Removal Action Alternatives

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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:

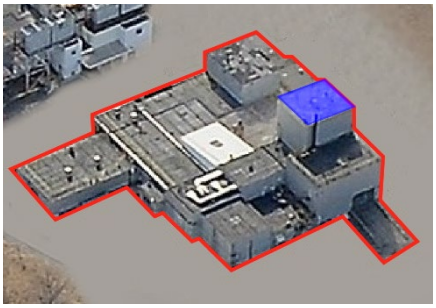
- Protection of human health and the environment
- Compliance with federal and state environmental regulations
- Long-term effectiveness and permanence
- Reduction of toxicity, mobility, or volume through treatment
- Short-term effectiveness
- Implementability
- Cost
- Regulatory input (determined following 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.

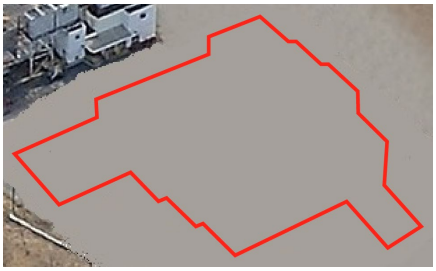
Alternative 2: Cleanout of Defueled Assemblies



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 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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