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Cost of Decommissioning Nuclear Power Plants

As of January 1998 three Nuclear Regulatory Commission (NRC) licensed power reactors have been decommissioned. A number of other nuclear power plants owned by the U.S. Department of Energy have also been decommissioned. The NRC has assessed the decommissioning process and come up with three viable alternatives: DECON, SAFSTOR, and ENTOMB (Nuclear Regulatory Commission). Although the NRC has determined these three alternatives to be the most efficient decommissioning processes they are not an exhaustive list of options. The decision of how to decommission remains in the hands of the licensee permitting that it meets Title 10 of the , Section 50.2 requiring the "safe removal of a facility from service and reduction of residual radioactivity to a level that permits termination of the NRC license" (Nuclear Regulatory Commission).

The increasing cost of decommissioning processes has become one of the major issues of concern for the nuclear power industry. Studies conducted by the U.S. NRC and the Nuclear Energy Agency (NEA) have shown that nuclear facilities that have been or are being decommissioned have higher decommissioning costs than originally projections.

For example, the Yankee Rowe Nuclear Power Plant first estimated decommissioning costs to be at $178 million, excluding $57 million in spent fuel storage costs, and $13 million in sight restoration costs. This estimate was about 80% more than a previous estimate of $98 million (US Congress, Office of Technology Assessment 1993). One reason costs have been underestimated is because of the rising cost of decommissioning over time. In Pennsylvania, the Shippingport Nuclear Power Plant dismantled in a four year period (1985-1989) at a cost of $91.3 million, however today projected costs would be 56 million dollars more, which is an increase of 60% (US Congress, Office of Technology Assessment 1993).

There are a number of factors that influence decommissioning costs: type of facility, size, period of decommissioning, volume of waste, costs of waste disposal, radioactivity, way of calculating and legal requirements for decontamination of the site (Sierra Club). Delaying the process of decontamination is one way to minimize costs. In the United Kingdom is the policy to prolong decommissioning for 130 years. This strategy allows capital to grow through earned interest (WISE News 1995). It is also believed that decontamination technology increases costs will fall, therefore making it more profitable to prolong the process.

References

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Sierra Club, "Problems of decommissioning nuclear facilities." http://www.antenna.nl/wise/485/4813.htm

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