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DTE Energy



February 12, 2010
NRC-10-0008

U.S. Nuclear Regulatory Commission
Attn.: Document Control Desk
Washington, D.C. 20555

- Reference:
- 1) Enrico Fermi Atomic Power Plant, Unit 1
NRC Docket No. 50-16
NRC License No. DPR-9
 - 2) Detroit Edison Letter, NRC-09-0017, "Proposed License Amendment – License Termination Plan", dated, March 25, 2009
 - 3) Detroit Edison Letter, NRC-09-0078, "Proprietary and Confidential Decommissioning Cost Information Regarding the Fermi 1 License Termination Plan per 10CFR2.390", dated February 12, 2010

Subject: **Submittal of Supporting Financial Information on the Fermi 1 License Termination Plan**

The NRC has requested additional information be submitted to assist in their review of Chapter 7, "Decommissioning Cost Update", of the Fermi 1 License Termination Plan (LTP) (Reference 2).

Detroit Edison is supplying the requested information in this letter and Reference 3. Attachments 1 and 2 provide additional information on the updated cost estimate, postulated cost to return the plant to passive SAFSTOR, and overhead costs.

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Should you have any questions, please contact Lynne Goodman, Manager Fermi 1, at (734)586-1205.

Sincerely,

A handwritten signature in black ink that reads "Joseph H. Plona". The signature is written in a cursive style with a large initial "J".

Joseph H. Plona

JHP/LG/ljd

Attachments (2):

cc: NRC Regional Administrator, Region III
T. Smith, NRC (Washington, D.C.)
NRC Resident Inspector- Fermi 2
P. Lee, NRC Region III
T. Strong (Michigan Dept. of Environmental Quality)

Additional Cost Estimate Information

Background:

During review of Chapter 7, "Decommissioning Cost Update", of the License Termination Plan, the NRC's reviewers had questions, specifically in the areas of contingency, current year dollars, liquid waste system and fuel pool removal costs, labor rates, waste rates, and overhead costs. The reviewers also asked whether the cost of Radiation Protection personnel matrixed from Fermi 2 was covered by the cost estimate.

They requested additional information regarding the cost to return the Fermi 1 facility to passive SAFSTOR if the current decommissioning project were to stop. This submittal documents the answers to the specific questions, with the exception of labor and waste costs, which are provided in Reference 3.

1. Contingency

The NRC has asked that a 25% contingency factor be applied to the cost estimate, per the guidelines of NUREG-1713.

As of December 2009, the remaining approved estimate is:

2010 - \$14.8M
2011 - \$2.5M
2012 - \$0.3M
Total: ~\$18M

Under the guidance of NUREG-1713, a 25% contingency would be \$4.5M. The approved remaining Fermi 1 decommissioning budget is ~\$18M. Under the guidelines of NUREG-1713, the current remaining Fermi 1 decommissioning cost estimate assuming a 25% contingency is ~\$22M. Financial assurance consisting of the combination of the remaining trust fund and parent company guarantee covers the estimate with the 25% contingency

2. The NRC asked that the estimate be expressed in current year dollars. The above estimate is in nominal dollars. Since the majority of the expenditure is in 2010, the estimate in 2010 dollars would still be ~\$18M, and the estimate with contingency per NUREG-1713 still rounds to \$22M.

3. Liquid Waste and Fuel Pool Costs:

The NRC has asked that additional information be provided on the cost of the liquid waste system and fuel pool removals.

Liquid Waste System:

As of December 2009, the remaining funding for the liquid waste system removals and removal of remaining piping in the Fuel and Repair Building, plus the hot sump pumps, hot sump and maintenance pit sump is \$133K. Much of the liquid waste system has been removed. The work is scheduled for approximately 21 weeks, with a crew of 2-3 workers plus 1 Radiation Protection (RP) technician. Approximately \$74K additional may be needed from contingency to complete the work.

Fuel Pools:

Work on the 2 fuel pool removals is well underway. The cost of the remaining work is projected at \$308K, with \$147K funded and \$161K needed from contingency. The work takes 2-4 workers and 1 RP technician. The fuel pools are currently scheduled to be complete in June 2010.

Shipping and disposal costs have been in addition to the costs above for the fuel pool and liquid waste system. Part of the waste has already been disposed. The remaining waste for the liquid waste tank room and some fuel pool waste currently fills one intermodal and a portion of a second intermodal.

Currently 4 waste containers are forecast to be disposed of by the end of August 2010 in the approved budget. This will likely cover the waste from the fuel pools and liquid waste system and some additional waste, with the exception of miscellaneous dry active waste placed in a sealand container. Cost for shipping and disposing of a sealand is not covered by the existing waste budget and will need to be funded from contingency.

To summarize, the cost for the rest of the liquid waste system and fuel pool removals, including waste shipping and disposal is estimated at \$778K, of which \$300K will need to come out of contingency

4. The NRC asked Detroit Edison to provide labor and waste costs. Since these costs are proprietary and confidential, they are included separately in Reference 3, which is being submitted under 10CFR2.390.

5. Periodic Monitoring

The NRC asked that the cost estimate include labor costs associated with periodic monitoring by Fermi 2 personnel during safe storage period.

The cost estimate with contingency includes the remaining costs of completing the last phase of SAFSTOR until license termination.

This includes the cost of the Radiation Protection (RP) personnel matrixed from Fermi 2 to Fermi 1.

The estimate to complete decommissioning through license termination does not include costs to stop the decommissioning and place the plant back into passive, monitored SAFSTOR. That is not the option covered by the LTP.

The LTP did discuss the adequacy of financial assurance and mentioned that per 10CFR50.82 (a)(8)(i)(B), the decommissioning fund needs to include money needed to place and maintain the reactor in a safe storage condition if unforeseen conditions arise. Section 7.4 of the LTP, discussed that if the facility were to be placed back in passive storage, periodic monitoring would be accomplished by Fermi 2 personnel on a part-time basis, no dedicated staff would be needed. The cost of RP personnel necessary to support the actions to return Fermi 1 to passive SAFSTOR were included in the \$1.5M estimate, which was based on conditions at the end of 2008. This estimate will be discussed further below.

The amount of RP support needed to maintain the facility in a passive SAFSTOR condition is minimal based on past experience. A quarterly survey is needed. Since such support would be provided by existing Fermi 2 RP technicians on a very part time basis, there would be no incremental cost to the company.

6. The NRC asked for additional information regarding the estimate to place and maintain Fermi 1 in passive safe storage if unforeseen conditions arise.

The License Termination Plan (Reference 2), Section 7.4 provided a rough estimate of \$1.5M as of the end of 2008. It also addressed that after additional work was completed in 2009, \$1M would be sufficient.

The estimate was updated based on conditions at the end of 2009. The current estimate is ~\$1M. The basis of the current estimate is in Attachment 2.

After the facility is returned to passive SAFSTOR, only part time support from Fermi 2 personnel would be needed to maintain it in the SAFSTOR condition, based on past experience. A rough estimate of cost would be ~\$25K a year including

weekly, monthly, and quarterly surveillances and an annual review committee meeting. This estimate does not cover the cost of any unknown future regulations that would need to be implemented at Fermi 1. However, since Fermi 2 personnel would be used, there would be no incremental cost to the company for surveillances or review and implementation of new regulations unless physical modifications were needed.

7. The NRC asked for additional information on what is and what is not included in the overhead category of costs.

The overhead category used for the Fermi 1 cost estimate now covers employee benefits, payroll taxes, incentive program, and corporate surcharges for such items as procurement, warehousing, training, fleet and facilities. It does not cover the cost of corporate management.

Since Fermi 1 is on the same site as Fermi 2, and has no value, there are no separate Fermi 1 costs for insurance, property taxes or depreciation. Also, no utility charges are internally assigned to Fermi 1.

8. The amount of overhead charges does change over time. Currently, overhead charges may cost ~\$0.2M more than included in the License Termination Plan estimate.

Updated Cost to Return to Passive Safe Storage

- 1.) Cost does depend on expected duration and status
 - 2.) Cost that is most duration dependent is cost of upgrading systems in office building – this is not nuclear decommissioning cost and is not included
 - 3.) Reactor –
 - a. If have not started cutting reactor, then weld plate back on reactor. Weld plate – 4 days x 10hr/day x 3 people, ~ \$7K, or
 - b. If upper reactor and mid-sections have been cut, then may weld plate on top of lower reactor vessel, assume double the people as 3a, since high radiation area, or ~\$14K, or
 - c. If cutting is partly complete, but part of reactor remains, assume will strengthen high rad controls, by replacing door in basement with steel door and putting sheet metal plates over top of the cavity. Materials should cost ~\$3K, labor – 6 days x 10 hr/day x 5 people, ~\$21K with materials
 - 4.) Graphite blocks from rotating plug – seal up and mark and store in one place
 - a. 3 days x 4 people x 10hr/day, ~ \$7K
 - 5.) Neutralized liquid and waste water - 2 intermodal shipments, including disposal, 4 people to unload the evaporation chambers twice a month, plus filling the chambers daily, plus electrical troubleshooting/maintenance ~\$160K
 - 6.) General cleanup – 2 months x ~\$100K/mo (combination of laborers & Radiation Protection (RP) technicians)~\$200K
 - 7.) Staff
 - a. Utility – 2 months ~\$100K
 - b. Contractors - ~\$100K, 1 month for some, 2 for RP.
- Total for #3 through #7: ~\$588K**
- 8.) Ship off stored solid waste, cost depends on how much waste is onsite
 - a. Assume 3 shipments - ~\$200K
- Total for #3 through 8: ~\$788K**
- 9.) Ongoing – back to periodic monitoring not reimbursed from trust fund
 - 10.) Any contract penalties. This is a cost to the company, but not cost of returning to passive safe storage
 - 11.) 1 RP for routines for 2 months - ~\$18K
 - 12.) Misc, maintenance – if add 25% for misc, maintenance and contingencies ~\$200K

Total: ~\$1006K = ~\$1M