

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

Enclosure:

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Package: ML072190293, Enclosure 1: ML072190282

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KWinsberg, OGC  
OPA  
ACRS/ACNW&M  
WSmith, NMSS  
CRosales-Cooper, OIP

cc: PBMR Mailing List

Mr. George B. Stramback  
Manager, Regulatory Services  
GE Nuclear Energy  
1989 Little Orchard Street, M/C 747  
San Jose, CA 95125

Mr. David Lochbaum, Nuclear Safety Eng.  
Union of Concerned Scientists  
1707 H Street, NW., Suite 600  
Washington, DC 20006-3919

Mr. Paul Gunter  
Nuclear Information & Resource Service  
1424 16th Street, NW, Suite 404  
Washington, DC 20036

Mr. James Riccio  
Greenpeace  
702 H Street, Suite 300  
Washington, DC 20001

Mr. Adrian Heymer  
Nuclear Energy Institute  
Suite 400  
1776 I Street, NW  
Washington, DC 20006-3708

Mr. Paul Leventhal  
Nuclear Control Institute  
1000 Connecticut Avenue, NW  
Suite 410  
Washington, DC 20036

Mr. Glenn H. Archinoff  
AECL Technologies  
481 North Frederick Avenue  
Suite 405  
Gaithersburg, MD 20877

Mr. Charles Brinkman  
Westinghouse Electric Co.  
Washington Operations  
12300 Twinbrook Pkwy., Suite 330  
Rockville, MD 20852

Mr. Jerald S. Holm  
Framatome ANP, Inc.  
3315 Old Forest Road  
P.O. Box 10935  
Lynchburg, VA 24506-0935

Dr. Regis Matzie  
Senior Vice President & Chief Technology  
Member, PBMR Board of Directors  
Westinghouse Electric Co.  
20 Independence Road  
Windsor, CT 06095

Mr. Dieter Matzner  
Director, Power Plant Delivery  
PBMR Pty, Limited  
Lake Buena Vista Building  
1267 Gordon Hood Ave.  
P.O. Box 9397  
Centurion 0046  
Republic of South Africa

Dr. Edwin Lyman, Scientific Director  
Nuclear Control Institute  
1000 Connecticut Avenue NW Suite 410  
Washington, DC 20036

Mr. Hugh Jackson  
Public Citizen Critical Mass Energy Project  
215 Pennsylvania Avenue, SE  
Washington, DC 20003

PBMR Pty, Limited  
Lake Buena Vista Building  
1267 Gordon Hood Ave.  
P.O. Box 9396  
Centurion 0046  
Republic of South Africa

Mr. Edward G. Wallace  
Sr. General Mgr.-U.S. Programs  
PBMR Pty. Ltd.  
P.O. Box 16789  
Chattanooga, TN 37416

Mr. Edward M. Burns  
Licensing Manager-US Design Certification  
PBMR Pty. Ltd.  
5627, Beacon Street  
Pittsburgh, PA 15217-2011

Mr. Farshid Shahrokhi  
Advisory Engineer, NPD - Regulatory Affairs  
AREVA NP Inc.  
An AREVA and Siemens company  
3315 Old Forest Road  
PO Box 10935  
Lynchburg, Virginia 24506-0935

Mr. Thomas J. O'Connor  
U.S. Department of Energy  
Office of Nuclear Energy: NGNP Programs  
19901 Germantown Road  
Germantown, Maryland 20874-1290

Mr. Trevor Cook  
U.S. Department of Energy  
Office of Nuclear Energy: NGNP Programs  
19901 Germantown Road  
Germantown, Maryland 20874-1290