Fermi, Unit 1

1.0 Site Identification

Type of Site:	Power Reactor Facility
Location:	Newport, MI
License No.:	DRP-9
Docket No.:	50-16
License Status:	DECON
Project Manager:	Ted Smith

2.0 Site Status Summary

The Enrico Fermi Atomic Power Plant, Unit 1 (Fermi 1) is located in Monroe County, Michigan. The site boundary is completely contained within the Fermi 2 site boundary, adjacent to Lake Erie. The site consists of six main buildings and several smaller gallery buildings and interconnections. Fermi 1 has an onsite groundwater monitoring program, which has not identified any groundwater contamination due to Fermi 1 operations.

Fermi 1 was a fast breeder reactor power plant cooled by sodium and operated at essentially atmospheric pressure. The reactor plant was designed for a maximum capacity of 430 Megawatt (Mwt); however, the maximum reactor power with the first core loading (Core A) was 200 Mwt. The primary system was filled with sodium in December of 1960 and criticality was achieved in August 1963. The reactor was tested at low power in its first couple years of operation. Power ascension testing above 1 Mwt commenced in December 1965, immediately following receipt of the high power operating license. In October 1966, during a power ascension, a zirconium plate at the bottom of the reactor vessel became loose and blocked sodium coolant flow to some fuel subassemblies. Two subassemblies started to melt. Radiation monitors alarmed and the operators manually shut down the reactor. No abnormal releases to the environment occurred. Three years and nine months later, the cause had been determined, cleanup completed, fuel replaced, and Fermi 1 was restarted. In 1972, the core was approaching the burnup limit. In November 1972, the Power Reactor Development Company made the decision to decommission Fermi 1. The fuel and blanket subassemblies were shipped offsite in 1973. The non-radioactive secondary sodium system was drained and the sodium sent to Fike Chemical Company. The radioactive primary sodium was stored in storage tanks and in 55 gallon drums until the sodium was shipped offsite in 1984. Decommissioning of the Fermi 1 plant was originally completed in December 1975. The license for Fermi 1 expires in 2025.

3.0 Major Technical or Regulatory Issues

The facility is currently in DECON condition. Bulk sodium has been removed from the site, and the reactor vessel has grouted and is being prepared for removal. There is no spent fuel onsite. The licensee submitted a revised LTP in March 2010, which is currently under NRC staff review.

4.0 Estimated Date For Closure

10/01/2012

Page Last Reviewed/Updated Wednesday, April 13, 2011