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Initials/Date	
Approved (BC)	_____
Disapproved (BC)	_____

**NOTE TO:** Timothy Pulliam

**FROM:** Jennifer Golder

**SUBJECT:** Plan for the Pre-Application Activities on the Pebble Bed Modular Reactor (PBMR)

**REF:** DPBA - 2001-056, OCFO 2001-101

**Background:**

The Office of Research is requesting Commission approval to proceed with pre-application activities on the PBMR. Depending on Commission approval, work would begin in late April of 2001, over an 18 month time period. Work supports technical assessment and transfer activities and pre-application activities. DOE is willing to cover a majority of the costs associated with the generic technical assessment activities. Pre-application activities will be fee recoverable.

**Resources:**

7 FTE and \$1 million over an 18 month period estimated to begin in late April 2001, depending on Commission approval.

**Coordination:**

Paper includes the standard OCFO coordination statement.

The comments in this paper have been coordinated between the Division of Planning, Budgeting and Analysis (Jennifer Golder, Joel Dorfman, Karen Fitch), and the Division of Accounting and Finance (Glenda Jackson).

**Recommendation:**

OCFO concurrence with the following revisions:

**Resources:**

"The activities, schedule, and resource needs are based upon the staff's previous experience with a pre-application review of a DOE-sponsored modular HTGR conducted in the late 1980s. The technology assessment, regulatory framework and regulatory process assessment activities described in the attached plan would build upon that work and other previous advanced reactor work. ~~Currently, these resources are not in the FY 2001 or the FY 2002 budget, nor are resources to conduct an actual licensing review of the PBMR, if and when such a review is requested.~~

The U.S. Department of Energy (DOE) also considers an NRC safety and technology assessment of modular HTGRs, like the PBMR, as providing fundamental input for evaluating their advanced reactor program. Accordingly, DOE has recently inquired into the feasibility of NRC conducting such an assessment and has indicated that they would be willing to fund ~~(FTE and contractor support)~~ a portion of the work. DOE funding would support technology assessment and transfer activities that are generically applicable to modular HTGRs, including the PBMR. It is expected that most of the work for DOE would benefit the staff by developing the understanding, expertise and capabilities it would need to conduct future licensing reviews of modular HTGRs, including the PBMR. However, the DOE funding scope would not include safety and technology assessment work that is applicable only to the PBMR.

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It is estimated that the total **modular HTGR** technology assessment and transfer activities to be funded by DOE would be approximately **\$1.4 million (\$800K for contractor support and \$600K for 3 FTE)**. DOE funding would begin in FY 2001, (through a reimbursable agreement between DOE and NRC), if the Commission approves proceeding with this work. DOE has indicated that they would make \$500K available (**\$300K for contractor support and \$200K for 1 FTE**) to initiate the work in FY 2001. DOE will provide the remainder of the funding totaling **\$500K for contract support and \$400K for 2 FTE**, subject to the availability of funds, in FY 2002.

The non-DOE funded work in support of PBMR pre-application activities in FY 2001 totals 1 FTE and will be realigned from within RES, NRR, and NMSS resources. The FY 2002 non-DOE funded work totals \$200K and 3 FTE. Although the resources are not planned for in the FY 2002 budget, resources for FY 2002 and beyond will be addressed during the upcoming FY 2003 PBPM process by RES, NRR, and NMSS.

*Transfer:*  
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~~Exelon would be charged a fee in accordance with 10 CFR Part 170.21 for NRC resources (FTE and contractor support) expended for assessment activities that are specific to the PBMR design and for all of the staff's PBMR regulatory framework and regulatory process assessment activities. Additionally, an actual license application for a modular HTGR such as the PBMR would be conducted on a fee recoverable basis in accordance with 10 CFR Part 170.21."~~

Exelon would be assessed fees under 10 CFR Part 170, consistent with the Commission's 1995 fee policy for advanced reactor designs, for NRC's pre-application activities that are specific to the PBMR. Additionally, 10 CFR Part 170 fees would be assessed for the review of any license application for a modular HTGR, such as the PBMR. Fees are going to be assessed consistent with the Chief Financial Officer's March 16, 2001, memo to the Commission, subject, "Fees related to Research Activities Supporting First-of-a-Kind Applications for a License or Certification", and Part 170 guidelines on pre-application activities.

#### Comments on the attached Plan for Pre-Application Activities on the PBMR

- Suggest revising the first major bullet under "Technology Assessment and Transfer" on page 4 to read as follows:
  - familiarization with the design, safety, and research issues via:
    - interaction with foreign partners and domestic organizations, including Exelon, with HTGR or modular HTGR design, safety or operating experience
    - interaction with the RSA regulatory organization"

The purpose of this change is to downplay the focus on interactions with Exelon for work activities which would be reimbursed by DOE.

- Suggest revising the last two sentences of Page 11 of Attachment 2 as follows:

"DOE funds to cover the technology assessment and transfer activities are estimated to amount to \$800K and 3 FTE over the 18-month period. Exelon would be assessed fees under 10 CFR Part 170, consistent with the Commission's 1995 fee policy for advanced reactor designs, for NRC's pre-application activities that are specific to the PBMR. "