SUMMARY

This Environmental Assessment (EA) addresses the proposed action by the U.S. Department of Energy (DOE) to authorize the Puerto Rico Electric Power Authority (PREPA) to allow public access to the Boiling Nuclear Superheat (BONUS) reactor building located near Rincón, Puerto Rico for use as a museum. PREPA, the owner of the facility, is proposing development of the facility as a museum.

The BONUS was an experimental reactor constructed from 1960 to 1962 through the combined efforts of the Atomic Energy Commission (AEC, predecessor to DOE) and the Puerto Rico Water Resources Authority (PRWRA, predecessor to PREPA). The facility operated from 1962 to 1968, when it was shut down for economic reasons. After the closing of the facility, the reactor was decommissioned. Decommissioning activities included:

(1) removal of all special nuclear materials (e.g., nuclear fuel) and certain highly activated components such as control rods and shims from the reactor and the disposal of such materials and equipment on the United States mainland,
(2) in-place entombment of the pressure vessel and associated internal components within a three-story-tall concrete monolith within the dome-shaped entombed reactor building, and
(3) decontamination of contaminated systems located outside of the pressure vessel that were left in place.

Although the BONUS reactor building and associated equipment is owned by PREPA, DOE retained ownership of the radioactive material. Residual radioactive material is present in some areas of the reactor building, including the main level which is the proposed site for the museum. Areas with residual radioactive materials have been isolated or shielded to protect site visitors and workers. Radiological monitoring and surveillance has continued at the facility, although the potential for radiological exposure is considered to be low.

The proposed action is to authorize PREPA to allow public access to the BONUS reactor building for use as a museum. Monitoring and surveillance inside the BONUS reactor building would continue under this action.

The following are factors that support the need for DOE action:

· PREPA has proposed the development of the BONUS facility as a museum that would be open to the general public. This facility is one of only two reactors of this design ever built.

- DOE retains responsibility for the radioactive materials, and must ensure that development of the proposed museum would not result in unacceptable radiation exposures.

Reasonable alternatives to the proposed action which would be considered include:

(1) no action (i.e., continued monitoring and surveillance of the BONUS facility without allowing public access to the facility); and

(2) authorizing public access to the facility for use as a museum only after additional decontamination to remove residual radioactivity above guidelines.

All alternatives were evaluated with respect to potential impacts to geology and soils, air quality, hydrology and water quality, floodplains and wetlands, ecological resources, threatened and endangered species, socioeconomics, historical and archeological resources, noise, transportation, health and safety, waste management, spills, and cumulative impacts. No detrimental impacts to human health, natural resources, or the environment were identified under any of the alternatives. Additional alternatives considered but not evaluated in detail include the removal and disposal of the concrete monolith, including shipment to an off-site disposal facility, and modification of the BONUS facility to enhance the structural stability of the reactor building and monolith structure.