DECOMMISSIONING FUNDING FOR A PEBBLE BED MODULAR REACTOR (PBMR) FACILITY

I. ISSUE:

10 CFR § 50.75 requires licensees to establish financial assurance for decommissioning. Section 50.75(e)(1) provides six methods for providing financial assurance. These methods include prepayment, an external sinking fund, surety, insurance, or other "equivalent" method. However, Section 50.75(e)(1) essentially restricts use of external sinking funds to electric utilities. For non-utilities, most licensees have used the prepayment method.

Additionally, 10 CFR § 50.75(c) specifies a minimum amount for the decommissioning fund for boiling water reactors (BWRs) and pressurized water reactors (PWRs). However, this section does not specify a minimum amount for the required decommissioning fund for a gas cooled reactor.

This paper evaluates the implications of these requirements for the PBMR.

II. EXELON'S PROPOSAL:

1) The first PBMR license application will include a decommissioning cost estimate. Additionally, the application may seek NRC approval for an alternative decommissioning funding mechanism for new plants which provides for prepayment of 10% of the total decommissioning cost estimate and annual contributions for the remaining 90% spread over 20 years. Exelon believes that such a mechanism would be permissible under Section 50.75(e)(1)(vi) as an "equivalent" method.

2) NRC should initiate rulemaking to modify Section 50.75(e)(1) to explicitly authorize the use of this alternative funding mechanism for new plants. This rulemaking should be initiated independently of the licensing proceeding for the PBMR.

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III. ANALYSIS:

10 CFR § 50.75(e)(1) states that financial assurance for decommissioning is to be provided by one or more of the following methods: (i) prepayment in the form of a trust, escrow account, government fund, certificate of deposit, or other payment acceptable to the NRC, (ii) external sinking fund for a licensee that recovers the estimated cost of decommissioning through "cost of service" rates or non-bypassable charge for decommissioning costs, (iii) surety method, insurance, or other guarantee method, (iv) a statement of intent (for a federal licensee), (v) contractual obligations, and (vi) any other mechanism, or combination of mechanisms, that provides (as determined by the NRC) an assurance mechanism equivalent to the other methods in this section. Since NRC has previously maintained that Exelon Generation is not an electric utility under NRC's regulations, it would not be allowed to use the external sinking fund method under 10 CFR § 50.75(e)(1)(ii) for the PBMR.

As indicated in the Statements of Consideration for the Final Rule on "Financial Assurance Requirements for Decommissioning Nuclear Power Reactors," the NRC clearly prefers the prepayment option for entities that do not qualify as electric utilities. 63 Fed. Reg. 50465 (Sept. 22, 1998). In fact, the vast majority of license transfers to date involving sales of reactors to unaffiliated third parties have satisfied NRC's decommissioning funding assurance requirements by fully prepaying and conveying those funds to the new licensee at closing. According to the NRC, while prepayment places a significant up-front burden on licensees, prepayment provides the most reasonable financial assurance of decommissioning obligations. However, if NRC were to require 100% prepayment of the decommissioning cost estimate for

new plants, such prepayment might jeopardize the economic viability of any new plant that is to be operated on a merchant basis.

Exelon is giving further consideration to whether some of the other funding arrangements authorized under 10 CFR § 50.75(e) may be feasible for a PBMR operated as a merchant plant by Exelon. For example, Exelon is considering the insurance option pursuant to 10 CFR § 50.75(e)(1)(iii), and long term power sales contracts that provide for the funding of decommissioning costs pursuant to 10 CFR § 50.75(e)(1)(v).

Additionally, Exelon is evaluating the economic feasibility of requiring a new PBMR to accumulate decommissioning funding on an accelerated basis during the first 20 years of operation. Use of such a funding mechanism, in which Exelon would make prepayment of 10% of the total decommissioning cost estimate and annual contributions for the remaining 90% spread over 20 years, would substantially reduce the initial costs associated with the PBMR while still providing "up front" assurance of substantial funds for decommissioning.

Exelon believes that such a prepayment funding mechanism would provide adequate assurance of decommissioning funding for a new plant. Partial prepayment, coupled with accelerated funding over the first 20 years of operation, is reasonable in light of the small risk of premature shutdown during that period.

Exelon believes that this alternative approach satisfies 10 CFR § 50.75(e)(1)(vi) which allows a licensee to provide financial assurance via "[a]ny other mechanism, or combination of mechanisms, that provides, as determined by the NRC upon its evaluation of the specific circumstances of each licensee submittal, assurance of decommissioning funding equivalent to that provided by the [enumerated] mechanisms." If NRC disagrees, however, Exelon may seek

an exemption from Section 50.75(e)(1) to permit this alternative funding approach (or select another option).

If Exelon decides to use an alternative funding mechanism, its application for the PBMR will provide more details and a justification for using such a method. However, if NRC is conceptually opposed to use of such a method (either under Section 50.75(e)(1)(vi) or as an exemption), Exelon needs to know as soon as possible so that this can be factored into Exelon's evaluation of the economic feasibility of the PBMR.

To avoid duplicative efforts for future PBMRs, the NRC should initiate rulemaking to revise 10 CFR § 50.75(e)(1) and explicitly allow the alternative approach for new plants. Exelon will work with the Nuclear Energy Institute to refine this concept and develop supporting information for use in rulemaking. This rulemaking should be initiated independently of licensing of the PBMR.