



Ms. Amy E Cubbage
U.S. Nuclear Regulatory Commission
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8 April 2002

Subject: General Atomics Comments on SECY-01-0207, Legal and Financial Issues
Regarding Exelon's Pebble Bed Modular Reactor

Reference: NRC Project No. 716

Dear Ms. Cubbage:

On 27 March NRC held a public workshop on the preliminary positions expressed in the subject SECY. At that time it was mentioned that the staff would continue to seek comments through 10 April 2002. I am writing to provide you with General Atomics' (GA) written comments, some of which have previously been expressed in the workshop or other public meetings.

As you are probably aware, General Atomics has a strong interest in the issues in this SECY due to many, if not all, bearing directly on the financial viability and licensability of GA's Gas Turbine – Modular Helium Reactor (GT-MHR) currently under development and also undergoing NRC pre-application review. All of the issues raised by Exelon stem from one of three aspects of their PBMR project. These are; the anticipation that future reactors will operate as merchant plants, the multi-module nature of the design, and the fact that the gas-cooled reactor technology underlying the PBMR is, in many cases, not fully or appropriately addressed in existing regulation. These same conditions are, of course, also relevant to the GT-MHR.

We commend the staff for their work in preparing these preliminary positions particularly where you have recognized that gas-cooled modular reactors represent a different approach to reactor design and safety and that this difference needs to be accommodated in regulation. We are generally supportive of the direction these preliminary positions reflect. Our specific comments are noted below.

- While the SECY is addressed to Exelon in response to legal and financial questions raised on the PBMR, the staff responses are generally applicable to all reactors types and certainly to High Temperature Gas-Cooled Reactors. A brief justification for this view is provided in Attachment 1 to this letter. Consequently, we suggest that the staff include words that specifically acknowledge the SECY's generic applicability to other modular reactors and merchant generators. Acknowledging the SECY's general applicability would save effort by allowing this work to answer similar questions that will have to be asked by other future applicants.
- We strongly suggest that the staff delete Item 11, *Testing of New Design Features for a Combined License* from the SECY. While this item could be seen as falling within the scope of legal issues, Exelon did not raise it in their initial query. Furthermore and as the staff correctly note, rulemaking to update Part 52 is in progress and the final form of any revision is still undetermined.

We are concerned that the statement that a "all testing... ..be completed before issuance of the COL" is highly subjective and could be interpreted in a manner detrimental to the deployment of first-of-a-kind designs in the U.S. in spite of safety benefits they may hold. In addition, we believe there is strong reason for NRC to maintain a different standard in "demonstrating that new design features will perform as predicted" when used for a COL as opposed to design certification.

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In view of the above, we believe that the rulemaking process is the proper forum to clarify the required testing of new design features prior to issue of a COL. The SECY should either delete the issue entirely or simply acknowledge the ongoing rulemaking.

- With regards to the remaining positions developed by the staff, our comments are generally supportive and are noted below.

Operator staffing in 10CFR 50.54(m): We support the NRC's receptiveness to a common control room for multiple modules and staffing levels appropriate to a specific design. We understand and agree that adequate justification for these items must be provided before approval can be granted.

Fuel Cycle Impacts: We support staff's position on these 2 issues (Tables S3 and S4, and Waste Confidence) and believe they are supported by existing regulation.

Minimum Decommissioning Cost Estimates in 10 CFR 50.75(c): GA, supports staff's position that a design specific, minimum decommissioning cost estimate will be accepted and backed up by adequate technical justification.

Antitrust Reviews – 10 CFR 50.33a: We support NRC's review of this requirement. The requirement for this review for non-utility generators appears pointless and burdensome on both the NRC and the applicant.

Number of Licenses – 10 CFR 50.2: We agree with and support the staff's position that there does not appear to be anything precluding combining into a single license the COL's of multiple, essentially identical reactor modules at a single site. This follows and supports the Congressional action in progress. However, we disagree that such a license should come under review every 5 years. Reopening the license to review undermines the benefits of a power plant consisting of multiple nuclear heat sources without benefiting safety and protection of the public. The existing backfit requirement in 10CFR 50.109 already provides adequate means for NRC to incorporate important safety lessons learned in early modules to into later modules at that same plant without the difficulty of reopening the license to review.


Annual Fees – 10 CFR 171.15: We support NRC's current actions to clarify that the annual fee is charged per facility license, not per unit.

Financial protection requirements in 10 CFR Part 140: We have supported the current Congressional action addressing this issue. We believe that if approved, the currently drafted revisions adequately address the inequity of treating all reactors, regardless of size, as identical. Therefore, we find the staff's position on this issue (deferring to Congress) acceptable.

Testing of New Design Features: As discussed in our second comment above, we do not believe this item should be included in the SECY. It should be deleted or simply acknowledge the ongoing rulemaking.

Thank you for your consideration of our comments. Should you have any questions on this letter or the attachment, please feel free to contact me at 858 443-2518.

Sincerely,


for Laurence L. Parme
Manager, GT-MHR Safety & Licensing

Enclosures: (1)

Cc: Leslie Fields, Office of Nuclear Reactor Regulation
Jose Ibarra, Office of Nuclear Reactor Research
Ron Lloyd, Office of Nuclear Reactor Research
Tom Miller, Department of Energy

Attachment 1

Justification of Generic Applicability of SECY-01-0207

1. Operating staffing in 10CFR 50.54(m)

There are two facets to this issue discussed within the SECY. They are the number of reactors controlled from a single control room and the staffing levels required. Simply stated the staff response does not commit to anything but instead calls for adequate justification on which NRC could determine whether multiple modules could be safely operated from a single control room and whether an exemption to staffing level regulations should be granted.

No special features of the PBMR enter in to this position and therefore the position should be applicable to other modular reactor designs in which common control rooms and/or reduced staffing is envisioned.

2. Fuel cycle impacts: Tables S3 and S4 in 10 CFR 51.51 and 51.52

The NRC position on this issue begins, "For other-than-light-water-reactor applicants, the staff must review on an application-by-application basis design-specific..." It is apparent that staff responded to Exelon's query on this issue by broadly reviewing applicability of the regulations to non-LWRs. While the response is currently written specifically addressing PBMR, there is no reason it should not be equally applicable to other reactors as it is based on the regulation not any specifics of the technology.

3. Fuel cycle impacts: Waste Confidence in 10 CFR 51.23

The response to Exelon's query on this issue does take into consideration the PBMR design, specifically the fuel form. Therefore, it may not be applicable to all reactors. However, the discussion leading up to the staff position indicates that a part of the basis for this is a survey of U.S. experience with graphite fuel (e.g., Peach Bottom and Fort St. Vrain).

Thus the staff's determination that, "It appears that a PBMR facility would be within the scope of the generic determination in Section 51.23(a)," while not necessarily applicable to any reactor, it appears generally applicable to High Temperature Gas-Cooled Reactors (HTGRs) characterized by the use of coated particle fuel.

4. Financial qualifications in 10 CFR 50.33(f)

The issue discussed here centers on reactors being owned and operated by merchant generators as opposed to traditional, regulated utilities. No special features of the PBMR enter in to this position. Therefore the position should be equally applicable to any other reactor designs.

5. Decommissioning funding requirements in 10 CFR 50.75

The issue discussed here centers on reactors being owned and operated by merchant generators as opposed to traditional, regulated utilities. No special features of the PBMR enter in to this position. Therefore the position should be applicable to any other reactor designs.

6. Minimum decommissioning cost estimates in 10 CFR 50.75(c)

The staff notes that regulations "allow the use of a site specific estimate" and go on to state that they "will accept a minimum decommissioning cost estimate for the PBMR if the NRC finds the technical justification to be adequate." No special features of the PBMR enter into this position. Therefore the position should be equally applicable to other reactor designs.

7. Antitrust review requirements in 10 CFR 50.33a

The issue discussed here centers on reactors being owned and operated by merchant generators as opposed to traditional, regulated utilities. No special features of the PBMR enter in to this position. Therefore the position should be equally applicable to any other reactor designs.

8. Number of licenses and license duration for one combined license (COL) for multiple reactors in 10 CFR Part 52

The staff response, with certain qualifications, accepts the concept that a COL might be granted for a plant consisting of multiple reactor modules. No special features of the PBMR or any other specific technology enter in to this position other than the concept of a single plant built of multiple reactor modules. In fact, the concept of multi-module plant has been submitted to NRC previously for the DOE's MHTGR in the mid-1980s and more recently for the GT-MHR. Therefore the position adopted in the SECY should be applicable to other modular reactor designs.

9. Annual fee requirements in 10 CFR Part 171 and commencement of annual fees in 10 CFR Part 52

The staff position notes that existing plans include revisions that would clarify that the NRC annual fee is charged per license, not per unit. It goes further in stating that, "Until a final decision is made on the number of modules that will be allowed under a single license, and the NRC receives sufficient information from Exelon to enable it to determine what kind of regulatory oversight the proposed design will likely require, no staff recommendations on establishing a new license fee category for modular reactors will be offered.

No special features of the PBMR enter in to this position. Therefore the position should be equally applicable to other reactor designs.

10. Financial protection requirements in 10 CFR Part 140

The staff response in the SECY is that congressional action addressing this issue is in progress.

The Congressional action referred to in the response is clearly applicable to other modular reactors and not limited to PBMR. Consequently, the SECY should position should be applicable to any modular reactor designs.

11. Testing of new design features

The staff position covers the testing required prior to issuance of a combined license (COL) under 10CFR Part 52. While the discussion regularly refers to the PBMR licensing plan and the staff's concerns, the issue is essentially one of the completeness and intent of Part 52. No special features of the PBMR enter in to this position and reference to the PBMR licensing plan point to the timing of test results rather than any particular design features. Therefore the position should be equally applicable to other reactor designs.