

November 8, 2006

ORGANIZATION: PEBBLE BED MODULAR REACTOR (PTY) LTD.
PROJECT: PEBBLE BED MODULAR REACTOR PRE-APPLICATION REVIEW
SUBJECT: SUMMARY OF PUBLIC MEETING WITH PEBBLE BED MODULAR REACTOR (PTY) LTD. REGARDING LICENSING APPROACH FOR THE PBMR AND REVIEW OF WHITE PAPERS

The U.S. Nuclear Regulatory Commission (NRC) staff met with representatives from Pebble Bed Modular Reactor (Pty) Ltd. on October 27, 2006, to discuss the proposed licensing approach for the Pebble Bed Modular Reactor (PBMR). The purpose of the meeting was to hear from the pre-applicant regarding their proposal so that the staff could more efficiently conduct and document the review of the PBMR white papers. The meeting notice with agenda was published on October 12, 2006 (ML062840066).

The meeting was a Category 1 meeting and observed by the public and interested stakeholders. The attendance list for the meeting is shown as Enclosure 1 and the agenda is included as Enclosure 2. PBMR's meeting handouts can be accessed through the Agencywide Documents Access and Management System (ADAMS) under Accession No. (ML063060403). If you do not have access to ADAMS or if there are problems in accessing the handouts located in ADAMS, contact the NRC Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737 or by e-mail to pdrc@nrc.gov.

The staff provided the following information as background for the meeting:

1. The NRC has agreed to review five white papers from PBMR. These are (1) PRA Approach; (2) Licensing-Basis Event Selection; (3) System Structure and Component Classification; (4) Defense-in-Depth; (5) Proposed format and content for the design certification application (DCA). The review of these white papers enables the staff to better understand the PBMR safety approach, and the planned format and content for the DCA.
2. The staff has received and initiated its review of the first three white papers on this list.
3. An inter-office team consisting of staff from the Office of Nuclear Regulatory Research (RES) and the Office of Nuclear Reactor Regulation (NRR) has been created to conduct the review.
4. Early discussions have indicated that it is important for the staff to understand PBMR's licensing approach so that the feedback provided can appropriately focus on improving the likelihood of receiving a better quality DCA.

The presentation by PBMR Pty Ltd and the ensuing discussions provided the staff with the following information and insights:

1. The defense-in-depth paper is expected to be submitted in early December, 2006. No schedule was provided for the paper on proposed format and content for the DCA.
2. The foundation of PBMR Pty Ltd's licensing approach will be based on a document (ML020860097) that responded to an earlier pre-application effort, when Exelon engaged the staff on a pebble-bed reactor design similar to the one currently under consideration. However, no specific submittal on the licensing approach is expected.
3. At a fundamental level, the Exelon pre-application engagement was in the context of a combined operating license. The PBMR information is in the context of a DCA.
4. The DCA will comply with all aspects of 10 CFR Part 52. The presentation of the safety case will be structured along the same lines as that proposed by Exelon, which was based on drawing technical requirements from 10 CFR Part 50 to the extent that they were applicable, partially applicable, or were considered to be not applicable. For example, PBMR's position is that the general design criteria in Appendix A to Part 50 are legally not applicable, but, in some cases, may provide valuable guidance. The type of screening that will be done will determine where exemptions may be required.
5. The structure of the DCA will include proposed requirements for PBMR as part of the information submitted for NRC review. The structure will include the Design Control Document containing Tier 1 (with inspections, tests, analyses acceptance criteria) and Tier 2 information, supported by topical reports on subjects such as probabilistic risk assessment, security assessment, computer code verification and validation, and analyses of severe accident mitigation provisions. Detailed design and analyses information is not planned to be submitted, but would be available for audit.
6. Evolutionary changes in the risk-informed process proposed by Exelon are planned. The changes include a somewhat different frequency-consequence curve, addressing cumulative risk explicitly, and a three group categorization for safety structures, systems and components.
7. PBMR Pty Ltd requested that the next steps after this meeting include planning for additional FY-2007 activities, including issuance of requests for additional information.

An attendee representing Areva Corporation offered a statement during the public comment period that Areva is also employing a similar licensing approach as PBMR Pty Ltd with regard to a planned HTGR design.

Please direct inquiries regarding this meeting to N. Prasad Kadambi at 301-415-5896, or npk@nrc.gov.

/RA/

N. Prasad Kadambi, Project Manager
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Office of Nuclear Regulatory Research

Project No. 732

Enclosures:

1. Lists of Attendees
2. Agenda

cc w/encls: See next page

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Edward M. Burns, PBMR

NRC/PBMR PUBLIC MEETING IN T-10 A1
FRIDAY, OCTOBER 27, 2006, 9:30 A.M. - 12:30 P.M.
ATTENDANCE

NOTE: Phone numbers and e-mail addresses are not made publicly available.

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Martin Stutzke	NRR/DRA/APCA
Mary Drouin	NRC/RES
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Nathanael Hudson	NRC/RES
F. Shahrokhi	AREVA NP
Sud Basu	NRC/RES
ED Wallace	PBMR
Edward M. Burns	PBMR

AGENDA

Public Meeting to Discuss PBMR Licensing Approach and White Paper Reviews

October 27, 2006

9:30- 9:45	Introduction and Background	NRC
9:45- 11:00	Proposed PBMR licensing approach	PBMR Pty. Ltd.
	Approach proposed by Exelon	
	PBMR's proposed approach	
11:00- 12:15	Discussion of White Papers*	PBMR Pty. Ltd & NRC
	Questions arising from initial NRC review	
12:15- 12:30	Opportunity for public comment	All

* The PBMR White Papers submitted to date are available to the public through the NRC's ADAMS system with accession numbers: (a) ML061650404; (b) ML061930123; (c) ML062400070.