractor-operated facility that occupies approximately 19,000 acres (about 30 square miles) in Des Moines County, near Middletown in southeast Iowa. From 1947 to 1975, AEC conducted weapons assembly operations as a tenant on 1,630 acres of the 19,000-acre plant. IAAAP was included on the NPL in 1990. In September 1990, the U.S. Army and EPA Region 7 entered into a Federal Facilities Agreement to define the roles and responsibilities for the Army's CERCLA activities at the site and the process for interagency coordination. In August 2006, a Federal Facilities Agreement to address the FUSRAP project at IAAAP was executed between USACE, DOE, EPA, and the state of Iowa.

The USACE St. Louis District is remediating FUSRAP-eligible contamination. USACE completed the Remedial Investigation in 2008 and identified three areas for further evaluation in the Feasibility Study. Contamination consists of depleted uranium (DU). Alternatives to address the contamination were presented in the Feasibility Report, and a Record of Decision was completed in 2011. The selected remedy consists of the excavation and sorting of DU-contaminated soil with off-site disposal and building decontamination.

Anticipated transfer date — 2026

Anticipated LTS&M requirements consist of monitoring ICs, conducting five-year reviews, managing site records, and responding to stakeholder inquiries.

► IAAAP Fact Sheet

www.mvs.usace.army.mil/missions/fusrap/iaaap/

Jersey City, New Jersey, Site



(DOE COMPLETED FUSRAP SITE)

The Kellex Corporation was formed in 1943 to conduct engineering research in gaseous diffusion for uranium enrichment for MED and AEC. From 1943 to 1953, site activities focused on fuel reprocessing and component testing with uranium hexafluoride, developing a solvent-extraction process for the recovery of uranium, gas decontamination studies, and waste stream decontamination.

DOE conducted a radiological survey of the site in 1977 and remediated radioactive contamination at the site between 1979 and 1981. DOE certified that the site complied with applicable cleanup criteria in September 1983 and, with state of New Jersey concurrence, released the property for unrestricted use.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Jersey City Fact Sheet

www.energy.gov/lm/articles/jersey-city-new-jersey-site-fact-sheet

Joslyn Manufacturing and Supply Company, Ft. Wayne, Indiana



(USACE ACTIVE FUSRAP SITE)

From 1943 to 1952, the Joslyn Manufacturing and Supply Company worked under government contract to temper, hot roll, quench, straighten, cool, grind, cut, and thread natural uranium billets into metal rods. The 23-acre Joslyn site was included into FUSRAP in 2009 and assigned to the USACE Buffalo District for remediation.

USACE completed a Preliminary Assessment in August 2005. A Remedial Investigation began in March 2020, and the final report is anticipated to be completed in 2023.

Anticipated transfer date — 2038

Anticipated LTS&M requirements consist of conducting long-term periodic reviews, managing site records, and responding to stakeholder inquiries.

► Joslyn Manufacturing Site Fact Sheet

www.lrb.usace.army.mil/missions/htrw/fusrap/joslyn-manufacturing-and-supply-co-site/

Latty Avenue Properties, Hazelwood, Missouri



(USACE ACTIVE FUSRAP SITE)

Congress added the Latty Avenue Properties to FUSRAP in 1983. The site is located in northern St. Louis County within the cities of Hazelwood and Berkeley, approximately 3.2 miles northeast of the control tower of the St. Louis Lambert International Airport and approximately a half mile northeast of the St. Louis Airport Site. Two properties on this site are listed on the NPL (MOD 980633176): the Hazelwood Interim Storage Site and the Futura property.

Uranium-ore processing residues were hauled to this site from the St. Louis Airport Site; the residues resulted in contamination of site soil, groundwater, and building surfaces.

Properties at this site are privately owned. Land use near the properties is primarily industrial; other uses include transportation, commercial, and residential. The residential

(CONTINUED)

Latty Avenue Properties, Hazelwood, Missouri



(CONTINUED)

areas nearest the property are approximately 0.3 mile to the east in Hazelwood.

Remediation has been completed, and the site is in the process of transitioning to LM for LTS. One property will require ICs; the remainder will be released for unrestricted use. Groundwater monitoring will be required.

Anticipated transfer date — 2024

Anticipated LTS&M requirements consist of monitoring groundwater, conducting five-year reviews, monitoring ICs and land use controls, managing site records, and responding to stakeholder inquiries.

► Latty Avenue Properties Fact Sheet

www.mvs.usace.army.mil/Missions/FUSRAP/HISS/

Lucky, Ohio, Site



(USACE ACTIVE FUSRAP SITE)

The Lucky site is a 40-acre, inactive industrial site, located 24 miles southeast of Toledo. Between 1949 and 1958, the Lucky site was operated as a beryllium-production facility by the Brush Beryllium Company (later Brush Wellman) under contract to AEC. In 1951, the site received approximately 1,000 tons of radioactively contaminated scrap steel to be used in proposed magnesium production at the site.

USACE signed the Record of Decision to remediate site soils in 2006 and a Record of Decision for monitored natural attenuation of groundwater in 2008. USACE performs groundwater monitoring biannually at the site during soil remediation. Remedial action began in 2017. Excavation and off-site disposal of FUSRAP-contaminated soils from Phase 1 and 2 were completed in December 2020. Phase 3 building deconstruction was completed by September 2021. Soil remediation and groundwater monitoring continues.

Anticipated transfer date — 2029

Anticipated LTS&M requirements consist of monitoring groundwater, monitoring ICs, conducting long-term periodic reviews, managing site records, and responding to stakeholder inquiries.

► Lucky Fact Sheet

www.lrb.usace.army.mil/missions/htrw/fusrap/lucky-site/

Madison, Illinois, Site

(DOE COMPLETED FUSRAP SITE)



During the late 1950s and early 1960s, the Dow Metal Products Division of Dow Chemical Company machined and shaped uranium metal and straightened uranium rods for AEC. Radiological surveys conducted in 1989 identified uranium dust on interior overhead surfaces that exceeded DOE guidelines. The site was designated for remedial action under FUSRAP in 1992. USACE completed remediation in 2000. Uranium dust was left in place on the roof because it posed no unacceptable risk.

Post-remedial-action survey results indicated that the radiological condition of the Madison site was in compliance with the standards established in the Record of Decision, and USACE released the site for unrestricted use in September 2001. USACE transferred stewardship responsibility to DOE in 2002. DOE assigned FUSRAP management to LM in 2004.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Madison Fact Sheet

www.energy.gov/lm/articles/madison-illinois-site-fact-sheet



Lucky, Ohio, Site

USACE performing excavation in the Phase 1 cleanup area of the Lucky site.

Maywood Chemical Superfund Site, Maywood, New Jersey

(USACE ACTIVE FUSRAP SITE)



Congress added the Maywood site to FUSRAP in 1983. The Maywood site, approximately 13 miles northeast of Newark, New Jersey, includes 92 residential, municipal, and commercial properties in the boroughs of Maywood and Lodi and the township of Rochelle Park. The primary contaminant at the site is thorium-232, which originated from extraction processes involving monazite sands by the former Maywood Chemical Works between 1916 and 1959. Soils are being remediated under the 2003 Record of Decision. Site soils at the 11.7-acre, NPL-listed, government-owned parcel are being remediated to restricted use standards; the vicinity property soils have been remediated to either unrestricted use or restricted use, based upon land use. Inaccessible soils remain beneath local roadways, New Jersey Route 17, and Interstate 80. These soils are being remediated as they become accessible during road construction or subsurface utility work. Groundwater remediation is ongoing. The 2012 groundwater Record of Decision specified in situ treatment, monitored natural attenuation, and groundwater use restrictions as the selected remedy.

Anticipated transfer date — 2029

Anticipated LTS&M requirements consist of monitoring groundwater, monitoring ICs, supporting five-year reviews, managing site records, and responding to stakeholder inquiries.

► Maywood Chemical Works Fact Sheet

www.nan.usace.army.mil/Media/Fact-Sheets/Fact-Sheet-Article-View/Article/487561/fact-sheet-maywood-nj-formerly-utilized-sites-remedial-action-program-fusrap/

Middlesex Municipal Landfill Site, Middlesex North, New Jersey

(USACE ACTIVE FUSRAP SITE)



Ownership of the Middlesex Municipal Landfill site, located approximately 16 miles southwest of Newark, is divided between the Middlesex Presbyterian Church and the borough of Middlesex. In 1948, approximately 6,000 cubic yards of soil with radioactive contamination from the Middlesex Sampling Plant were disposed of at the former municipal landfill.

In 1961, AEC removed a portion of contaminated soil from the site and covered the area with 2 feet of clean soil. DOE designated the site for remediation under FUSRAP in 1980. In 1984 and 1986, DOE removed contaminated material from an approximately 3-acre area at depths of 1 to 19 feet. DOE certified that the remediated portion

of the site complied with applicable cleanup criteria and released the property for unrestricted use in April 1989.

In 2008, the New Jersey Department of Environmental Protection provided DOE with the results of a radiological survey performed by the borough of Middlesex in 2001. DOE commissioned a survey of the entire property. Survey results identified above-background concentrations of radium-226 and uranium-238 inside the property boundary in areas that had not been previously remediated. In 2009, DOE referred the site back to USACE for further investigation under FUSRAP. The site was added in 2014.

The Remedial Investigation and Feasibility Study were completed in August 2019, and the Proposed Plan was issued in July 2021. A soils Record of Decision is expected in FY 2022. The preferred alternative includes soil excavation to unrestricted-use levels. There was no groundwater contamination detected at the site.

Anticipated transfer date — 2038

Anticipated LTS&M requirements consist of conducting long-term periodic reviews, managing site records, and responding to stakeholder inquiries.

► Middlesex Municipal Landfill Fact Sheet

www.nan.usace.army.mil/media/fact-sheets/fact-sheet-article-view/article/563012/fact-sheet-middlesex-municipal-landfill/

Middlesex Sampling Plant, Middlesex South, New Jersey

(USACE ACTIVE FUSRAP SITE)



The Middlesex Sampling Plant (MSP) site consists of approximately 9.6 acres and is located 18 miles southwest of Newark, New Jersey. The government-owned site is currently undeveloped, vacant land zoned for industrial use.

From 1943 to 1955, MED used the site for storage and shipment of African uranium ore (known as pitchblende) from the Belgian Congo and, later, to process and ship uranium, thorium, and beryllium ores. MED operations ended in 1955, and AEC later used the site to store thorium residues. In 1967, AEC terminated activities at MSP and decontaminated on-site structures to meet the cleanup criteria in effect. The U.S. Marine Corps Reserve used the facility as a training center from 1969 to 1979. DOE acquired the site in 1980, cleaned up contaminated vicinity properties throughout the 1980s, and stored excavated soil at the site.

USACE began additional remedial actions in 1998 under FUSRAP. In 1999, the site was placed on the NPL. The Record

(CONTINUED)

Middlesex Sampling Plant, Middlesex South, New Jersey



(USACE ACTIVE FUSRAP SITE)

of Decision for soils was issued in FY 2005, soil remediation was completed in 2008, and the groundwater remediation is in progress. The groundwater Record of Decision was finalized in 2021, and the selected remedy includes treatment with in situ chemical reduction, monitored natural attenuation, and land use controls. To determine if other vicinity properties required investigation, USACE completed an aerial gamma survey of a 7-acre area in March 2021. The results are under review. The site is currently in the GSA-disposition process.

Anticipated transfer date — 2030

Anticipated LTS&M requirements consist of monitoring groundwater, monitoring ICs, conducting five-year reviews, managing site records, and responding to stakeholder inquiries.

► Middlesex Sampling Plant Fact Sheet

www.nan.usace.army.mil/media/fact-sheets/fact-sheet-article-view/article/487433/fact-sheet-middlesex-sampling-plant-msp/

New Brunswick, New Jersey, Site



(DOE COMPLETED FUSRAP SITE)

From 1948 to 1977, MED and AEC operated the New Brunswick site as a general nuclear chemistry laboratory. Between 1978 and

1983, the site was partially remediated in two phases, including removing all above-ground structures, contaminated concrete foundations, on-site drain lines, and contaminated soils on the front two-thirds of the property. In 1990, DOE designated the site for additional remediation of residual soil contamination under FUSRAP. DOE remediated localized areas of contamination, identified in 1996, and certified that the site complied with applicable cleanup criteria and standards in September 2001.

In 2009, at the request of the state regulator, DOE collected additional radiological data on drain lines entering a sanitary sewer in the public right of way. After DOE found no indication of above-background radioactivity, DOE sold the site to a private party in November 2009, and the site has been redeveloped into a waste transfer station.

LTS&M requirements include managing a deed restriction IC to prevent excavation in an area where soils with elevated arsenic levels are covered by a layer of clean soil. The property owner inspects the restricted area every other year and submits a certification of protectiveness to the state regulator and stakeholders.

LTS&M requirements include managing site records and responding to stakeholder inquiries.

► New Brunswick Fact Sheet

www.energy.gov/lm/articles/new-brunswick-new-jersey-site-fact-sheet



Middlesex Sampling Plant, New Jersey, Site

The Middlesex South site was home to the Middlesex Sampling Plant, established in 1943 by the Manhattan Engineer District to sample, store, test, and transfer ores containing uranium, thorium, and beryllium.

New York, New York, Site

(DOE COMPLETED FUSRAP SITE)



The Baker and Williams Warehouses site in Manhattan was used by MED in the early 1940s for the short-term storage of uranium concentrates that were later distributed to government facilities involved in nuclear reactor and atomic weapons programs.

In 1990, DOE designated the site for remediation under FUSRAP. DOE remediated contaminated areas in the warehouses and certified that the site complied with applicable cleanup criteria and standards in October 1955. The property was released for unrestricted use.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► New York Fact Sheet

www.energy.gov/lm/articles/new-york-new-york-site-fact-sheet

Niagara Falls Storage Site, New York



(USACE ACTIVE FUSRAP SITE, includes open vicinity properties)

The Niagara Falls Storage Site (NFSS) is located in the town of Lewiston, New York, approximately 19 miles north of Buffalo. NFSS is a 191-acre, federally owned site with FUSRAP-eligible soil and groundwater contamination. The site contains a 10-acre Interim Waste Containment Structure (IWCS), built by DOE in the 1980s to store radioactive wastes brought to the site in the 1940s and 1950s.

The Buffalo District performs maintenance, monitoring, and environmental surveillance activities at the site to verify that IWCS remains protective of human health and the environment and continues to perform as designed.

In FY 2021, USACE drafted the Record of Decision for the Balance of Plant and Groundwater Operable Units and started the review process. USACE also awarded a service contract for the anticipated remediation work at NFSS.

Anticipated transfer date — 2038

Anticipated LTS&M requirements consist of monitoring groundwater, managing ICs, conducting long-term periodic reviews, managing site records, and responding to stakeholder inquiries.

USACE is also responsible for environmental investigations and response at open NFSS vicinity properties. Three vicinity properties — E, E-Prime, and G — were not accessible for DOE

investigation. USACE will investigate these vicinity properties once the areas are accessible for investigation. USACE is evaluating two additional vicinity properties: H-Prime and X. The remedial investigation report and proposed plan for H-prime are scheduled to be completed in FY 2023. USACE is conducting a site inspection for vicinity property X, which is scheduled to be released in FY 2023.

Anticipated transfer dates to be determined.

Anticipated LTS&M requirements to be determined after investigation and response.

► Niagara Falls Storage Site Fact Sheet

www.lrb.usace.army.mil/Missions/HTRW/FUSRAP/Niagara-Falls-Storage-Site/msclid/37e47567bccb11ec9e4ed4f7b6b005d4/

Niagara Falls Vicinity Properties, New York, Site



(DOE COMPLETED FUSRAP SITE)

Niagara Falls Vicinity Properties, located near Lewiston, consists of 26 properties that were formerly part of the Lake Ontario Ordnance Works and were sold to private owners. Another portion of the former ordnance plant was transferred to AEC and became the NFSS.

Beginning in 1944, MED stored uranium-processing residues, uranium metal, and radiological waste at the former Lake Ontario Ordnance Works. Radiological surveys between 1970 and 1980 indicated that residual radioactive contamination exceeding FUSRAP guidelines remained on 23 vicinity properties and in drainage ditches. In 1986, DOE started to remediate these 23 properties. DOE certified their completion in October 1991 and released the properties for unrestricted use.

DOE applied supplemental limits to portions of the Central Drainage Ditch.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Niagara Falls Vicinity Properties Fact Sheet

www.energy.gov/lm/articles/niagara-falls-storage-site-vicinity-properties-new-york-site-fact-sheet

Oak Ridge, Tennessee, Warehouses Site



(DOE COMPLETED FUSRAP SITE)

The Elza Gate Warehouses site was used in the early 1940s by MED to store high-grade uranium ore, radium-bearing sludges, and other radioactive materials (e.g., tailings, oxide residues, slag) for the Manhattan Project. From 1946 to the early 1970s, AEC used the site to store equipment for Oak Ridge National Laboratory. In the 1970s, the site was vacated and decontaminated to then-current standards, transferred to the city of Oak Ridge, and later sold to a private metal-fabrication company.

In 1988, the property was surveyed, and contamination was found that exceeded FUSRAP-cleanup criteria. Additional radiological and chemical characterization was performed in 1989 and 1990. In 1991 and 1992, DOE remediated radioactive contamination on concrete pads and in soils and removed polychlorinated biphenyl and lead-contaminated soil. DOE certified that the site complied with applicable cleanup criteria and standards in November 1993 and released the property for unrestricted use.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Oak Ridge Fact Sheet

www.energy.gov/lm/articles/oak-ridge-tennessee-warehouses-site-fact-sheet

Oxford, Ohio, Site



(DOE COMPLETED FUSRAP SITE)

The former Alba Craft Laboratory machined uranium metal for AEC at the site from 1952 to 1957. Machining operations contaminated the site and several nearby (vicinity) properties, all of which are privately owned.

AEC removed some contamination at the site in 1957. DOE reviewed site records and determined that further cleanup was warranted. DOE conducted additional remediation of the site and the vicinity properties under FUSRAP in 1994 and 1995. DOE certified that the site conformed to applicable cleanup criteria in November 1996 and released all properties for unrestricted use.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Oxford Fact Sheet

www.energy.gov/lm/articles/oxford-ohio-site-fact-sheet

Painesville, Ohio, Site



(DOE COMPLETED FUSRAP SITE)

The Painesville site — a 30-acre, privately owned site, located 22 miles northeast of Cleveland — is a former magnesium-production facility that was operated by the Diamond Magnesium Company under contract to the federal government from 1942 to 1953. Preliminary investigations by DOE in 1990 and 1991 led to designation of the site under FUSRAP in 1992. DOE conducted additional investigations in 1996. In 1997, remediation responsibilities were transferred to USACE. USACE remediated site soils between 2007 and 2011. In 2016, USACE transferred LTS responsibility for the site to LM.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Painesville Fact Sheet

www.energy.gov/lm/articles/painesville-ohio-site-fact-sheet

Seaway Industrial Park (Tonawanda North, Unit 3) Site, Tonawanda, New York



(USACE ACTIVE FUSRAP SITE)

The Seaway Industrial Park site is located in the industrial area of Tonawanda, approximately 10 miles northwest of Buffalo. The site is a 93-acre commercial landfill that operated from 1930 to 1993, accepting municipal, commercial, construction, and industrial wastes. In the 1940s, Linde Air Products processed uranium ore under a MED contract. The processing residues were disposed in the Seaway landfill. During the mid-1970s, Ashland Oil constructed oil tanks on the Tonawanda North Unit 1 property. During construction, Ashland Oil removed materials containing radioactive residues and transported the materials to the Seaway landfill and the nearby Tonawanda North Unit 2 site for use as cover or grading material. During the USACE remediation of the Tonawanda North Unit 1 site, FUSRAP-related materials at elevated concentrations were found to extend onto the Seaway site.

The 2009 Record of Decision called for containment with limited off-site disposal as the selected remedy. The selected remedy includes capping of investigative areas within the landfill boundaries. The selected remedy also includes excavation of FUSRAP-related material outside the landfill boundaries with off-site disposal. The USACE Buffalo District initiated excavation and off-site disposal of contaminated soil in 2015 and completed the north side of the landfill in 2016. USACE anticipates completing the landfill cap design in FY 2022.

Anticipated transfer date — 2028

(CONTINUED)

Seaway Industrial Park (Tonawanda North, Unit 3) Site, Tonawanda, New York



(CONTINUED)

Anticipated LTS&M requirements consist of monitoring ICs (including maintaining the leachate system), conducting long-term periodic reviews, managing site records, and responding to stakeholder inquiries.

► Seaway Industrial Park Fact Sheet

www.lrb.usace.army.mil/missions/htrw/fusrap/seaway-site/

Seymour, Connecticut, Site

(DOE COMPLETED FUSRAP SITE)



Research and development of a natural uranium metal-extrusion process was performed at the former Seymour Specialty Wire site for AEC from 1962 to 1964. Operations contaminated interior surfaces of one building and two soil areas.

DOE designated the site for remediation under FUSRAP in 1985 and conducted remediation in 1992 and 1993.

In January 1995, DOE certified that the site complied with applicable cleanup criteria and released the property for unrestricted use.

DOE applied supplemental limits to inaccessible uranium contamination that was grouted in place in a drain system beneath the building.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Seymour Fact Sheet

www.energy.gov/lm/articles/seymour-connecticut-site-fact-sheet

Shallow Land Disposal Area, Parks Township, Pennsylvania



(USACE ACTIVE FUSRAP SITE)

The privately owned, 44-acre site is located near the borough of Apollo, approximately 23 miles east-northeast of Pittsburgh. As part of the AEC contracts, radioactive materials were produced, primarily for fuel for nuclear-powered submarines and power plants. Nuclear wastes from the nearby Nuclear Materials and Equipment Corporation site were disposed of in a series of 10 trenches, which constitute a total area of approximately 1.2 acres. Disposal operations were conducted in the 1960s and 1970s.

Congress added the Parks Township site to FUSRAP in 2002 and assigned the cleanup to the USACE Pittsburgh District. USACE

is currently maintaining the site, conducting regular environmental monitoring, and providing security. Material exhumed in 2011, which exceeded site-specific cleanup goals, was packaged, transported, and disposed of outside of Pennsylvania in 2012.

In April 2017, USACE awarded a remediation services contract for the cleanup of radioactive waste and finalized a Notice to Proceed in 2019. Remediation design plans and procedures are currently being developed in anticipation of starting site infrastructure improvements by 2023 and excavation by 2024.

Anticipated transfer date — 2036

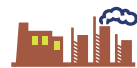
Anticipated LTS&M requirements consist of conducting long-term periodic reviews, managing site records, and responding to stakeholder inquiries.

► Shallow Land Disposal Area Fact Sheet

www.lrp.usace.army.mil/Missions/Planning-Programs-Project-Management/Key-Projects/Shallow-Land-Disposal-Area/

Springdale, Pennsylvania, Site

(DOE COMPLETED FUSRAP SITE)



The former C.H. Schnorr site was a privately owned metal-fabrication shop that provided uranium metal-machining services to MED in the mid-1940s. Machining operations resulted in uranium contamination of interior concrete floor surfaces and soil under the concrete slab.

In 1992, DOE designated the site for remediation under FUSRAP and conducted remedial action in 1994, which consisted of decontaminating the building, removing concrete, and excavating and removing soil and debris. DOE certified that the site complied with applicable cleanup criteria in September 1996 and released the property for unrestricted use.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Springdale Fact Sheet

www.energy.gov/lm/articles/springdale-pennsylvania-site-fact-sheet

Staten Island Warehouse Site, New York



(USACE ACTIVE FUSRAP SITE)

The 1.25-acre site is located at the base of the Bayonne Bridge on Richmond Terrace Avenue on Staten Island. Minière du Haut-Katanga Company stored high-grade Belgian Congo

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Staten Island Warehouse Site, New York

(CONTINUED)



uranium ore that it owned at the site from 1939 to 1942. In 1942, 2,007 drums of uranium ore were stored at the warehouse, then owned by Archer-Daniels Midland Company. Following purchase of this material by the U.S. government, the uranium ore was shipped to various MED sites for storage and processing. In transferring and purchasing the ore, MED became responsible for the area of transfer under the Free Alongside Ship provision of maritime law.

DOE identified the site eligible for FUSRAP in 2009. Based on the results of a preliminary assessment and site inspection, USACE recommended a Remedial Investigation for the site under FUSRAP. The site was officially added to FUSRAP in May 2020. Confirmatory sampling was conducted in 2021. The results are currently under evaluation to determine if remedial action is needed.

Anticipated transfer date — 2038

Anticipated LTS&M requirements consist of conducting long-term periodic reviews, managing site records and responding to stakeholder inquiries.

► Staten Island Warehouse Fact Sheet

www.nan.usace.army.mil/media/fact-sheets/fact-sheet-article-view/article/2584232/fact-sheet-staten-island-warehouse/

St. Louis Airport Site, Berkeley, Missouri

(USACE ACTIVE FUSRAP SITE)



In 1946, MED acquired the St. Louis Airport Site (SLAPS), a 21-acre site just north of the St. Louis Airport, for storage of residues and other material from the St. Louis Downtown Site operated by Mallinckrodt. In subsequent years, adjacent properties became contaminated as a result of erosion and spillage; those properties are included in the SLAPS Vicinity Properties. On Oct. 4, 1989, SLAPS was added to the NPL (MOD980633176). In 2007, USACE completed remediation of this site in accordance with the Record of Decision. The site is currently being used as the loadout area for the soils remediated at the SLAPS Vicinity Properties.

Anticipated transfer date — 2039

Anticipated LTS&M requirements consist of monitoring groundwater, conducting five-year reviews, implementing a possible fast-response capability to manage radiologically contaminated soils under roads and around utilities, managing site records, and responding to stakeholder inquiries.

► St. Louis Airport Fact Sheet

www.mvs.usace.army.mil/Missions/FUSRAP/SLAPS/



St. Louis Airport Site, St. Louis, Missouri

USACE uses a rail spur to ship material excavated from the various SLAPS Vicinity Properties. Upon completion of remediation, the rail spur will also be removed.

St. Louis Airport Site Vicinity Properties, Hazelwood and Berkeley, Missouri

(USACE ACTIVE FUSRAP SITE)



The SLAPS Vicinity Properties are located in the cities of Hazelwood and Berkeley. These properties were contaminated by residues that were removed at SLAPS and were hauled to Latty Avenue for reprocessing. The more than 148 properties include Coldwater Creek (CWC), adjacent ball fields to the north and east, Norfolk and Western Railroad properties adjacent to CWC, Banshee Road to the south, ditches to the north and south, and St. Louis Airport Authority property to the south. The CWC corridor, which starts at Banshee Road and continues to the Missouri River for 14.2 miles, is part of the SLAPS Vicinity Properties. Also included are the haul routes along Latty Avenue, McDonnell Boulevard, Pershall Road, Hazelwood Avenue, Eva Avenue, and Frost Avenue. Low-level radioactive contamination at the SLAPS Vicinity Properties is linked to both the SLAPS and the Latty Avenue Properties. In 1966, Continental Mining and Milling Company of Chicago purchased uranium-bearing residues from MED and removed them from SLAPS. The company placed the residues in storage at Latty Avenue under an AEC license.

Over time, residues migrated from other sites or were deposited as the residues were moved, contaminating the soils and sediments of the vicinity properties, including CWC. As of November 2021, USACE has collected more than 28,000 samples of sediment and soil to characterize CWC and adjacent floodplain property conditions. USACE has published annual descriptions of CWC's status, covering 9.6 of the 14.2 miles. Investigation and remediation work is ongoing.

Anticipated transfer date — 2039

Anticipated LTS&M requirements consist of monitoring groundwater, conducting five-year reviews, implementing a possible fast-response capability to manage radiologically contaminated soils under roads and around utilities, managing site records, and responding to stakeholder inquiries.

► **St. Louis Airport Vicinity Properties Fact Sheet**

www.mvs.usace.army.mil/Missions/FUSRAP/SLAPS-VPs/

St. Louis Downtown Site, Missouri

(USACE ACTIVE FUSRAP SITE)



The St. Louis Downtown Site (SLDS) is located in an industrial area on the eastern border of St. Louis, approximately 300 feet west of the Mississippi River. The property is about 11 miles southeast of the St. Louis Airport site and the St. Louis Lambert International Airport. SLDS encompasses nearly 45 acres and is owned by Mallinckrodt Inc. (formerly Mallinckrodt Chemical

Works), various private entities, and the city. The Mallinckrodt property includes buildings and other facilities involved in chemical production.

From 1942 to 1957, under contract with MED and AEC, the site was used for processing various forms of uranium compounds, machining, and recovering of uranium metal. The St. Louis District continues remedial activities in accordance with the 1998 Record of Decision for accessible areas, which includes the Mallinckrodt plant and 42 known vicinity properties. In 2014, the Record of Decision for the Group 1 Inaccessible Soils Operable Unit was signed with a No Further Action remedy. The Group 2 Inaccessible Soils are in the process of being evaluated and assessed for possible remediation.

Anticipated transfer date — 2032

Anticipated LTS&M requirements consist of monitoring ICs, conducting five-year reviews, managing site records, and responding to stakeholder inquiries.

► **St. Louis Fact Sheet**

www.mvs.usace.army.mil/Missions/FUSRAP/SLDS/

Superior Steel Site, Carnegie, Pennsylvania

(USACE ACTIVE FUSRAP SITE)



Uranium metal was processed in support of AEC's fuel element-development program at the former Superior Steel site, located southwest of Pittsburgh, from 1952 to 1957. The site was also licensed from 1957 to 1958 to receive thorium metal for processing and shaping.

The primary AEC operations performed at the Superior Steel site consisted of salt bathing, rolling, brushing, shaping, cutting, stamping, and coiling of uranium metal. Records indicate that natural and enriched uranium were processed at the site. Recycled uranium from reprocessed spent nuclear fuel may also have been processed on-site. USACE concluded that the site was used for AEC activities that supported the nation's early atomic energy program, and further investigation was recommended to determine the extent and nature of AEC-related contamination and the associated risks to human health and the environment. The site was added to FUSRAP in FY 2008.

USACE completed a Remedial Investigation of the site. The Remedial Investigation Report and Proposed Plan are scheduled for completion in 2022.

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Superior Steel Site, Carnegie, Pennsylvania



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Anticipated transfer date — 2026

Anticipated LTS&M requirements consist of monitoring groundwater, performing long-term periodic reviews, managing site records, and responding to stakeholder inquiries.

► Superior Steel Fact Sheet

www.lrb.usace.army.mil/missions/htrw/fusrap/superior-steel-site/

Sylvania Corning Plant Site, Hicksville, New York



(USACE ACTIVE FUSRAP SITE)

The Sylvania Corning Plant/former Sylvania Electric Products site occupies 9.49 acres in the hamlet of Hicksville on Long Island. From 1952 to 1965, the Sylvania Corning Plant operated under AEC contracts for research, development, and production of nuclear fuel elements. From 1952 to 1967, a second operation concentrated on commercial work for the production of reactor fuel and other reactor core components. Operations at the site used natural, enriched, and depleted uranium as well as some use of thorium. Site contamination consists of these radionuclides as well as nickel and tetrachloroethene.

USACE completed a Preliminary Assessment in 2005 and an on-site Remedial Investigation in 2010. Congress added the Hicksville site to FUSRAP in 2006. The site was included in a regional groundwater listing on the NPL in 2011. USACE finalized the remedial investigation report in FY 2021 and will begin the feasibility study in FY 2022.

Anticipated transfer date — 2038

Anticipated LTS&M requirements consist of monitoring of groundwater, conducting five-year reviews, managing site records and responding to stakeholder inquiries.

► Sylvania Corning Fact Sheet

www.nan.usace.army.mil/media/fact-sheets/fact-sheet-article-view/article/487310/fact-sheet-sylvania-corning/

Toledo, Ohio, Site



(DOE COMPLETED FUSRAP SITE)

During the early and mid-1940s, Baker Brothers, Inc. fabricated slugs from natural uranium metal for MED at the Toledo site. In 1992, DOE designated the Toledo site and its associated vicinity property for remediation under FUSRAP. DOE remediated localized areas of residual uranium contamination on interior building surfaces and exterior soil and concrete in 1995. DOE certified that the site and the vicinity property complied with applicable cleanup criteria and standards in August 2001 and released the properties for unrestricted use.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Toledo Fact Sheet

www.energy.gov/lm/articles/toledo-ohio-site-fact-sheet

Tonawanda, New York, Site



(DOE COMPLETED FUSRAP SITE)

The Tonawanda site is located in the town of Tonawanda, approximately 10 miles northwest of Buffalo. MED and AEC contracted with Linde Air Products to refine uranium between 1942 and 1946. Waste generated from the uranium processing was stored at the Ashland #1 site (Tonawanda North, Unit 1). Radioactive contaminants include uranium, radium, and thorium.

In 1953, the Linde facilities were remediated to levels within radioactive guidelines in effect at that time. All of the structures used in processing have since been converted to other commercial and industrial uses. The Tonawanda site was designated as a FUSRAP site in 1980, and DOE initiated the cleanup process in 1996. USACE completed remedial actions and restoration in May 2013 with declaration of completion in March 2015. The site transferred to LM for LTS in 2017. The nearby Tonawanda Landfill is being remediated as a separate FUSRAP site.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Tonawanda Fact Sheet

www.energy.gov/lm/articles/tonawanda-new-york-site-fact-sheet

Tonawanda Landfill, New York, Site

(USACE Active FUSRAP Site)



The Tonawanda Landfill is a vicinity property of the Tonawanda, New York, Site. The landfill site consists of two OUs: the 55-acre Tonawanda Landfill OU and the 115-acre Mudflats OU. The site was designated for FUSRAP in 1992 when early DOE investigations around the Linde (Tonawanda) site detected elevated levels of FUSRAP-related radionuclides in the landfill. USACE completed work at the Mudflats OU in 2008 with a no-action Record of Decision. In FY 2020, USACE completed removal of FUSRAP-related material in accordance with the 2017 Landfill OU Record of Decision. USACE anticipates completing the site closeout report in FY 2022, at which time the site will begin to transfer to DOE.

Anticipated transfer date — 2024

Anticipated LTS&M includes conducting five-year reviews, managing site records, and responding to stakeholder inquiries.

► Tonawanda Landfill Fact Sheet

www.lrb.usace.army.mil/Missions/HTRW/FUSRAP/Tonawanda-Landfill/

Tonawanda North, New York, Site, Units 1 and 2

(DOE COMPLETED FUSRAP SITES)



From 1944 to 1946, uranium ore-processing residues were transported from the Linde uranium refinery site to a 10-acre area, known then as the Haist property, now called Tonawanda North Unit 1. In 1960, Ashland Oil Company acquired the property for an oil refinery. Soil containing radioactive residues removed during construction was transported to Unit 2 (another Ashland Oil Company property) and Unit 3 (Seaway Landfill C) for disposal. Unit 2 includes portions of Rattlesnake Creek.

USACE remediated Units 1 and 2 of the Tonawanda North site. Contaminated soil was excavated and shipped off-site for disposal or reprocessed as alternate uranium ore feed material. Remedial activities of Units 1 and 2, including the portions of Rattlesnake Creek, were completed in 2005. The properties were remediated to standards suitable for unrestricted (urban residential) use. The site transitioned to DOE in 2008.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Tonawanda North Fact Sheet

www.energy.gov/lm/articles/tonawanda-north-new-york-sites-units-1-and-2-fact-sheet

Wayne, New Jersey, Site

(DOE COMPLETED FUSRAP SITE)



Rare Earths, Inc., and then W.R. Grace & Co., operated the 6.5-acre site for AEC as a rare earth and thorium-processing facility from 1948 to 1971. Contaminated waste materials were buried on-site, and the facility license was terminated. Congress added the Wayne site to FUSRAP in 1983. EPA placed the site on the NPL in 1984. In 1985, DOE acquired the property for interim storage of contaminated soil and debris removed from nearby vicinity properties.

DOE began remediating the site and contaminated vicinity properties, and USACE completed remediation in 2003. Remedial activity achieved cleanup levels allowing for unrestricted use. The site was transferred to Wayne Township for recreational use in 2006. In 2010, USACE remediated residual radioactive contamination in rights of way.

The site transferred to DOE in 2007, and EPA delisted the site from the NPL in 2012. DOE removed the groundwater IC on the site in 2012.

LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Wayne Fact Sheet

www.energy.gov/lm/articles/wayne-new-jersey-site-fact-sheet

Windsor, Connecticut, Site

(DOE COMPLETED FUSRAP SITE)



Between 1955 and 1962, Combustion Engineering (CE) used the facility to research, develop, and manufacture nuclear fuel. NRC authorized and issued a license to CE to fabricate low-enriched uranium for light-water-moderated power reactors. Commercial nuclear fuel fabrication ceased in 1993.

In 1994, DOE determined that certain areas of the property were eligible for remedial actions under FUSRAP. Between 1998 and 2006, USACE performed site characterization and remedial investigation fieldwork and published risk assessment and feasibility study reports for the FUSRAP-eligible areas of the site. Because of the extensive commingling of FUSRAP-related materials with NRC-regulated materials, CE, NRC, USACE, and DOE agreed that CE would decommission the site under NRC regulations. Remedial actions were completed in 2011, and the site met release criteria for unlimited use and unrestricted exposure. The NRC license was terminated in September 2013.

In January 2019, USACE transferred LTS responsibility for the Windsor site to LM.

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Windsor, Connecticut, Site

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LTS&M requirements consist of managing site records and responding to stakeholder inquiries.

► Windsor Fact Sheet

www.energy.gov/lm/articles/windsor-connecticut-site-fact-sheet

W.R. Grace-Davison at Curtis Bay Site, Curtis Bay, Maryland



(USACE ACTIVE FUSRAP SITE)

From May 1956 through early 1957, thorium and rare earth elements were extracted from monazite sand at the site under an AEC license. This process occurred in the southwest quadrant of Building 23, which is still actively used by the current property owner. Waste materials from the processing operations were disposed of on-site in the Radioactive Waste Disposal Area (RWDA).

For Building 23, USACE issued the Remedial Investigation in 2002, the Feasibility Study in 2003, and Proposed Remedial Action Plan in 2004. The Record of Decision was issued in 2005 and amended

in 2020, changing the remedy from decontamination of Building 23 to demolition and adding land use controls for soil that exceeded remediation goals. The remedial action for Building 23 is ongoing. USACE issued the first Five-Year Review for Building 23 in 2021. For RWDA, USACE issued a Revised Final Remedial Investigation in 2001 and a Feasibility Study in 2009. A Proposed Remedial Action Plan in 2009, and the Record of Decision was finalized in 2011, which selected excavation, segregation, and off-site disposal, with the potential use of land use controls. The remedial action for the RWDA is planned to take place after remediation of Building 23 takes place.

Anticipated transfer date — 2030

Anticipated LTS&M requirements consist of conducting long-term periodic reviews, managing site records, and responding to stakeholder inquiries.

► W.R. Grace-Davison at Curtis Bay Fact Sheet

www.nab.usace.army.mil/WRGrace/

CONTACT INFORMATION

Resources & Contacts

LM FUSRAP

► **Web: FUSRAP Program — Further Resources**
www.energy.gov/lm/fusrap-program-further-resources

► **Email:**
FUSRAPinfo@lm.doe.gov
public.affairs@lm.doe.gov

► **Phone: (970) 248-6070**

► **Stakeholder Report:**
www.energy.gov/lm/articles/fusrap-stakeholder-report

References & Links

The following documents and additional information on FUSRAP can be found at:

► **LM FUSRAP Fact Sheet**
www.energy.gov/lm/articles/lm-fusrap-fact-sheet

► **LTS Requirements**
www.energy.gov/lm/downloads/long-term-surveillance-and-maintenance-requirements-remediated-fusrap

► **Considered Sites Database**
www.energy.gov/lm/considered-sites-overview