

June 12, 2001

Note To: Jesse Funches

From: Jim Turdici

SUBJECT: PUBLIC MEETING ON PBMR

I just participated in the public meeting associated with the Pebble Bed Modular Reactor. Agenda is attached. I basically gave them a very short review of our two types of fees, read them what the Congress expectations were for annual fees and advised them that it was premature to determine what their annual fees would be. I also advised that we would be fair and equitable in the assessment of whatever annual fees would be established and that annual fees would be established through public notice and rulemaking. That did not satisfy them at all. There were many questions asked by Exelon and the NRC staff. Exelon wanted to attempt to pin me down on what they could expect. Their motivation is that they must have a ball park figure on annual fees to determine the project feasibility and what to tell their decision makers on this project. Interestingly, they did not focus on Part 170 fees and associated estimates or research costs. I advised that without having a better understanding of how we were going to license the facility (a separate license for each module or one license for ten modules) and what the staff effort would be that I had no idea as to whether they would pay 10X a reactor annual fee today or less than a reactor annual fee today. I told them that after a better understanding we would be able to determine whether we would remain with the existing two classes of reactor licensees or whether we may be required to go to a 3rd class based on any unique PBMR requirements. They keep asking ways to determine what indicators might drive an understanding of what the annual fees would be; like the number of residents or the effort to administer qualification exams. I indicated that if a 3rd class was to be established that the annual costs were a function of the dollars in that class, less Part 170 and a function of the number of licenses. When I was done, there were three questions that remained:

1. Assuming that a 3rd class was necessary, could I develop several scenarios and provide what the expected annual fees would be? Given some assumptions on hourly rates, non-FTE costs, this is not difficult to produce.
2. Assuming some new combined licensing action is initiated, when would the annual fees go into effect? I need to better understand this licensing concept. However, the answer very well may be no different from today and that is when the licensee is provided a "license to operate".
3. What is the criteria or basis of determining whether a 3rd class will be necessary? An answer to this one requires a lot more understanding of how different is this and whether the generic work is substantially different or resource intensive. Additionally, we need to thoroughly understand the licensing concept. Without a lot of answers from the staff on this one, I would not know how to approach an answer.

As an added note. Joel Dorfman advised me that he is reviewing an MOU with DOE for them to provide support associated with the PBMR. Not knowing exactly what type of support is intended, billing may start to get complicated.

B/12

From: James Turdici
To: Jesse Funches
Date: 6/12/01 4:47PM
Subject: Results of meeting on PBMR

Jesse

Please see attached meeting results and the agenda for today's meeting.

Jim

CC: Diane Dandois; Glenda Jackson; Peter Rabideau

NRC internal use

This outline for Exelon June 12 afternoon meeting on white papers (May 10, 2001 letter) provides the following:

- Order of discussion in meeting
- NRC Spokesperson(s)
- Bullets for NRC discussion

Diane/Amy will introduce each white paper and act as a facilitator for the length of discussion time allowed for each white paper. Although they are broken down into pieces the summary, the introduction will cover all of the pieces for that white paper.

OGC will provide a summary of FACA issues.

1. Operating staffing (10 CFR 50 54(m)):
 - a. **Norm St. Amour, OGC:** (3 or more reactors per control room) Regulation is silent on more than 2 units per control room
 - b. **Dick Eckenrode, NRR:** (Number and location of SROs /ROs). NRC is open to a justification for a different number of operators. Exelon needs to supply more information on how they plan to justify, if more detailed feedback is desired.
 - Concept of operations
 - Role of the operator
 - Level of automation
 - Modes of operation
 - Multiple module control
 - Control room design
 - Refueling during operation
 - Personnel categories and qualifications
 - Procedures
 - Applicability of current rules and guidance
 - Part 55, Operators' Licenses
 - Part 52, Subpart B, Standard Design Certifications
 - Part 50 34 (f), Additional TMI related requirements
 - Part 50 54 (k,m), (Operator staffing requirements)
 - SRP Chapter 13, Conduct of Operations
 - SRP Chapter 18, Human Factors Engineering
 - NUREG-0711, Human Factors Engineering Program Review Model
 - NUREG-0700, Human-System Interface Design Review Guideline
 - c. **Jerry Wilson, NRR:** (exemption in design certification) yes, can define exemptions for design certification
2. Environmental Impacts of the Fuel Cycle and Transportation (10 CFR 51.23, 51.51, and 51.52)
 - a. **Cynthia Sochor, NRR:** (PBMR environ. impacts to fuel cycle and transportation)
 - i. In accordance with 10 CFR 51.41, 51.45, 51.50, 52.17(a)(2), and

52.79(a)(2), an applicant should provide sufficient information in an environmental report prepared for a construction permit, early site permit, or combined license, regarding any applicable environmental impacts associated with all stages of production and transportation of reactor fuel. Light-water reactor applicants have access to the regulatory framework available at 10 CFR 51.51 and 51.52; certain information related to these issues will still need to be resolved on individual licensing proceedings. For other-than-light-water reactor applicants, the environmental impacts should be discussed in a manner similar to that presented in 10 CFR 51.51 and 51.52, and the applicant should provide sufficient information to allow the NRC staff to evaluate the cumulative, environmental, socioeconomic, and human health impacts associated with the fuel cycle.

- b. **Cynthia Sochor, NRR: (rulemaking for Tables S-3 and S-4)**
 - i. Independent of issues raised by Exelon, the NRC staff has a rulemaking underway to revise Tables S-3 and S-4 found in 10 CFR 51.51 and 51.52. As that initiative matures and as part of the rulemaking process, a proposed rule will be published in the Federal Register for public comment and interested parties will have ample opportunity to share their views with the NRC. The Unified Agenda of Federal Regulatory and Deregulatory Actions contains information regarding NRC's rulemaking activities. A semi-annual regulatory agenda was last issued on May 14, 2001 (66 FR 26602). Separate from this initiative, interested parties have an alternate mechanism to petition the NRC for rulemaking in accordance with 10 CFR 2.802.
 - c. **Tim Harris, NMSS: (long time storage of fuel on site) NRC is reviewing the matter (OGC's review will take one to two months), but NMSS would also want information such as are they considering dry or "wet" storage, type of container, nature of the waste, transportation, etc before we could have a technical basis for our decision.**
 - d. **Norm St. Amour, OGC: (DOE required to take PBMR spent fuel) Issue is between DOE and Exelon**
- 3 **Financial Qualifications (10 CFR 50.33(f) and Appendix C to Part 50):**
- a. **Mike Dusaniwskyj, NRR: (estimates for the total construction costs and total annual operating costs for each of the first five years of operation of the entire PBMR facility and the source of funds to cover such operating costs) Answer is connected to the number of licenses that will issued.**
 - i. Utility/Part 50 Application
 - ii. Utility/Part 52 Application
 - iii. Non-Utility/Part 50 Application
 - iv. Non-Utility/Part 52 Application**One License for all or One License per module:**
 - (1) Five Year Projections

- (2) Construction Costs
 - (3) Corporate Relationships/Stockholders
 - b. **Norm St. Amour, OGC:** (rulemaking to define a new category of merchant generating companies (non-utilities) have the same status as utilities if it satisfies certain criteria.) FACA issue - Exelon welcome to submit petition for rulemaking.
4. Decommissioning Funding (10 CFR 50.75):
- a. **Mike Dusaniwskyj, NRR:** (alternate decommissioning funding method with partial payment) No sinking fund allowed for non-utilities Exelon has options available:
 - i. Utility: Sinking Fund
 - ii. Non-Utility. Pre-Payment; Parent Company Guarantee; Surety Bond; Other
 - b. **None or Norm St. Amour, OGC, if necessary:** (rulemaking to explicitly authorize the use of the to-be-proposed alternative funding method.) FACA issue
5. Decommissioning Cost Estimate (10 CFR 50.75(c)):
- a. **Mike Dusaniwskyj, NRR:** (decommissioning cost estimate specifically for each PBMR module) Acceptable if a site-specific submittal but tied to the number of licenses NRC open to proposal on formula for PBMR similar to LWRs.
 - i. Site Specific
 - ii. NRC Study
6. Antitrust Review Authority (Section 105 of the Atomic Energy Act (AEA) and 10 CFR 10.33):
- a. **Mike Dusaniwskyj, NRR:** (define a new category of merchant generating companies (non-utilities) and except them from antitrust reviews.) Anti-trust review required by AEA
 - i. Atomic Energy Act of 1954, as amended
 - b. **None or Mike Dusaniwskyj, NRR:** (rulemaking to except antireview review for merchant plants) Changing NRC regulation is not an option because it does not change the AEA
7. Number of Licenses (10 CFR 50.10(a) or 10 CFR 50.52)
- a. **Norm St. Amour, OGC:** (first PBMR application will apply for a single license for multiple modules.)
 - b. **None or Norm St. Amour, OGC, if necessary:** (rulemaking to clarify that a "set" of modules may be treated as a single nuclear facility for licensing and "other purposes.") FACA issue
8. Annual Fees (10 CFR 171.15(a)):
- a. **Jim Turdici, OCFO:** (rulemaking for 10 CFR 171.15 be initiated and completed prior to the first PBMR application to specify that only one annual fees will be required for each "set" of PBMR modules) The NRC is open to other considerations for PBMR applications. He will discuss the 2 types of NRC fees. It is too premature to be establishing annual fees for PBMR and they are not established without public comment and rulemaking. The regulation intention is that the fee be assessed under the principle that licensees who require the greatest expenditures of the agency's resources should pay the greatest annual

charge; be fair and equitable; and to the maximum extent possible practical, the charges shall have a reasonable relationship to the cost of providing regulatory services to the licensee

9. Financial Protection Requirements (Price-Anderson Act and 10 CFR 140):
 - a **Norm St. Amour, OGC:** (for the first PBMR application that ten connected PBMR modules would be treated as one facility) Very difficult and complex issue that needs more consideration by the NRC.
 - b **None or Norm St. Amour, OGC, if necessary:** (rulemaking to define that multiple connected modules is a single facility) FACA issue