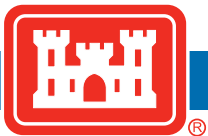




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FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM UPDATE 2015



### Introduction

The *Formerly Utilized Sites Remedial Action Program Update* provides information about progress the U.S. Army Corps of Engineers is making in cleaning up sites with contamination resulting from the Nation's early atomic energy program. The Formerly Utilized Sites Remedial Action Program (FUSRAP) was initiated in 1974 to identify, investigate, and if necessary, clean up or control sites throughout the U.S. contaminated as a result of Manhattan Engineer District (MED) or early Atomic Energy Commission (AEC) activities. Both the MED and the AEC were predecessors of the U.S. Department of Energy (DOE).

Congress transferred administration and execution of FUSRAP cleanups from the DOE to the Corps of Engineers in October 1997. The Corps of Engineers continues to address sites the DOE began, sites that were referred to the Corps of Engineers by the DOE's Office of Legacy Management under a Corps of Engineers/DOE Memorandum of Understanding, and sites added to the program by Congress.

#### **The Corps of Engineers' FUSRAP objectives are to safely, effectively and efficiently:**

- Identify and evaluate sites where authority and the need for a response action exist;
- Clean up or control FUSRAP sites to ensure protection of human health and the environment;
- Dispose or stabilize radioactive material in a way that is safe for the public and the environment;
- Perform work in compliance with applicable federal, state, and local environmental laws and regulations; and
- Return sites for appropriate future use.

When executing FUSRAP, the Corps of Engineers follows the investigation and response framework of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This framework is shown on Page 5. Each site may have multiple operable units (OUs) each in a different phase within the CERCLA process.

The Corps of Engineers is committed to informing and involving the public as it progresses through the decision-making process for each site. Response actions are coordinated with the U.S. Environmental Protection Agency (EPA) and/or state environmental regulatory agencies on all sites.

Two years after the Corps of Engineers completes a response action and final closeout activities at a FUSRAP site, that site, along with responsibility for long-term stewardship, if necessary, reverts to the DOE. FUSRAP sites that have been transferred back to the DOE's Office of Legacy Management for long-term stewardship are the Wayne Interim Storage Site, Newark, New Jersey; Bliss and Laughlin, Buffalo, New York; the Ashland 1 Site including Seaway Area D, Tonawanda, New York; and the Ashland 2 Site including Rattlesnake Creek, Tonawanda, New York.

Currently seven districts within three Corps of Engineers divisions work on 25 active FUSRAP sites within 10 states. Districts involved in FUSRAP are Buffalo and Pittsburgh within the Great Lakes and Ohio River Division; St. Louis within the Mississippi Valley Division; and Baltimore, New England, New York, and Philadelphia within the North Atlantic Division. The Corps of Engineers' Environmental and Munitions Center of Expertise and the Kansas City District also provide technical assistance.

Since the Corps of Engineers began administering FUSRAP, program funding has ranged between \$99.9 million and \$140 million a year. The FUSRAP budget for fiscal year (FY) 2015 was \$101.5 million. Progress and the schedule for each site is dependent on prioritization among all active FUSRAP sites taking into account what CERCLA phase they are in and the availability of FUSRAP funds nationally.

More FUSRAP information can be found at:

<http://www.usace.army.mil/Missions/Environmental/FUSRAP.aspx>



## Active FUSRAP Sites

### Mississippi Valley Division

#### St. Louis District

Iowa Army Ammunition Plant, Middletown, Iowa

North St. Louis County Sites

- Latty Avenue Properties, St. Louis
- St. Louis Airport Site
- St. Louis Airport Site Vicinity Properties

St. Louis Downtown Site

### Great Lakes and Ohio River Division

#### Buffalo District

Joslyn Manufacturing and Supply Company, Fort Wayne, Indiana

Guterl Specialty Steel, Lockport, New York

Linde Air Products, Tonawanda, New York

Niagara Falls Storage Site, Lewiston, New York

Seaway Industrial Park, Tonawanda, New York

Tonawanda Landfill, Tonawanda, New York

Harshaw Chemical Company, Cleveland

Luckey Site, Luckey, Ohio

Painesville Site, Painesville, Ohio

Superior Steel, Carnegie, Pennsylvania

#### Pittsburgh District

Shallow Land Disposal Area, Parks Township, Pennsylvania

### North Atlantic Division

#### Baltimore District

W.R. Grace at Curtis Bay Site, Baltimore

#### New England District

Combustion Engineering Site, Windsor, Connecticut

Shpack Landfill, Norton/Attleboro, Massachusetts

#### New York District

Maywood Chemical Superfund Site, Maywood, New Jersey

Middlesex Municipal Landfill, Middlesex, New Jersey

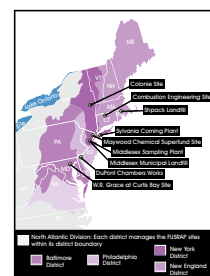
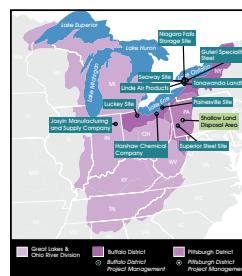
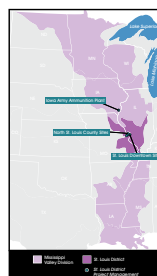
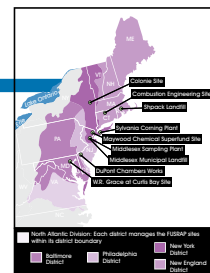
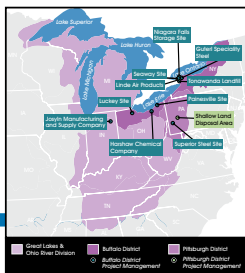
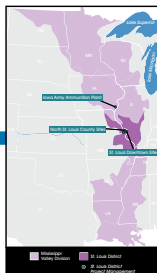
Middlesex Sampling Plant, Middlesex, New Jersey

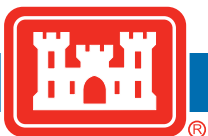
Colonie Site, Colonie, New York

Sylvania Corning Plant, Hicksville, New York

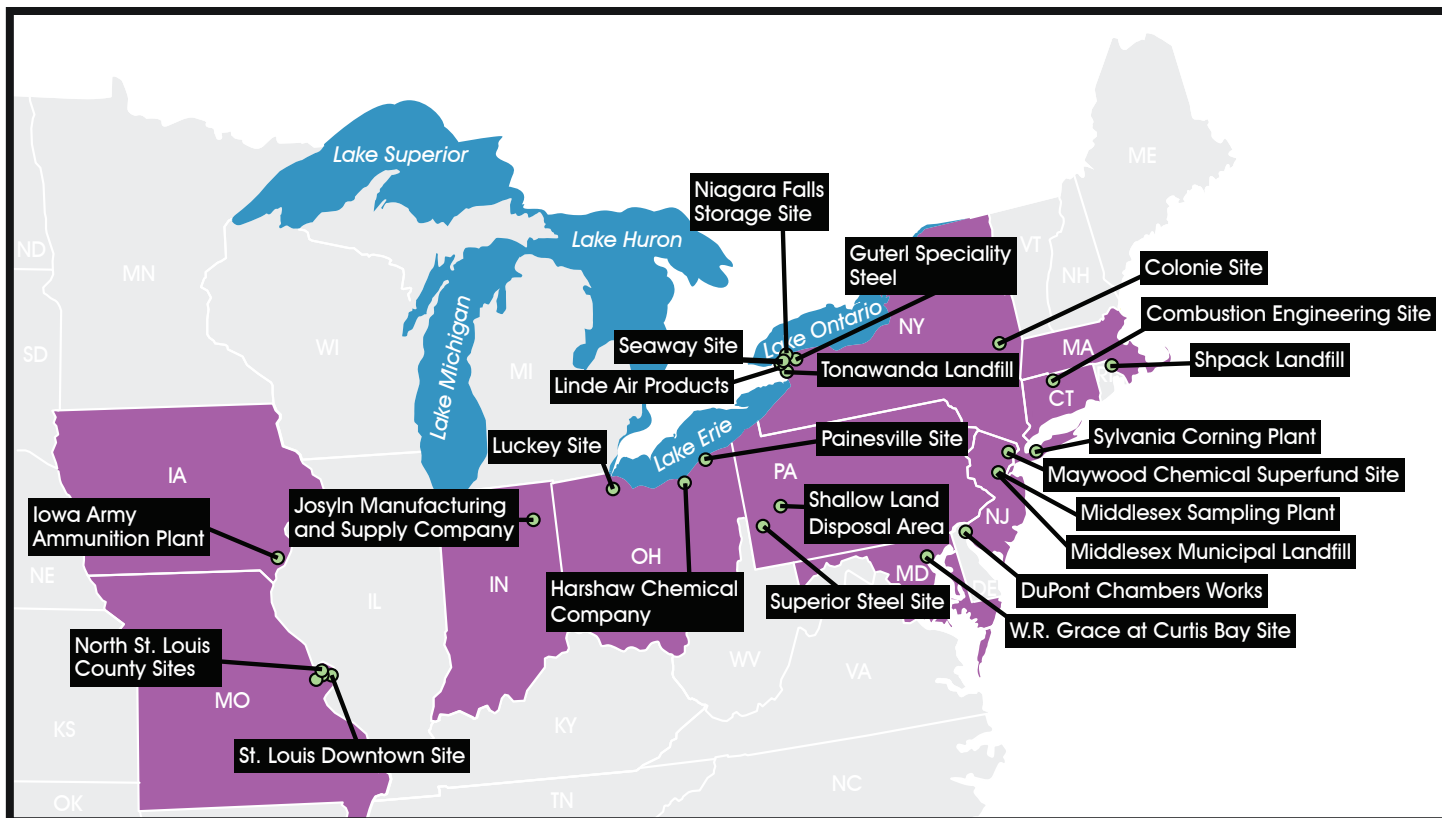
#### Philadelphia District

DuPont Chambers Works, Deepwater, New Jersey





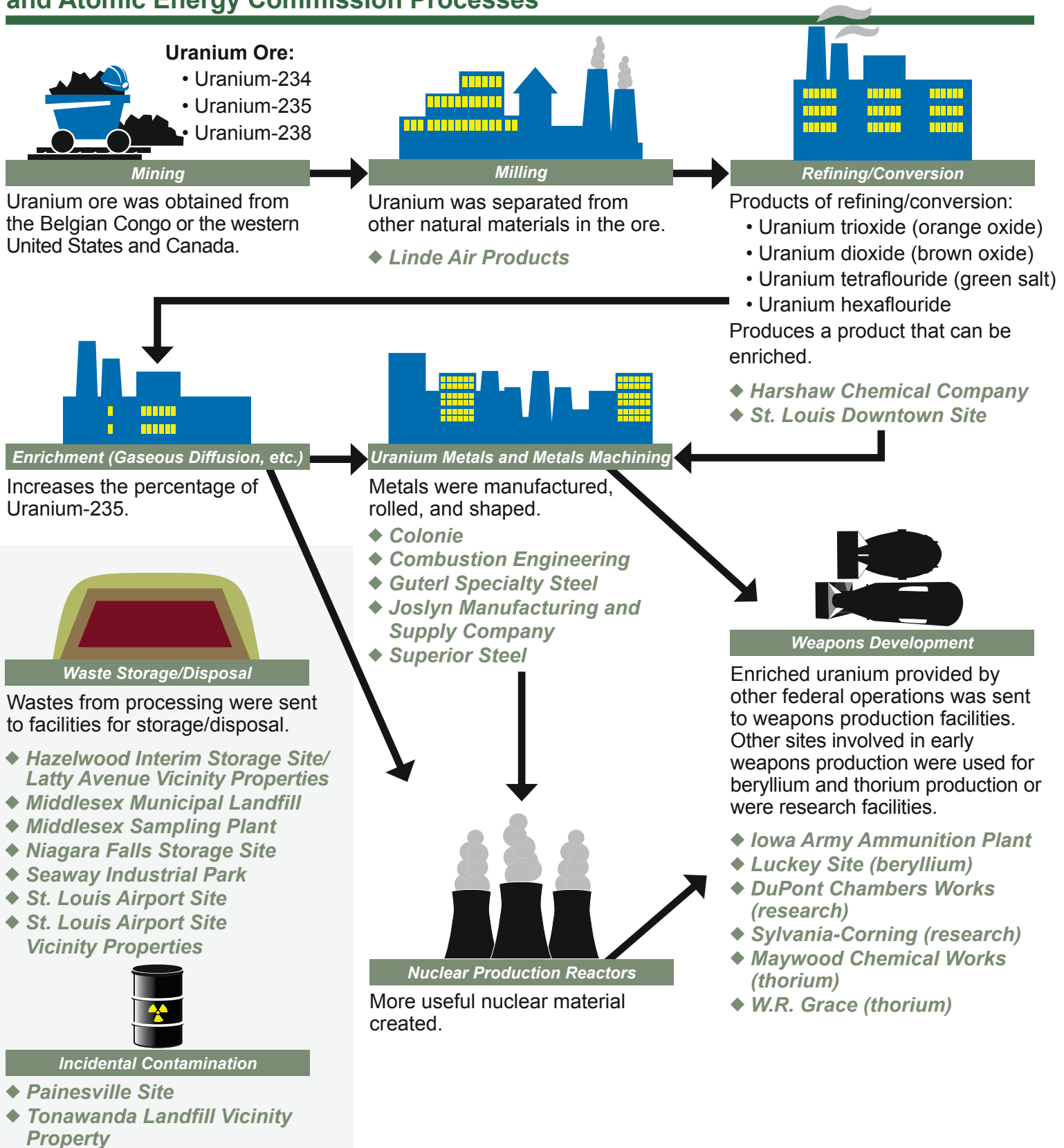
## Active FUSRAP Site Locations

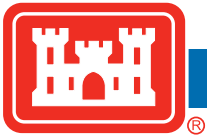


## Acronyms

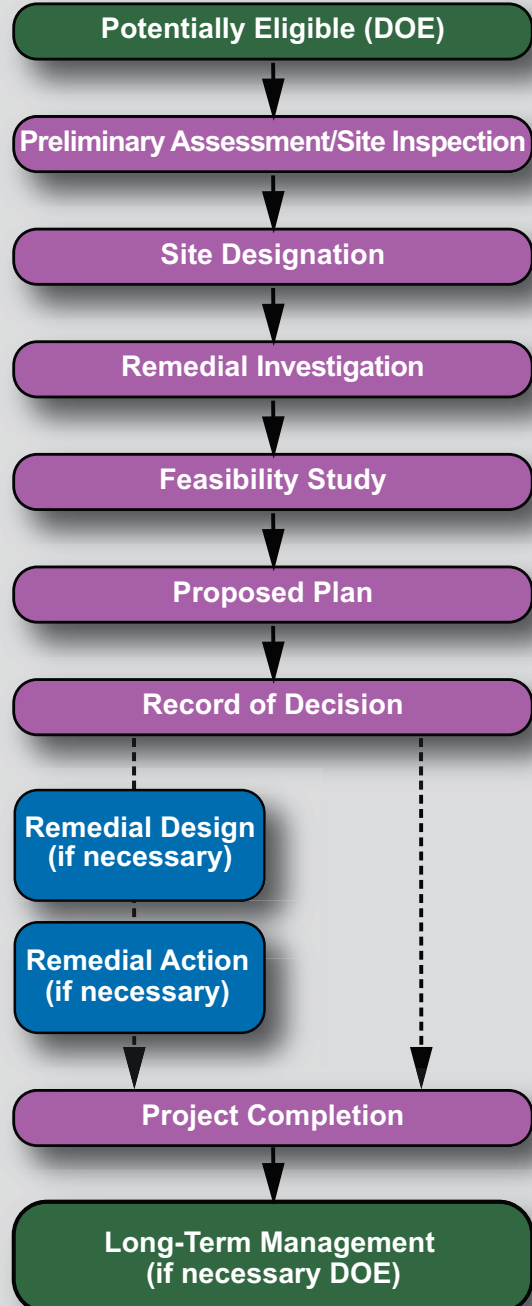
AEC	Atomic Energy Commission	MED	Manhattan Engineer District
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	MSP	Middlesex Sampling Plant
DOE	Department of Energy	NCP	National Oil and Hazardous Substances Pollution Contingency Plan
DU	depleted uranium	NFSS	Niagara Falls Storage Site
EPA	Environmental Protection Agency	NRC	Nuclear Regulatory Commission
FUSRAP	Formerly Utilized Sites Remedial Action Program	OU	operable unit
FY	fiscal year	ROD	record of decision
IWCS	Interim Waste Containment Structure	RWDA	Radioactive Waste Disposal Area

## General Overview of the Manhattan Engineer District and Atomic Energy Commission Processes





## Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Process for FUSRAP



A removal action may be initiated at any time during the process if human health or the environment is in immediate danger.

## CERCLA Process for FUSRAP

### Preliminary Assessment/Site Inspection

- To determine whether there has been a release or potential release that may require further action or investigation and to assess the nature of associated threats.

### Remedial Investigation

- To determine the nature and extent of the problem presented by the release.
- To evaluate the fate and transport of contaminants through site media (e.g., groundwater, surface water, etc.).
- To assess potential human health and ecological risks resulting from contaminants in the environment.

### Feasibility Study

- To identify and evaluate remedial response alternatives.
- To conduct an initial screen of technologies based on effectiveness, implementability and cost.
- To assemble remedial alternatives from the technologies retained after the initial screening process.
- To perform a detailed analysis and evaluation of each remedial alternative based upon its:
  - 1) Overall protection of human health and the environment;
  - 2) Compliance with applicable or relevant and appropriate requirements;
  - 3) Long-term effectiveness and permanence;
  - 4) Reduction of toxicity, mobility, or volume through treatment;
  - 5) Short-term effectiveness;
  - 6) Implementability; and
  - 7) Cost.

## Proposed Plan

- To document the Corps of Engineers' preferred remedial alternative.
- To seek and consider comments from federal and state environmental regulatory agencies.
- To seek and consider comments from the public through a mandatory minimum 30-day public review period.

## Record of Decision

- To document the Corps of Engineers' selection of the remedial alternative based upon the remedial investigation, the feasibility study, and comments received from federal and state environmental regulatory agencies and the public on the proposed plan.

## Remedial Design (if necessary)

- Detailed designs, plans, specifications, and bid documents for conducting the remedial action are developed during this phase.

## Remedial Action (if necessary)

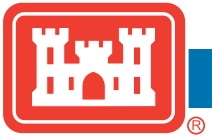
- Upon approval of the remedial design, remedial action (the actual construction and implementation of the selected remedial alternative) is initiated. The remedial action is conducted until the remedial action objectives are achieved.

## Site Closeout

- Documents and demonstrates that the Corps of Engineers completed the response action in accordance with the record of decision (ROD) and in compliance with CERCLA, as amended, and the NCP.

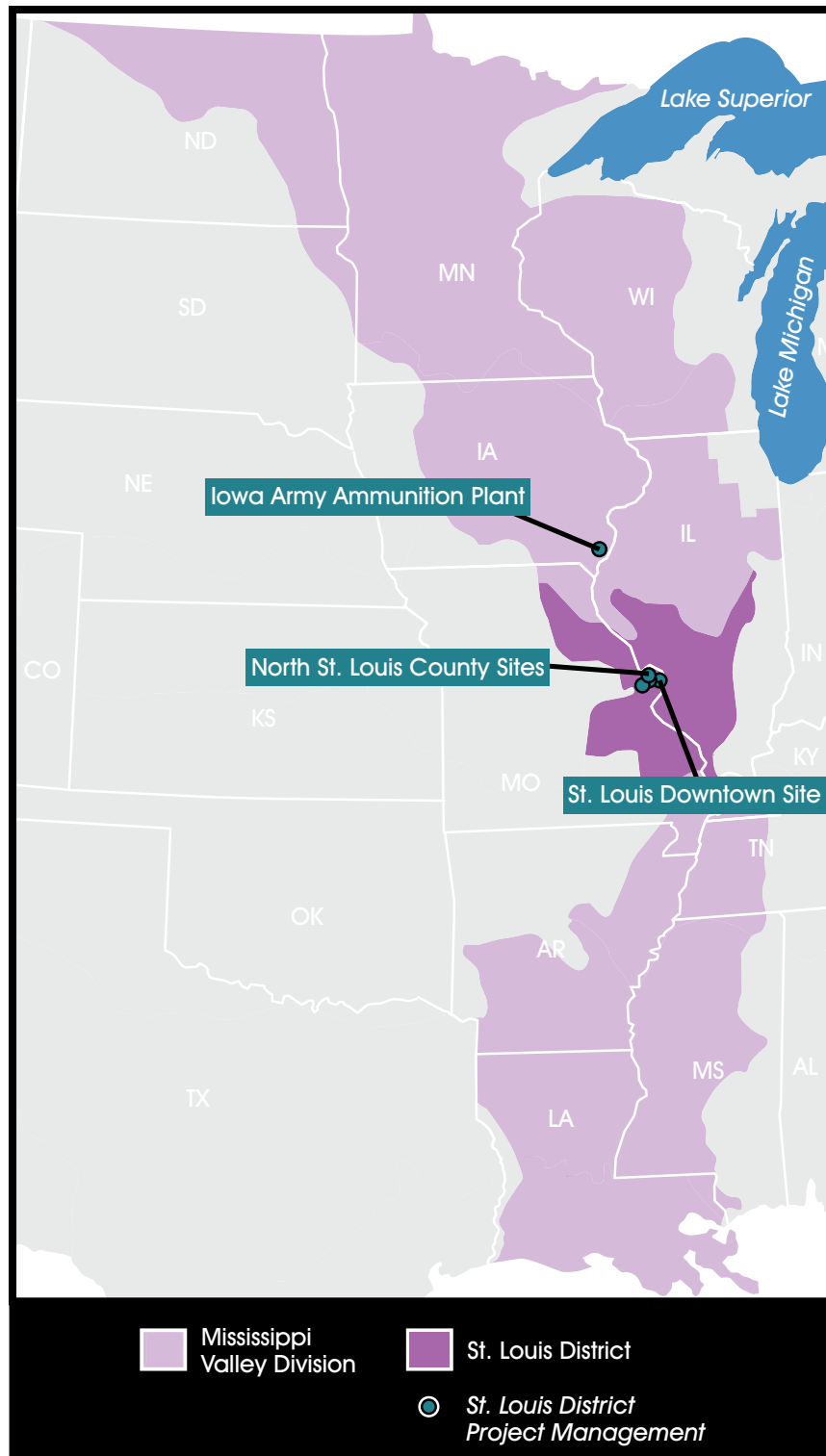
## Long-Term Management

- Certain remedies may require a period of operation and maintenance, after the remedy is implemented, before the remedial action objectives and cleanup criteria are achieved.
- Under FUSRAP the Corps of Engineers is responsible for conducting the first two years of any necessary operations and maintenance and/or site monitoring following remedy completion, after which the site is turned over to the DOE for long-term stewardship.



## Site Updates

### Mississippi Valley Division





## St. Louis District

### Iowa Army Ammunition Plant

*Middletown, Iowa*

The Iowa Army Ammunition Plant is an active, government-owned facility that covers over 19,000 acres in southeastern Iowa. From 1947 to 1975, portions of the plant were under the control of the AEC for weapon-assembly operations and munitions testing resulting in uranium and munitions explosives contaminating the soils. In accordance with the signed Federal Facilities Agreement among the Corps of Engineers, DOE, the U.S. EPA, and the State of Iowa, the St. Louis District is addressing the plant areas formerly used by the AEC.



**Iowa Army Ammunition Plant railcar loading**

In September 2011, the district completed a ROD for OU 8, which addresses depleted uranium (DU) contamination using a sorting process to remove DU from the surrounding soil. This process allows for less material to be shipped off site as contaminated soil resulting in cost savings to the government. In April 2014, the St. Louis District began remediation under this ROD. Decontamination at Building 1-11 floor grate and Building 1-63-6 air filter was completed in July 2015. Approximately 13,800 cubic yards of DU contaminated soil have been processed and in September 2015 about 1,949 cubic yards of DU contaminated soil were shipped off site for disposal.

In FY 2016, the district will continue the ongoing remediation efforts at the site under the FUSRAP ROD.

## North St. Louis County Sites

### St. Louis

In FY 2015, the St. Louis District continued remedial activities in accordance with a 2005 ROD for the three sites that comprise the North St. Louis County Sites: the Latty Avenue properties (which include Hazelwood Interim Storage Site/Futura and eight vicinity properties), the St. Louis Airport Site (SLAPS), and the SLAPS Vicinity Properties. An updated community involvement plan and the third five-year review were released in FY 2015. The district issued two newsletters for the St. Louis Sites and will continue to do so in FY 2016.

### Latty Avenue Properties

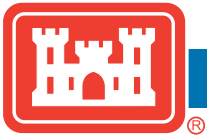
The Latty Avenue Properties are comprised of eight vicinity properties as well as the Hazelwood Interim Storage Site and Futura. Early in 1966 ore residues and uranium- and radium-bearing process wastes that had been stored at SLAPS were purchased from MED/AEC by Continental Mining and Milling Company and moved to a storage site on Latty Avenue.

In FY 2015, the St. Louis District issued the document releasing the buildings at Vicinity Property 1L and two adjacent vicinity properties. The district also released the *Institutional Controls Plan*. The St. Louis District will also begin the implementation of institutional controls to address the remaining contamination beneath the buildings on the Futura property. In FY 2015, groundwater monitoring and long-term management activities were conducted at the Latty Site. These activities will continue in FY 2016.

### St. Louis Airport Site

In 1946, the MED acquired the 21.7-acre tract of land, now known as SLAPS, to store residues from uranium processing at the Mallinckrodt facility in St. Louis. Residuals from the uranium processing were accumulated at SLAPS through 1957. During 1966 and 1967, most of the stored residues were sold to a private entity for recycling and were removed from SLAPS. Contamination containing uranium-238, radium-226, and thorium-230 remained on the property.

Remedial activities at SLAPS are completed and the post-remedial action report was released in May 2009. Groundwater monitoring and long-term management activities began in 2010 and are ongoing. The site will be transferred back to the DOE Office of Legacy Management when all of the North County sites are completed.



## St. Louis Airport Site Vicinity Properties

The SLAPS Vicinity Properties are located in the cities of Hazelwood and Berkeley, Missouri. Coldwater Creek and its vicinity properties from Banshee Road to the Missouri River is a SLAPS Vicinity Property. Uranium, radium and thorium contamination at the SLAPS Vicinity Properties is linked to both the St. Louis Airport Site and the Latty Avenue properties. Over time, residues migrated from other sites or were deposited as the residues were hauled along transportation routes.

In FY 2015, the St. Louis District completed remediation at Vicinity Properties 57 and 58 and initiated remedial activities at St. Cin Park located in Hazelwood, Missouri.



***St. Louis Airport Site Vicinity Properties  
Coldwater Creek***



***St. Louis Airport Site Vicinity Properties excavation  
at St. Cin. Park adjacent to Coldwater Creek***

The St. Louis District completed sampling nine properties, continued sampling Coldwater Creek and issued documentation releasing eight properties. Additional documents issued include: pre-design investigation reports for three properties, and remedial designs for two properties. Approximately 7,214 cubic yards of contaminated material were shipped off site for disposal.

In FY 2016, the district will continue the remediation of St. Cin Park and initiate remedial activities at Duchesne Park and five Palm Drive residential properties. In addition, the district will continue sampling Coldwater Creek and its vicinity properties and 20 other SLAPS Vicinity Properties and issue documentation releasing five vicinity properties.

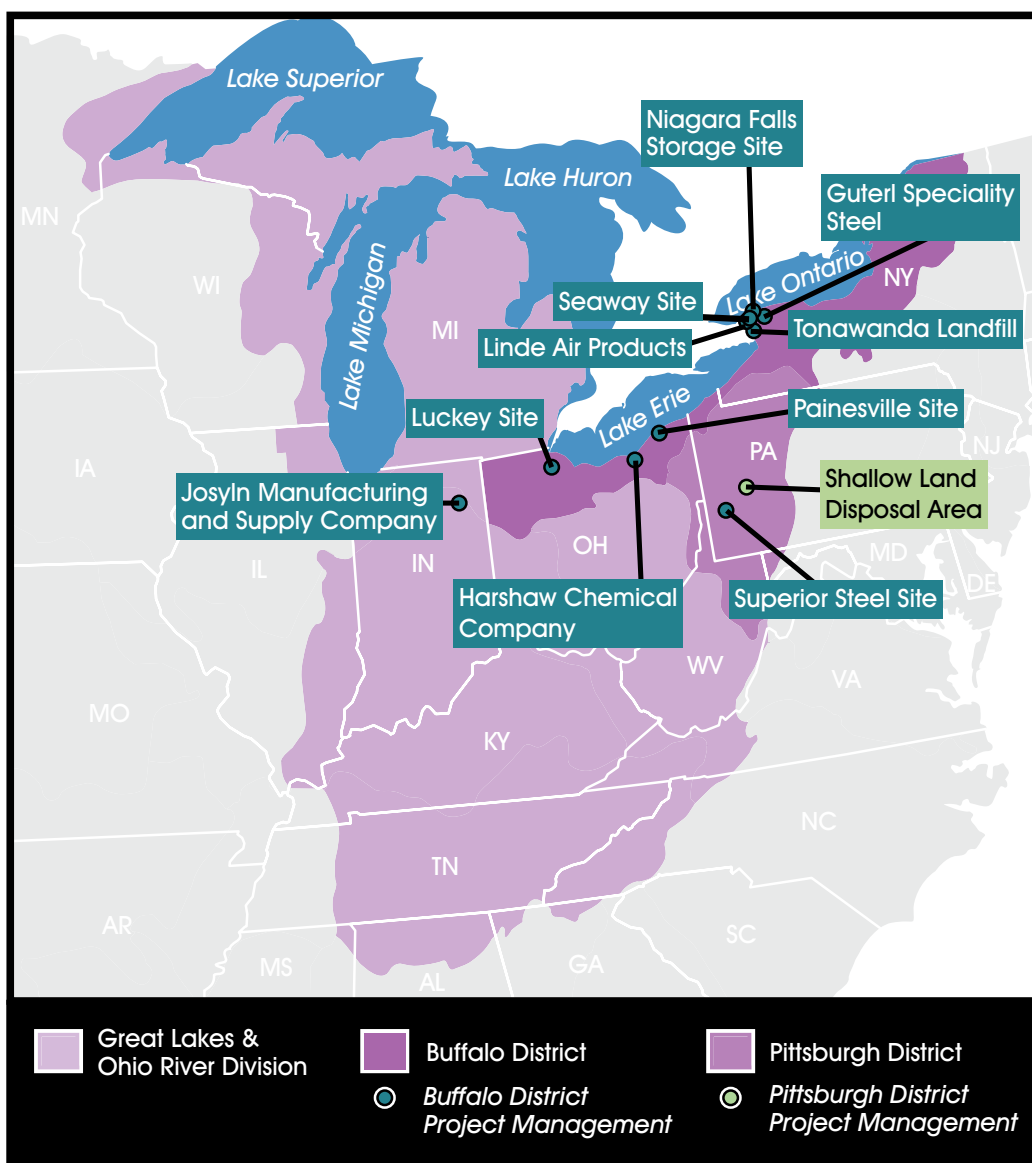
## St. Louis Downtown Site *St. Louis*

Mallinckrodt Chemical Works, from 1942 until 1957, was contracted by the MED and AEC to process uranium ore for the production of uranium metal. Residuals of the process, including spent pitchblende ore, process chemicals, radium, thorium, and uranium, were inadvertently released from the Mallinckrodt Property and into the environment through handling and disposal practices. The St. Louis District continues remedial activities in accordance with the 1998 ROD for the accessible areas at the St. Louis Downtown Site, which includes the Mallinckrodt Plant and 42 vicinity properties.

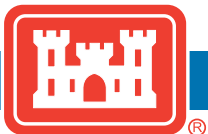
In FY 2015, approximately 29,639 cubic yards of contaminated material were removed and shipped off site for disposal and documents releasing four properties were finalized. Additional FY 2015 efforts consisted of the remediation within the Mallinckrodt former Building 101 area in Plant 6 West Half. The district anticipates completing the remediation of the former Building 101 area, beginning remediation at Destrehan Street, and issuing documents to release three additional areas during FY 2016.

The inaccessible areas of the site were broken into Group 1 and Group 2 property groups. A no further action ROD was issued in FY 2014 for the Group 1 properties. In FY 2015, the St. Louis District continued working toward the issuance of a remedial investigation addendum focusing on the remainder of the inaccessible soils, which were categorized as Group 2 properties.

## Great Lakes and Ohio River Division







## Buffalo District

### Joslyn Manufacturing and Supply Company Fort Wayne, Ind.



*Circa 1947 photo of the Joslyn Manufacturing and Supply Company*

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 entered into FUSRAP in FY 2009 and assigned to the Buffalo District. In FY 2014, the Buffalo District initiated project scoping for a remedial investigation. Contract award will occur based on the availability of FUSRAP funds nationally.

### Guterl Specialty Steel Lockport, N.Y.



*Monitoring well repairs at the Guterl Site*

The 70-acre former Guterl Specialty Steel Site, also known as Simonds Saw and Steel Corporation, is located in Lockport, New York. From 1948 to 1956, the Simonds Saw and Steel Company rolled uranium steel billets into rods under a contract with the AEC.

During FY 2015, the Buffalo District continued preparation of the feasibility study, which develops and evaluates alternatives to address FUSRAP contamination at the site. The feasibility study report is scheduled for release in FY 2017. Groundwater monitoring is performed annually for the site.

### Linde Air Products Tonawanda, N.Y.

Located in Tonawanda, New York, the Linde Site is a 135-acre site currently owned and operated by Praxair, Inc. The Tonawanda Landfill, a vicinity property to the Linde Site, is reported separately in this update. From 1942 to 1946, the former Linde Air Products Division of Union Carbide processed uranium ores at this site under contract to the MED.

Remediation of the Linde Site by the Buffalo District was completed in FY 2013. Approximately 186,000 cubic yards of contaminated material were excavated and shipped to out-of-state disposal facilities. In 2015 site restoration was complete and the site closeout report for the Linde Site was released to stakeholders. The district is preparing to transfer the site to DOE's Office of Legacy Management for long-term stewardship. Final transfer of the site is scheduled for spring 2017.



*Linde Site monitoring well decommissioning during site restoration*



## Niagara Falls Storage Site *Lewiston, N.Y.*

The Niagara Falls Storage Site (NFSS) is a 191-acre federally owned site, located in Lewiston, New York, 19 miles northwest of Buffalo, which contains a 10-acre Interim Waste Containment Structure (IWCS). The Buffalo District performs maintenance, monitoring, and environmental surveillance activities at the site to verify the IWCS remains protective of human health and the environment and continues to perform as designed.



***Performing environmental monitoring at the  
Niagara Falls Storage Site***

In FY 2015, the district continued progress on developing the IWCS OU feasibility study by soliciting community and stakeholder comments on key topics. The Buffalo District also released the Balance of Plant OU contamination extent investigation in February 2015. Focusing on all on-site areas outside the IWCS, this report summarized the field investigative findings, which will be used to reduce the volume estimate uncertainty for site soils requiring remedial action.

The district will release the IWCS OU feasibility study and IWCS OU proposed plan in FY 2016 for public review and comment. Public release of the document will be followed by a public meeting to seek community input on the preferred alternative identified within the IWCS OU proposed plan and to outline the next steps in the CERCLA process for the site. The district will also initiate development of the Balance of Plant OU feasibility study to evaluate potential remedial alternatives for the site soils outside the IWCS.

The Buffalo District has an active outreach program for NFSS, which included a site tour for the Town of Lewiston Environmental Commission and regular

updates to the community in FY 2015. The district employs a technical facilitator who conducts periodic meetings with members of the community throughout each year to enhance communication and technical understanding during the IWCS OU feasibility study development.

Additionally, the district is evaluating data for the current open vicinity properties to determine the necessary field investigative activities to support the future remedial investigations/feasibility studies for these properties.

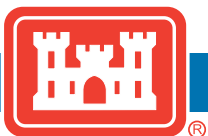
## Seaway Industrial Park *Tonawanda, N.Y.*

The Seaway Site is a 93-acre commercial landfill located in Tonawanda, New York, a suburb of Buffalo. Approximately 16 acres of the landfill contain radiological waste that originally came from the nearby Linde Site, which processed uranium ore for the MED. The Corps of Engineers signed a ROD for the Seaway Site in October 2009, which identified containment with limited off-site disposal as the selected remedy for the site.

In FY 2015 the Buffalo District awarded a contract and initiated excavation and off-site disposal of contaminated soil located beyond the landfill leachate containment system. Prior to field work, an information session was conducted to inform the public of remedial and health and safety measures to be employed. During FY 2016 the Buffalo District will complete the excavation and off-site disposal of contaminated soils on the landfill perimeter. Implementation of the landfill containment remedy is scheduled to begin following completion of ongoing remediation at other FUSRAP sites and the availability of program funding.



***First scoop of soil removed during remediation of  
the Seaway Site Northside Area***



### **Tonawanda Landfill** *Tonawanda, N.Y.*

The Tonawanda Landfill Vicinity Property, located in Tonawanda, New York, a suburb north of Buffalo, consists of two OUs: the 55-acre Tonawanda Landfill OU and the 115-acre Mudflats OU. The site was designated into FUSRAP in 1992 when early DOE investigations around the Linde Site detected elevated levels of FUSRAP-related radionuclides in the landfill. The Buffalo District completed work at the Mudflats OU in 2008 with a no-action ROD. The district completed preparation of an updated baseline risk assessment for the Landfill OU in FY 2012, which found that while risks to human health from potential exposure to FUSRAP-related material buried in the landfill are within acceptable limits for the current site conditions, risks could potentially increase above acceptable limits in the future, if the surface of the landfill is allowed to erode as time passes.

In FY 2015 the Buffalo District released the feasibility study and proposed plan for the Landfill OU. The proposed plan documents the preferred alternative, which is targeted shallow removal and off-site disposal of FUSRAP-related material. The Buffalo District will complete the Tonawanda Landfill OU ROD in FY 2017.

### **Harshaw Chemical Company Site** *Cleveland*



***Deconstruction of Building G-1 at the Harshaw Site***

This 55-acre industrial facility is located three miles south of downtown Cleveland. From 1944 to 1959, the Harshaw Chemical Company was under contract to the MED and the AEC to produce uranium for isotopic separation and enrichment in Oak Ridge, Tennessee.

During FY 2015, Building G-1 was deconstructed and groundwater data collected to refine the groundwater model for the site. In FY 2016 the Buffalo District will begin preparation of a feasibility study addendum and a proposed plan to present the preferred remedial alternative for each OU. The Buffalo District will continue annual groundwater sampling, testing and reporting activities at the site during FY 2016.

### **Luckey Site** *Luckey, Ohio*

The Luckey Site, a 40-acre privately-owned site located 24 miles southeast of Toledo, is currently in the remedial design phase. From 1949 to 1958 the site was operated as a beryllium production facility under contract to the AEC, resulting in beryllium and lead contamination of site soils and groundwater. The site also received scrap steel containing radioactive residues from NFSS, for potential use in magnesium production activities, which were never initiated.

The Buffalo District awarded the site remediation contract in FY 2015, and will prepare the remediation work plans in FY 2016. Additionally in FY 2015 the Buffalo District continued preparation of an explanation of significant differences to document changes in the estimated cost of the remedial action for site soils. The explanation of significant differences will be completed in FY 2016.

### **Painesville Site** *Painesville, Ohio*

The Painesville Site, a 30-acre privately owned site located about 22 miles northeast of Cleveland, is currently in the project closeout phase. Though not directly involved in past MED or AEC activities, the site became contaminated with FUSRAP-related materials when scrap steel containing radioactive residues was shipped to the site from NFSS, for use in other government-contracted operations. The Buffalo District completed remediation of site soils containing FUSRAP-related material in FY 2011, using innovative soil-segregation technology to increase the efficiency of shipping soil above the site cleanup levels for off-site disposal resulting in a cost savings of approximately \$6 million. A total of 14,800 cubic yards of contaminated material were shipped off site for disposal.

In FY 2014 the Buffalo District completed the site closeout report for the Painesville Site, and began preparations for the transfer of the site to the DOE's Office of Legacy Management for long-term stewardship. In FY 2015 the Buffalo District continued activities to prepare for the scheduled transfer of the site to DOE in FY 2016.

### **Superior Steel** *Carnegie, Pa.*

The former Superior Steel Site, a 25-acre site located in Scott Township near Carnegie, Pennsylvania, was added to FUSRAP in FY 2008. Uranium metal was processed at the site in support of the AEC's fuel-element development program from 1952 to 1957. The site was also licensed to receive thorium metal for processing and shaping from 1957 to 1958. During FY 2013 the Buffalo District awarded a remedial investigation contract for the site.

Investigative field activities were completed during the last quarter of FY 2015. The remedial investigation report will be complete in FY 2017.

### **Pittsburgh District**

#### **Shallow Land Disposal Area** *Parks Township, Pa.*

In January 2002, Section 8143 of Public Law 107-117 directed the Corps of Engineers to clean up radioactive waste at the Parks Township Shallow Land Disposal Area under FUSRAP. This 44-acre site located northeast of Pittsburgh consists of 10 trenches containing wastes from a facility that processed uranium and thorium. The site is being addressed in a joint team effort by the Corps of Engineers' Pittsburgh and Buffalo Districts.

In FY 2015, the combined district team released a proposed ROD amendment for public review, renewed the site access agreement with the site owner, and continued the contract acquisition process for a new remediation contract. Pittsburgh District continues to coordinate with the Nuclear Regulatory Commission (NRC) and DOE on project matters.

In FY 2016, the Shallow Land Disposal Area project team will finalize and release the ROD amendment, issue a request for proposals from potential remediation contractors, and evaluate contractor proposals. The Pittsburgh District will continue to perform ongoing maintenance, monitoring and security activities at the site.



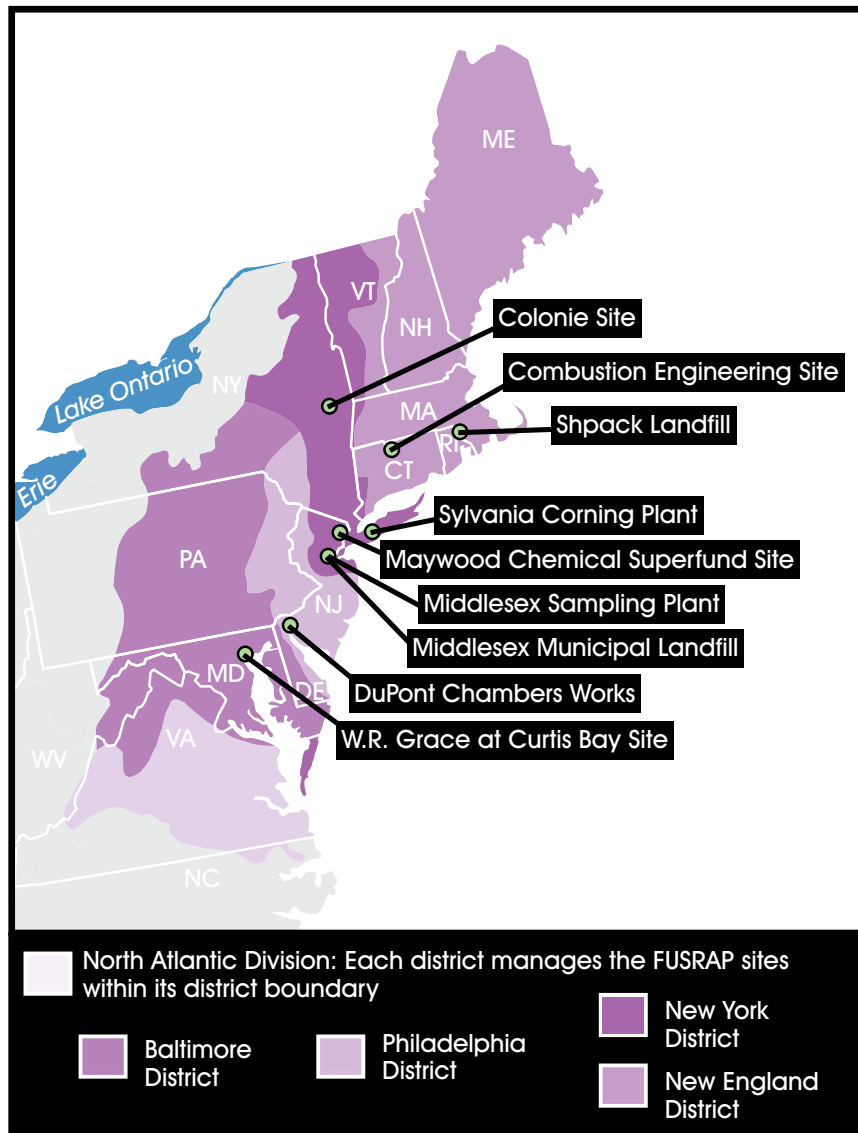
*Superior Site tunnel entry*



*Superior Site tunnel investigation*



## North Atlantic Division





## Baltimore District

### W.R. Grace at Curtis Bay Site *Baltimore*

From May 1956 through early 1957, thorium and rare earth elements were extracted from monazite sand at the W.R. Grace Curtis Bay Facility under an AEC license. This process occurred in the southwest quadrant of a 100-year-old, five-story manufacturing building (Building 23). Building 23 is still in active use by the property owner. Building components and equipment in the southwest quadrant of Building 23 exhibited residual radiological activity remaining from the monazite sand processing. Waste materials from the processing operations (termed gangue) were disposed of on site in an area referred to as the Radioactive Waste Disposal Area (RWDA).

In April 2008, the U.S. entered into a site-wide settlement agreement with the site owner through the District of Delaware Bankruptcy Court. The agreement states that financial liability shall be shared between the site owner and the government in a 40/60 split. The site owner has site lead to contract, manage and direct the site cleanup according to the final ROD for Building 23 and the ROD for the RWDA, which were signed in 2005 and 2011.

During FY 2015, the district worked with the property owner to compile all of the data that was collected in Building 23. A detailed database and a software model of the building and the associated data points was created to identify data gaps found during the data compilation review.

Plans for FY 2016 include completion of the additional characterization surveys within Building 23. After the survey data is reviewed, the team will prepare an explanation of significant differences to address possible changes in the cleanup goals and the associated costs of the remedial action. Additionally, the district will work with the property owner to acquire a remedial action contractor to begin the final remedial actions for Building 23.

## New England District

### Combustion Engineering Site *Windsor, Conn.*

The Combustion Engineering Site, which is located in Hartford County eight miles north of Hartford, was a research, development, engineering, production, and servicing facility for nuclear fuels, systems, and services from the mid-1950s through 2000. In FY 2012, Combustion Engineering, completed the cleanup of FUSRAP-related material at the site. The cleanup was performed as part of ongoing decommissioning work leading toward license termination and unrestricted release in accordance with the requirements of the *License Termination Rule at 10 CFR Part 20, Subpart E*.

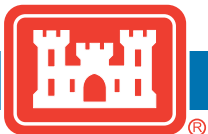
In FY 2013, the New England District completed its review of the seven final status survey reports submitted by the site owner to the NRC and the district provided comments to the NRC on the reports. The 600-acre site was released for unrestricted use and the NRC license terminated. In FY 2015 the district prepared a closeout report for the site and the district plans to return the site to the DOE Office of Legacy Management for long-term stewardship in FY 2017.

### Shpack Landfill *Norton/Attleboro, Mass.*

In FY 2012, the New England District completed the FUSRAP cleanup at the Shpack Landfill Site, an eight-acre abandoned domestic and industrial landfill located approximately 40 miles southwest of Boston.

The district shipped a total of 50,908 cubic yards of processed waste material off site. In FY 2013, the district demobilized from the site and completed a final status survey, which was shared with the EPA so that the CERCLA cleanup of the remainder of the property by the responsible party group could be completed.

The remaining responsible party group work was completed in December 2013. The New England District prepared a site closeout report for the site in FY 2015 and the district plans to return the site to the DOE Office of Legacy Management for long-term stewardship in FY 2017.



## New York District

### Maywood Chemical Superfund Site

*Maywood, N.J.*

A combination of 92 private and government-owned properties, this site, which is located approximately 13 miles northeast of Newark, New Jersey, in the boroughs of Maywood and Lodi and the township of Rochelle Park, is listed on the National Priorities List.

Contamination at the properties resulted from rare earths and thorium processing activities conducted at the Maywood Chemical Works from the early 1900s through 1959.

Three of four vicinity properties, which were approved as new vicinity properties in 2014, were cleaned up in 2015 and the remaining new vicinity property will be completed in FY 2016. An investigation of the Stepan Buildings was completed and a report will be issued in FY 2016. More than 53,500 cubic yards of contaminated soils were removed from the site in FY 2015.

The district plans to use FY 2016 funding to continue cleaning up soils consistent with the soils and groundwater RODs, cleaning up residential properties, and to issue long-term groundwater monitoring work plans to the U.S. EPA.



**Remedial excavation begins at the site of a demolished home in Lodi, New Jersey. Demolition was the most cost-effective option to access contaminated soil beneath the home.**

### Middlesex Municipal Landfill

*Middlesex, N.J.*

The Middlesex Municipal Landfill is a 37-acre site located approximately 16 miles southwest of Newark, which consists of parcels belonging to the Borough of Middlesex and the Middlesex Presbyterian Church.

The Middlesex Municipal Landfill was operated as a landfill from approximately 1940 through 1972. The landfill was closed following the regulations at the time and maintained with a minimum cover of two feet and establishment of vegetation. Since its closure, the site has not been developed.

A 2008 radiological survey of the site identified small areas of low-level surface radiation leading it to be referred by DOE to the Corps of Engineers in March 2009 for further investigation in FUSRAP. The New York District conducted a preliminary assessment and site inspection in FY 2011. Based on results of the preliminary assessment and site inspection, the district recommended a remedial investigation for the site in FUSRAP. In 2014, the Middlesex Municipal Landfill was officially added to the program.

FY 2015 funding was used to conduct the remedial investigation. The New York District plans to use FY 2016 funding to complete the remedial investigation.

### Middlesex Sampling Plant

*Middlesex, N.J.*

The Middlesex Sampling Plant is a 9.6 acre federally owned site located in Middlesex, New Jersey. The MED established the Middlesex Sampling Plant (MSP) in 1943 for use in sampling, storage, and shipment of uranium, thorium, and beryllium ores.

MED operations ended in 1955, and the AEC later used the site for storage and performed limited sampling of thorium residues. In 1967, the AEC terminated activities at the MSP and decontaminated on-site structures to meet criteria then in effect.

From 1969 to 1979, the site served as a U.S. Marine Corps training center. In 1980, the MSP was returned to the DOE, which designated it for cleanup under FUSRAP. The MSP was used for interim storage of two piles of radioactively contaminated soils removed from vicinity properties and from the Middlesex Municipal Landfill. The Middlesex Site was added to the EPA's Superfund National Priorities List in FY 1999.

Through the end of FY 2001, the New York District has removed and disposed of the Middlesex Municipal Landfill pile and the vicinity property pile. Additionally, the district has completed a remedial investigation/feasibility study/proposed plan, ROD, and remedial design for soils on the remainder of the site. Characterization of groundwater contamination is currently ongoing.

At the request of the U.S. EPA, the New York District commenced a supplemental bedrock groundwater investigation in FY 2014 to further delineate contamination underlying this government-owned site. The district expects to use FY 2016 funding to complete the groundwater investigation fieldwork and incorporate this information into the feasibility study report.

### **Colonie Site** *Colonie, N.Y.*

The former 11.2-acre National Lead Industries Site, now called the Colonie Site, was used for electroplating and manufacturing various components using uranium and thorium. Radioactive materials released from the plant exhaust stacks spread to site buildings, portions of the grounds, and 56 commercial and residential vicinity properties.

The New York District submitted a two-year groundwater monitoring report for the main site, based on a FY 2010 ROD, to the New York State Department of Environmental Conservation, which was approved.

The district plans to use FY 2016 funding to prepare a *Dust and Vicinity Property Remedial Investigation Report*, a *Site Management Plan* for the main site soils, and issue groundwater monitoring annual reports.

### **Sylvania Corning Plant** *Hicksville, N.Y.*

The Sylvania Corning Plant is a 9.49-acre area located in the westernmost portion of Hicksville, Long Island, approximately 30 miles east of lower Manhattan. From 1952 to 1965, the Sylvania Corning Plant had contracts with the AEC for research, development, and production primarily in support of the government's nuclear weapons program. From 1952 to 1967, a second operation concentrated on AEC-licensed work primarily for the production of reactor fuel and other reactor core components. In

September 2011, the site was included in a regional groundwater listing on the National Priorities List.

FY 2015 funding was used to conduct an evaluation of off-site groundwater contamination and continue stakeholder coordination. The New York District plans to use FY 2016 funding to continue the groundwater investigation.

## **Philadelphia District**

### **DuPont Chambers Works** *Deepwater, N.J.*

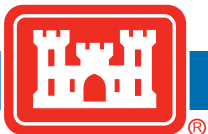
The Philadelphia District is conducting the environmental remediation of the 700-acre DuPont Chambers Works FUSRAP Site, located in Deepwater, New Jersey. Chambers Works is an active chemical manufacturing facility owned and operated by E.I. DuPont de Nemours & Company.

From 1942 to 1947, the MED and AEC contracted with DuPont to process uranium compounds and uranium scrap to produce uranium tetrafluoride, uranium hexafluoride, and a small quantity of uranium metal.

In FY 2015 the district shipped a total of 20,750 cubic yards of waste material off site for disposal. Due to an increase in expected soil volume and insufficient contract capacity, the remediation contract was terminated and the district demobilized from the site. There are no field remediation activities planned for FY 2016. The Philadelphia District plans to use FY 2016 funding to award a new contract to complete the remediation of the site.



**Excavation of AOC-6 at the DuPont Chambers Works**



## Potential New Sites

Eligibility of new sites for FUSRAP is determined by the DOE, which refers eligible sites to the Corps of Engineers for further evaluation. As funding becomes available, the Corps of Engineers performs a preliminary assessment, and potentially a site inspection, as well as a preliminary legal analysis of government responsibility at the referred sites. Based on the results of these studies, the Corps of Engineers may designate a site into the program for further investigation and potential action. Sites may also be added to the program through legislative action.

The Staten Island Warehouse Dock in Staten Island, New York, and the Wolff-Alport Chemical Corporation site in New York City as well as NFSS Vicinity Properties H Prime and X have been identified by DOE as eligible and are currently under consideration by the Corps of Engineers for designation into

FUSRAP. If any of these properties are designated into FUSRAP, they will be addressed when funding becomes available in the national program.

The *Formerly Utilized Sites Remedial Action Program Update*, EP 360-1-36, is published by the U.S. Army Corps of Engineers in accordance with U.S. House of Representatives Report 107-112, dated June 26, 2001, to accompany the Energy and Water Development Appropriations Act 2002, Public Law 107-66.

For more information, please email [eugene.a.pawlik@usace.army.mil](mailto:eugene.a.pawlik@usace.army.mil) or call 202-761-7690.

All Photos: U.S. Army Corps of Engineers

**Cover photos:** **Top:** A bird's eye view of remedial excavation at a commercial property in Lodi, NJ. • **Middle:** Benched excavation of pond sludge material to a depth of 16 feet at the government-owned Maywood Interim Storage Site vicinity property. The site's rail car loading fall-protection structure is visible in the upper right. • **Bottom left:** Deconstruction of Building G-1 at the Harshaw Site • **Bottom right:** Monitoring well repairs at the Guterl Site.



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