Supplement to the Community Involvement Plan for the F-Complex at the Knolls Atomic Power Laboratory in Niskayuna, New York

August 2023

Supplement to the Community Involvement Plan for the F-Complex at the Knolls Atomic Power Laboratory

August 2023

Prepared for:

U.S. Department of Energy
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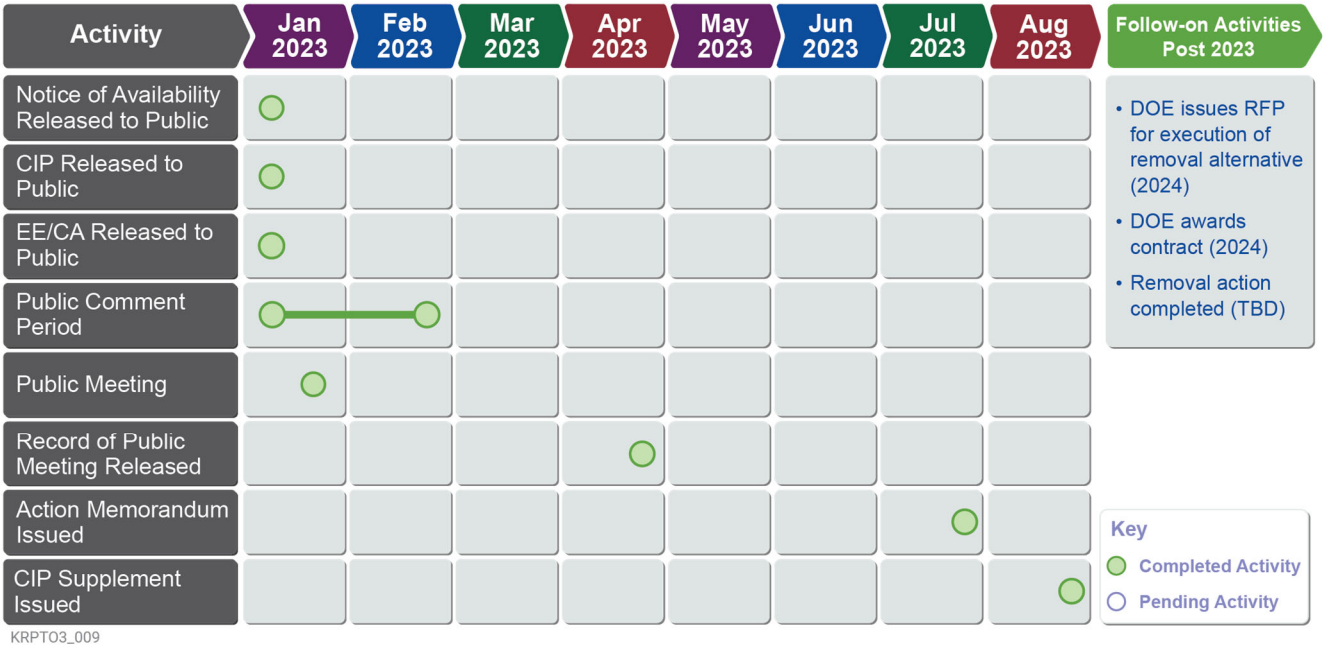
The Department of Energy (DOE) is issuing this Supplement to the Community Involvement Plan (CIP) as a resource to continue meaningful community involvement throughout its investigation, selection, and implementation of proposed cleanup activities of the F-Complex at Knolls Atomic Power Laboratory. DOE is fully committed to encouraging public participation and providing opportunities for communication between DOE, the community, and interested stakeholders during the proposed activities to address the F-Complex at Knolls Laboratory. Thank you for your interest and involvement!

Introduction to the Community Involvement Plan Supplement

The Department of Energy (DOE) is issuing this Supplement to the Community Involvement Plan (CIP) as a resource to continue meaningful community involvement throughout the F-Complex project at Knolls Atomic Power Laboratory (KAPL). This document supplements the original CIP, issued in January 2023, which is a comprehensive document that includes community background information; federal, state, and local community points of contact; and a project summary. The CIP Supplement provides information and materials issued from January 2023 to the present and includes a revised project schedule, shown in Figure 1. In addition to this Supplement, DOE will provide project updates on the F-Complex website: https://www.energy.doe.gov/em/EMCBC-NY/f-complex. Be sure to check this website to keep up to date on activities such as issuance of the Request for Proposal (RFP) to implement the removal action and contract award.

Figure 1. Schedule of Community Involvement



What's New and Looking Ahead

On January 19, 2023, a public meeting on the F-Complex project and its removal action alternatives presented in the Engineering Evaluation/Cost Analysis (EE/CA) was held at the Niskayuna Town Center. A meeting summary can be found on the project website: https://www.energy.gov/em/EMCBC-NY/f-complex.

On July 25, 2023, the Action Memorandum (AM) for the F-Complex was issued. The AM documents the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) removal action decision that was made for F-Complex based on the alternatives presented in the EE/CA. The AM is a part of the Administrative Record (AR) and can be reviewed on the project website https://www.energy.gov/em/EMCBC-NY/f-complex and at the Information Repository (IR) (described in the following paragraph), which houses the AR.

Administrative Record and Information Repository

The F-Complex AM has been added to the AR and IR, both of which are information resources for the public. The AR and IR were established in January 2023, and both are located at the Schenectady County Public Library, Niskayuna Branch.

Information Website

The F-Complex project website (https://www.energy.gov/em/EMCBC-NY/f-complex) is up-to-date and has links to the AR and IR, including this CIP Supplement, the Action Memorandum, and other materials.

Public Notices

A Notice of Availability display ad was placed in the Albany Times-Union and the Daily Gazette on August 23, 2023, to notify the public of the issuance of the AM for F-Complex.

Fact Sheets

The following Fact Sheet and three related Frequently Asked Questions (FAQs) sheets were prepared for and available at the public meeting:

- Removal Action Alternatives Fact Sheet
- General FAQs
- Transportation FAQs
- CERCLA FAQs (the process used for making the F-Complex decision)

Each of these documents are included on the following pages for reference.

F-Complex Removal Action at the Knolls Atomic Power Laboratory

FACT SHEET

Removal Action Alternatives

January 2023

The U.S. Department of Energy (DOE) Office of Environmental Management (EM) has developed three alternatives for disposition of the F-Complex at the Knolls Atomic Power Laboratory in Niskayuna, New York.

Three alternatives, including continued legacy facilities management, partial removal, and demolition, were developed for disposition of the F-Complex at the Knolls Laboratory. Environmental information, such as sampling and survey data and other records that provide details on the nature and extent of contamination in the buildings, was used to develop the alternatives. The alternatives were assessed by their effectiveness in addressing contamination, their ease or difficulty in implementation, known as implementability, and their cost.

A detailed analysis of each alternative has been performed. The detailed analysis consists of an assessment of individual alternatives against specific evaluation criteria and a comparative analysis that focuses on the relative performance of each alternative against those criteria. The **Engineering Evaluation/Cost Analysis (EE/CA)** for F-Complex includes the results of these analyses.

The following evaluation criteria are used to assess each alternative:

- Protection of human health and the environment
- Compliance with federal and state environmental regulations
- Long-term effectiveness and permanence
- Reduction of toxicity, mobility, or volume through treatment
- Short-term effectiveness
- Implementability
- Cost
- Regulatory input (determined following receipt of comments on the EE/CA)
- Community input (determined following receipt of comments on the EE/CA)

Alternative 1: Continued Legacy Facilities Management (the "no action" alternative)

Under this alternative, Legacy Facilities Management (LFM), consisting of surveillance, monitoring, and maintenance of F-Complex, would continue. Scheduled repairs and upkeep would occur, along with inspections to assess and monitor building conditions. Under this alternative, these activities would continue indefinitely; radioactive contaminants and hazardous materials would remain. The cost of implementing this alternative is projected to be $17.5 million over the next 30 years.

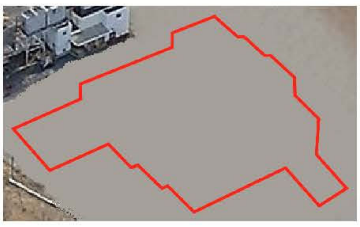
As the photograph shows, the LFM alternative would not result in visual changes to the exterior of the F-Complex buildings.

Alternative 2: Cleanout of Defueled Assemblies

Alternative 2 would involve cleanout of the defueled test reactor assemblies by removing the tanks, equipment, and piping that could otherwise expose workers to radiation dose during subsequent LFM activities. Following equipment removal, the former test reactor cells would be decontaminated. This alternative would eliminate the highest sources of radioactivity, resulting in a reduced level of LFM activities; radioactive contamination and hazardous materials not associated with the defueled assemblies would remain. The cost of implementing this alternative is projected to be $38.4 million over the next 30 years.

As the photograph shows, there would be limited visual changes to the exterior. Due to the size of the Full Core Physics Experiment (FCPE), the exterior wall and the roof of one of the buildings would need to be removed (depicted by blue shading) so that the defueled assembly could be removed. (Due to the angle of the photograph, the wall replacement is not able to be shown.) Upon removal, the wall would be replaced, and a new section of roof would be installed to protect the building interior from the elements.

Alternative 3: Demolition of F-Complex



Alternative 3 would involve removing the entire F-Complex (Buildings F1, F2, F3, F4, and F6), including the defueled test reactor assemblies located in them. This alternative would remove all radioactive and chemical contamination in the buildings, provide a site suitable for use by DOE in continuing its mission, and eliminate the need for further LFM activities. DOE would retain ownership of the area and would control land use consistent with its continuing research mission at the Knolls Laboratory. The cost of implementing this alternative is projected to be $68.4 million.

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F-Complex Removal Action at the Knolls Atomic Power Laboratory

General FAQs

January 2023

Background

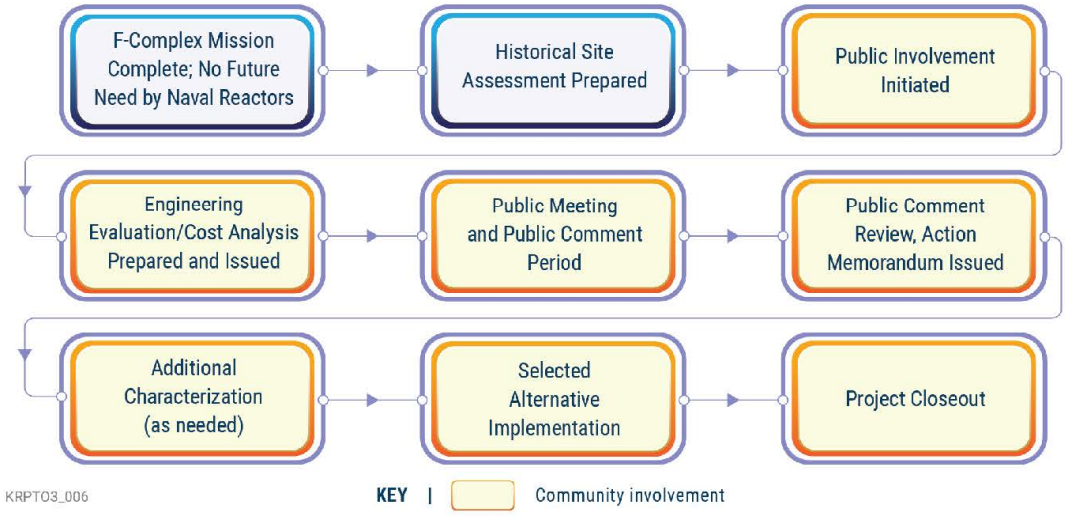
The Department of Energy (DOE) Office of Environmental Management (DOE-EM) is working in partnership with Knolls Atomic Power Laboratory (Knolls Laboratory) and its landlord, Naval Reactors, on reviewing potential removal actions involving F-Complex. This Fact Sheet contains general frequently asked questions (FAQs) about the F-Complex and the proposed alternatives.

F-Complex includes five interconnected buildings constructed between the 1950s and 1970 that have reached the end of their useful life. Over the years, F-Complex housed several research/test reactors. Three of those reactors remain; all three have been defueled and are inactive, leaving defueled assemblies. The facilities are contaminated due to their legacy operations. A decision is needed to determine an end state for the F-Complex. Public involvement is a key aspect of the decision.

DOE has prepared several documents for the removal action review. The **Historical Site Assessment (HSA)** documents the use and operational history of the facilities from their construction to the present. The **Engineering Evaluation/Cost Analysis (EE/CA)** draws on the HSA and presents three alternatives for the disposition of the F-Complex. A **Community Involvement Plan (CIP)** describes DOE's plans for engaging with the public throughout the removal action process, up to and including implementation of the selected alternative.

Three Alternatives have been proposed:

- Alternative 1 – Continued Legacy Facility Management (the "no action" alternative)
- Alternative 2 – Cleanout of the Defueled Assemblies
- Alternative 3 – Removal of F-Complex



Some Practical Matters

Will there be noise outside of business hours?
No. Work on F-Complex would occur within Town of Niskayuna requirements.

Will there be lights outside of business hours?
There may be lights outside of business hours simply to illuminate the work area for safety purposes. Due to the location of F-Complex well within the Knolls Laboratory and its distance from residential areas, the lighting should not be visible to residences.

How long will this take?
If Alternative 1 is chosen, it will be a continuation of present conditions and would continue for at least 30 years. If Alternative 2, cleanout, is chosen, it is estimated to take 47 months, followed by 30 years of legacy facility management. Alternative 3, if chosen, is estimated to take 53 months.

How much will it cost?
Costs range from $17.5 million for Alternative 1 to $68.4 million for Alternative 3.

What if we did nothing at all?
Alternative 1 proposes no change from the present approach to manage and maintain the buildings in a safe configuration.

Waste Transportation

Trucks will be needed to transport waste from the Knolls Laboratory if Alternative 2 or 3 is selected.

How big are the trucks?
The trucks will vary in size depending on the materials to be transported.

What routes will trucks take?
Exact routing is not available at this time, but the trucks will only take routes that are rated for commercial vehicles.

What do the containers look like?
That will also depend on the materials being transported. They can range from waste boxes secured to flatbed trucks, solid waste ("transfer") trucks, and dump trucks.

How many truckloads might there be?
The number of truckloads will vary by the type of material being disposed and the type/size of the trucks available at the time they are needed.

What about the waste?
Three types of wastes are anticipated from Alternatives 2 or 3 – low level radioactive waste (LLW), hazardous waste, and solid waste (demolition debris). Hazardous or solid waste would be disposed at existing, permitted facilities. Radioactive wastes will go to existing permitted or licensed facilities outside of New York State.

Air and Water

Will there be contaminated dust that could affect the air that I breathe?
No. The facilities will be decontaminated prior to any demolition. In addition, demolition work will involve misting and other methods to keep dust under control.

Is there a potential to affect drinking water?
No. Potentially contaminated water from facility demolition will be controlled. In addition, the facility does not sit over a usable drinking water aquifer.

Miscellaneous

If you demolish the buildings, what will go there?
After DOE-EM demolishes the buildings, the footprint would be returned to the Naval Reactors program to use for mission purposes.

Can this create jobs? If so, what kind of jobs?
Implementing Alternatives 2 or 3 would have the potential to create jobs in the construction/demolition fields as well as scientific, engineering, management, and technical support.

Why are you doing this now? The buildings have not been used for a long time…is there a risk now? What has changed?
The buildings have recently ended their useful life. The risks associated with the F-Complex have been managed and maintained in a safe condition; there is no additional risk.

There are a lot of out-of-use buildings on the site—are you going to work on them, too?
The Knolls Laboratory is in active use and regularly removes buildings that are no longer needed to support mission needs.

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F-Complex Removal Action at the
Knolls Atomic Power Laboratory

Transportation FAQs

January 2023

This document contains frequently asked questions (FAQs) about hazardous and radioactive waste transportation.

Waste shipments to commercial treatment and/or disposal facilities are made according to well-established, rigorous, federal regulations issued by the Department of Transportation (DOT) and the Nuclear Regulatory Commission (NRC).

About three million radioactive materials packages are shipped in the United States annually. The Department of Energy (DOE) successfully completes thousands of shipments each year. The shipments have included a variety of waste types, such as transuranic waste, low-level radioactive waste, mixed low-level radioactive waste and used nuclear fuel, primarily by highway and rail. All DOE shipments are conducted in accordance with well established, rigorous federal regulations issued by DOT and the NRC. Further, DOE requires use of commercial motor transporters who have been evaluated by DOE for their safety performance and compliance with federal regulations.

DOE has an extraordinary transportation safety record. In fiscal year 2021, DOE safely transported over 4 million hazardous materials shipments, traveling more than 6 million miles.

Transporting/Shipping Hazardous or Radioactive Material is Highly Regulated

All shipments of radioactive material must be packaged and transported according to strict federal regulations.

- Radioactive material can be transported by truck, train, plane, or ship.
- There are special regulations that help keep drivers, the public, and the environment safe.
- The packaging used to transport radioactive material is tested to make sure it will keep people safe if there is an accident.
- The amount and type of radioactivity present in a shipment determines how it can be transported and what kind of controls are required.

Special packaging, labeling, and methods are used when transporting radioactive materials.

- Packaging is based on the radioactive material being shipped. Each kind of packaging requires specific testing to make sure it can withstand accidents, fire, and water if something goes wrong. Shippers label packaging with the type of material inside, and, when required, place a sign, or placard, on the vehicle that states radioactive material is on board.
- Most radioactive material is shipped on highways. Radioactive materials are regularly used and shipped for medicine, agriculture, research, manufacturing, non-destructive testing, and minerals exploration.

Drivers are trained and safety is their priority.

- Drivers who transport radioactive materials are trained in basic radiation science and in radiation emergency safety. Safety and training practices ensure that the materials and packages are handled properly so that they cannot harm workers, the public, or the environment.

Many types of regulations apply to waste transportation.

- Various federal regulations govern waste transportation. For example, the DOT oversees the safety and security of hazardous materials during shipping. DOT's Office of Hazardous Materials Safety works with the NRC to keep shipments safe.
- The NRC works with the DOT to set safety rules for shipping radioactive materials. The NRC oversees the design and use of special packaging for shipping radioactive materials.

U.S. Department of Energy (DOE)

The following are links to DOE regulations and guidance related to transportation:

The DOE Radioactive Materials Transport Practices Manual (DOE M460.2-1a) is applicable to the F-Complex removal action – https://www.directives.doe.gov/directives-documents/400-series/0460.2-DManual-1a/@@images/file

Assuring safe transport of nuclear and hazardous materials – https://energy.sandia.gov/wp-content/gallery/uploads/Transportation.pdf

Packaging and transportation – http://energy.gov/em/services/waste-management/packaging-and-transportation

Radioactive materials transportation and incident response – https://www.energy.gov/sites/prod/files/em/TEPP/RadioactiveMaterialTransportationandIncidentResponse-QABook.pdf

What are the placards for on trucks?

Placards are used on trucks to designate that they are carrying hazardous substances. Each type of hazardous substance has its own unique four-digit code number. This code, called a North American (NA) or United Nations (UN) number, is located on placards placed on all four sides of the vehicle.

A substance is classified as hazardous if it "poses an unreasonable risk to public health and safety" when transported. You can use these NA or UN numbers to categorize the transport vehicles by load. Interpretations of these codes are found in DOT's Emergency Response Guidebook, which is widely available through on-line sources.

Some placards also have a hazard class number at the bottom corner which indicates the substance's particular class. Class 7 is for radioactive materials. Class 9 is for miscellaneous hazardous substances.

The following are example placards you may see on a truck. The left designates radioactive waste, and the right designates asbestos waste.

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F-Complex Removal Action at the Knolls Atomic Power Laboratory

CERCLA FAQs

January 2023

What is CERCLA?

CERCLA, which stands for Comprehensive Environmental Response, Compensation, and Liability Act, was enacted by Congress in 1980 to respond to releases and threatened releases of hazardous substances into the environment. CERCLA is sometimes referred to as "Superfund."

Although Knolls Laboratory and the F-Complex are not CERCLA/Superfund sites the Department of Energy (DOE) is using the CERCLA *process.* The CERCLA process develops an approach to environmental decision-making that ensures worker health, public health, and the environment are protected; provides for community involvement; and reduces risk without unnecessary delay.

Knolls Laboratory is not a CERCLA site. The CERCLA process is a well-established and consistent approach to regulatory decision-making that can be used at non-CERCLA sites.

CERCLA has two kinds of response actions:

- Short-term removal actions, such as the "non-time critical removal action" under evaluation for the F-Complex.
- There are no CERCLA long-term remedial actions taking place at Knolls Laboratory.

F-Complex is "non-time critical" because the removal action is not urgent, and there is sufficient time to plan for and implement the selected alternative.

What is a Removal Action?

Generally, when there is a relatively non-complex problem that is well understood and defined, a removal action is proposed. An **Engineering Evaluation/Cost Analysis (EE/CA)** is prepared for removal actions. An EE/CA uses environmental information such as sampling, monitoring, and survey data that provides details on the nature and extent of contamination and describes removal action alternatives to address the contamination. An EE/CA evaluates the effectiveness, implementability, and cost of each alternative identified and recommends a preferred alternative.

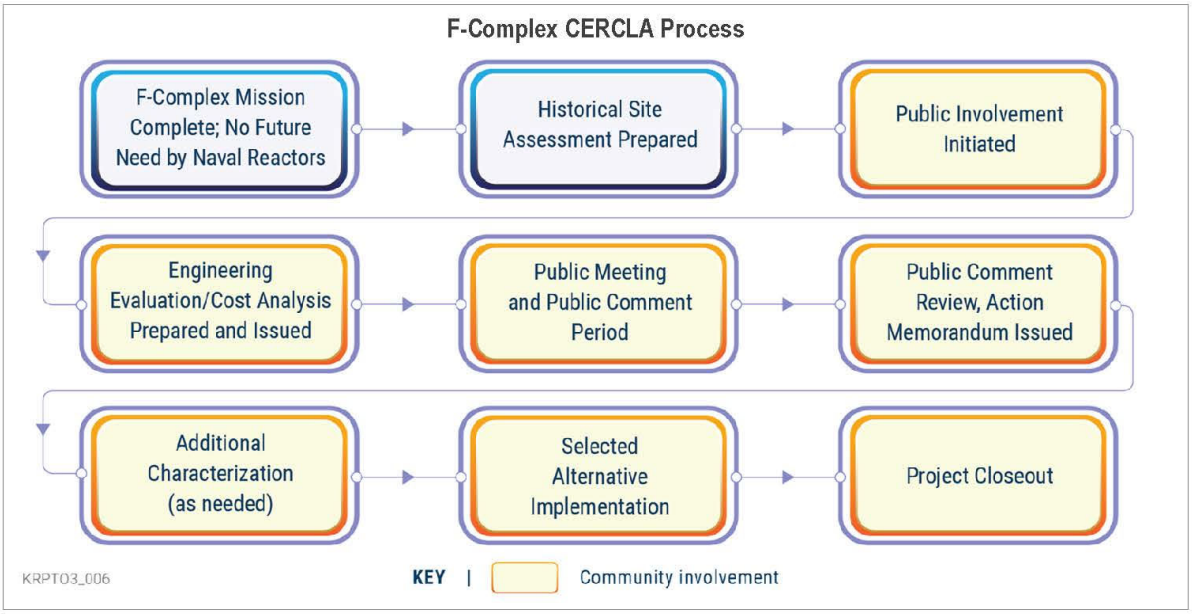
An **Action Memorandum (AM)** is the decision document for a removal action. An AM documents the alternative selected for implementation.

An EE/CA has been prepared for F-Complex. An Action Memorandum will be prepared following the public comment period and evaluation of the comments.

If Knolls Laboratory is not a CERCLA site, why would the CERCLA process be used for F-Complex?

The CERCLA process, shown in the graphic on the next page, focuses on reducing risks to human health and the environment and is a well-established and efficient process for enabling decision-making. It also includes provisions for streamlining environmental regulatory processes so that administrative burdens are reduced, and substantive compliance is attained. Additionally, Executive Order 12580, *Superfund Implementation*, gives federal agencies such as DOE the authority to use the CERCLA process and conduct and oversee CERCLA actions.

F-Complex is very well suited to a CERCLA removal action because there is a great deal of information known about it. Using the CERCLA process will enable an efficient and streamlined evaluation, provide numerous opportunities for community involvement, and facilitate informed decision making.



What about NEPA?

In accordance with DOE policy, National Environmental Policy Act of 1970 (NEPA) is incorporated into the CERCLA process rather than being conducted as a separate analysis. DOE analyzes "NEPA values" for CERCLA actions, looking at factors such as cumulative, off-site, ecological, and socioeconomic impacts. Stakeholder engagement is a key NEPA value. DOE takes steps to provide opportunities for public involvement, including making documents available and offering an opportunity for public involvement in the CERCLA decision process.

What is an Administrative Record File?

The EE/CA and other key project documents associated with the removal action are kept in the **Administrative Record** (or "AR") file, which is the publicly available official body of documents that form the basis for the selection of a particular response action. CERCLA requires that an AR file be created for each response action. An AR file is developed for each project in which a CERCLA decision will be generated. The AR file is closed when the decision document is signed.

The AR file is a vehicle for and a record of public participation in the response selection process. The AR file for the F-Complex Project is housed at the Knolls Laboratory. All of the documents in the AR file are available in the **Information Repository** located at the Niskayuna Branch of the Schenectady County Public Library, 2400 Nott Street East, Niskayuna, New York, 12309.

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