


Fermi 1 Decommissioning License Termination Plan



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History

- In January of 1955, the AEC invited proposals for construction of nuclear power plants
- In 1956 Construction of the Enrico Fermi Atomic Power Plant, Unit 1 was started
- In August 1963 criticality was achieved
- Operation at power levels in excess of 1 Mwt was initiated in December 1965 and continued until October 1966

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History

- October 1966 flow of sodium was blocked to several fuel assemblies which partially melted
- Recovery operations from October 1966 to July 1970
- November 1970 full power operations
- On November 27, 1972, the PRDC Executive Committee decided to decommission the Fermi 1 plant

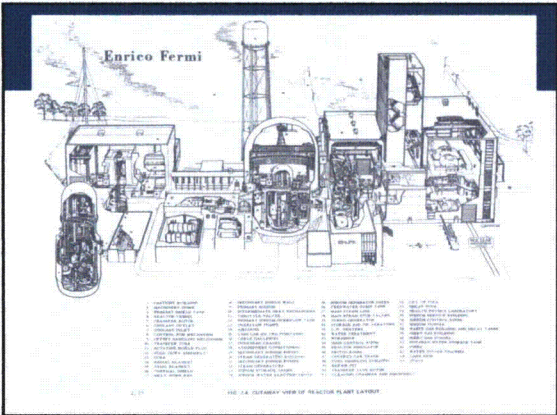
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Description

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 capability of 430 Mwt; however, the maximum reactor power with the first core loading (Core A) was 200 Mwt.

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Major Activities

- Asbestos Abatement
- Removal of all Components and Piping from RRA
- Monitoring of Plant and Surrounding Area for Radioactive Materials

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Activities

- Sodium Residue Processing
- Preparation for Reactor Vessel Removal
- Ground Water Monitoring Report docketed in 2007

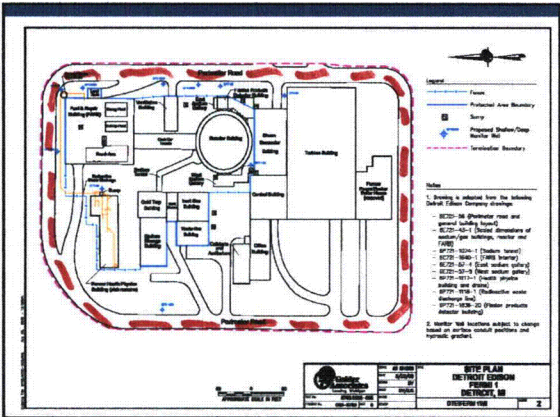
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- Apply "lessons learned" from previous decommissionings
- Draw upon experience of Fermi 1 personnel
- Maintain an open dialogue with the NRC
- Involve regulators early on in the process
- A strong foundation provides for a strong, defensible program



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Historical Site Assessment

- Performed a meeting with former EF1 employees
- Performed a review of operating logs
- Performed a review of old formal maintenance logs

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Resources

- License Termination Manager
 - Previous FSS Manager at Yankee Rowe responsible for the successful license termination
- EF1 RP Supervisor/Health Physicist
- Golder Associates
 - Groundwater monitoring program
- Bartlett Nuclear Corporate Office


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Progression


- HSA
- Characterization Plan
- Develop site specific DCGLs
- Develop LTP
- Develop FSS Program
- Perform FSS
- Submit Final Reports

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Decommissioning on Same Site as Operating Reactor 


- **Benefits**
 - Availability of equipment and expertise
- **Challenges**
 - Systems which support both plants
 - What is Fermi 1 site vs. Fermi 2 site?
 - NRC agreed in September 2007 letter that Fermi 1 is within Fermi 2 boundary

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Decommissioning on Same Site as Operating Reactor 

- **End state of Fermi 1**
 - Residual material on site of operating plant
 - Evaluate addressing in Fermi 2 UFSAR
 - Any precedents from material licenses?
- **Radiation shine from operating plant**
 - Study performed by Chesapeake Nuclear Services in 2005
 - NRC agreed that contribution from Fermi 2 not part of Fermi 1 residual activity.

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Decommissioning on Same Site as Operating Reactor 

- Site programs geared towards operating plant
- Site focus

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