



# Army Deactivated Nuclear Power Plant Program

U.S. ARMY CORPS OF ENGINEERS

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## Background

The U.S. Army Corps of Engineers, Baltimore District, has been directed to complete All Hazards Assessments for three deactivated nuclear power plants to support the development of a decommissioning strategy. The three reactors include: the SM-1 at Fort Belvoir, Va.; the SM-1A at Fort Greely, Alaska; and the MH-1A aboard the STURGIS barge, which is currently located in the James River Reserve Fleet in Virginia. The District's efforts will assist in determining viable disposal scenarios for each reactor and estimate the associated costs to support decommissioning funding requests.

The District is performing this function per Army Regulation 50-7, which assigns the responsibility for the U.S. Army Reactor Program to the Army's Deputy Chief of Staff. The regulation also outlines program responsibilities for other Department of Army organizations, including the Commander, United States Army Corps of Engineers. Among other things, the regulation requires that the Corps of Engineers develop management policy for the Army's three deactivated nuclear reactors, which ensures compliance with all safety and environmental requirements. The Corps of Engineers is also responsible for formulating reactor decommissioning strategy and execution procedures. The Corps of Engineers Headquarters currently holds three reactor possession permits issued by the Director, United States Army Nuclear and Combating Weapons of Mass Destruction Agency. The Corps of Engineers is required to comply with the conditions and commitments that are incorporated into the permits. The permits were issued to the Chief, Environmental Community of Practice, in October 2009.

The termination of the Army Reactor Permits is to be achieved in a four-phased effort (the All Hazards Assessment consists of Phase I and Phase II):

- **Phase I** – Provide a Historical Site Assessment for each facility, provide an activation analysis to estimate radionuclide concentrations, and prepare Sampling and Analysis Plans for the subsequent characterization survey
- **Phase II** – Conduct characterization surveys including radiological and non-radiological sampling and analysis and hazards assessment
- **Phase III** - development of National Environmental Policy Act documentation, the decommissioning plan, and design document
- **Phase IV** – Execution of the decommissioning designs, disposal of identified hazardous and radioactive waste, and the transfer of radioactive material; implement the Final Status Survey (FSS) and prepare necessary correspondence to have the Army Reactor Office (ARO) permits terminated.

## Status

The status of each deactivated plants are summarized below:

**MH-1A - STURGIS – James River Reserve Fleet, Va.** The MH-1A power reactor was last operated on July 1, 1976. In the following two years, the facility had all special nuclear material and all radioactive waste removed. All areas outside the secondary shielding were decontaminated, and the remaining radioactive materials have been rendered into a safe configuration for long-term storage. The MH-1A STURGIS Barge has been moored at the James River Reserve Fleet since Sept. 28, 1978, except for times of periodic dry dock maintenance. Phase I and Phase II of the All Hazards Assessment is complete. The Corps of Engineers, Baltimore District has contracted for Phase III decommissioning studies to review decommissioning

alternatives, prepare National Environmental Policy Act documentation, and prepare a Decommissioning Plan to support permit termination.

**SM-1 - Fort Belvoir, Va.** The SM-1 power reactor was last operated on March 17, 1973. A decommissioning plan was implemented in 1973- 1974 to remove all special nuclear material, remove most of the radioactive waste, seal the vapor container entrances, and either decontaminate or restrict access to attached building spaces outside the containment. A radioactive waste storage and handling building was dismantled and removed from the site. After 1974, the unrestricted areas of the SM-1 facility were used for various purposes such as office and storage space. The building is currently not used or occupied. Phase I of the All Hazards Assessment is complete. The Corps of Engineers, Baltimore District has contracted for Phase II Characterization Surveys. Crews completed field work in 2010. The Corps of Engineers expects to complete Phase II reports by the end of 2012.

**SM-1A - Fort Greely, Alaska.** The SM-1A power reactor was last operated on March 13, 1972. During the following 15 months, a decommissioning plan was implemented to remove all special nuclear material, remove most of the radioactive waste, seal primary components inside containment with concrete and grout, and decontaminate or seal in place all facility areas outside the containment. A radioactive waste storage building (J5) was also left in place with concrete added to the floor for the purpose of covering remaining contamination. A large amount of contaminated soil was removed from the area near the reactor building. Since 1973, the conventional power plant and maintenance personnel at Fort Greely have used the accessible portions of the SM-1A facility. Phase I of the All Hazards Assessment is complete. The Corps of Engineers, Baltimore District has contracted for Phase II Characterization Surveys. Crews completed field work in 2011. The Corps of Engineers expects to complete Phase II reports in 2013.

#### **For more information**

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