

September 24, 2007

Mr. Edward G. Wallace, Senior General Manager-US Programs  
Pebble Bed Modular Reactor (Pty) Ltd.  
P.O. Box 9396  
Centurion 0046  
Republic of South Africa

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION REGARDING PEBBLE BED  
MODULAR REACTOR (PBMR) PRE-APPLICATION WHITE PAPERS

Dear Mr. Wallace:

The purpose of this letter is to transmit (enclosure) a set of requests for additional information (RAIs) related to the U.S. Nuclear Regulatory Commission (NRC) staff review of four white papers that were submitted by PBMR (Pty) Ltd. These white papers are on the probabilistic risk assessment approach (ML0616504040), the licensing basis events selection (ML061930123), structures, systems and component classification (ML062400070), and defense-in-depth (ML063470549). In preparing the request, the staff had the benefit of discussions with you and your staff on July 18, 2007 (ML072130345) in addition to the white papers themselves.

The main focus of the staff's review is on the PBMR approach to the subject matter presented in Section 3 of each paper. The requests were framed from the perspective of better understanding the safety case that would eventually be presented to the NRC in support of licensing the PBMR design. The RAIs do not address other sections of the white papers. At this stage of the PBMR pre-application review, the staff recognizes the difficulty of applying certain existing regulations to the design. While NRC fully intends to minimize the number of iterations on these four papers, depending on the information submitted, the staff may seek more information as the review proceeds. Clearly, continuing iteration on these papers will have an impact on the potential for reviewing additional white papers due to resource constraints.

The enclosed set of RAIs was developed based on extensive operational, licensing and regulatory experience with light-water reactors (LWRs) as well as other reactor technologies. The responses made to the RAIs and any revised documents that are subsequently submitted will be further reviewed in order to provide white paper review reports. The timing of issuance of the review reports will be dependent on: (a) when responses are submitted, and (b) the extent of modifications to the white papers themselves. We will provide you with a projected schedule shortly after we receive your response to the enclosed set of RAIs.

Sincerely,

/RA/

Christiana Lui, Deputy Director  
New Reactors and Computational Analysis  
Division of Risk Assessment and Special Projects  
Office of Nuclear Regulatory Research

Enclosure:  
As stated

Mr. Edward G. Wallace, Senior General Manager-US Programs  
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Enclosure:

As stated

Package: ML072190293, Enclosure 1: ML072190282

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