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Sent: Thursday, May 21, 2009 7:34 PM
To: Rulemaking Comments
Subject: PBMR Comments on "Variable Annual Fee Structure for Power Reactors" (RIN 3150-AI54)
Attachments: PBMR Comments (RIN 3150-AI54).pdf

On behalf of Pebble Bed Modular Reactor (Pty) Ltd, please find attached comments in response to the Advance Notice of Proposed Rulemaking for "Variable Annual Fee Structure for Power Reactors," 74 Fed. Reg. 12,735 (Mar. 25, 2009).

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Template = SECY-067

DS 10

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May 21, 2009

Secretary
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Attn: Rulemakings and Adjudications Staff

Re: Comments on the Advance Notice of Proposed Rulemaking for "Variable Annual Fee Structure for Power Reactors," 74 Fed. Reg. 12,735 (Mar. 25, 2009) - RIN 3150-AI54

On March 25, 2009, the Nuclear Regulatory Commission ("NRC") published an Advance Notice of Proposed Rulemaking ("ANPR") in the *Federal Register* (74 Fed. Reg. 12,735) regarding a "Variable Annual Fee Structure for Power Reactors." On behalf of Pebble Bed Modular Reactor (Pty) Ltd ("PBMR"), I respectfully submit the following comments.

PBMR commends the NRC's consideration of this topic. As discussed in more detail in the comments below, the current fee structure would impose an undue and unintended burden if applied to future licensees of reactors that do not fit the mold of the current fleet of large light water reactors. This same issue on annual fees for modular facilities was raised in a 2001 letter sent by Exelon Generation in connection with the PBMR design.[1] The same considerations identified in that letter in support of revising the fee schedule through rulemaking also apply to this ANPR. Several important factors from the letter are included in the comments below.

The NRC should establish a variable annual fee structure based on the licensed thermal power limits of a power reactor. Such a change to the fee structure is necessary to prevent any undue burden on reactor licensees using a modular reactor design. For the purposes of assessing annual fees, it is not reasonable to treat multiple small modules at a single site in the same manner as multiple large light water reactors at a single site.

The inequality of the fee structure between small modular reactor designs and large light water reactor designs is apparent from a simple example. Under the current fee structure, the annual fee for a ten module PBMR facility could be interpreted to be ten times that of an equivalent sized light water reactor. As noted in the ANPR, the 2008 annual fees were

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[1] *See* Letter from J. Muntz, Exelon Generation, to T. King, NRC, Regulatory Issues Related to the Pebble Bed Modular Reactor (PBMR) (May 10, 2001), *available at* ADAMS Accession No. ML011420393.

approximately $4 million/reactor. Therefore, the annual fees for the ten module PBMR plant would be approximately $40 million, while the annual fees for the similarly-sized large light water reactor would be only $4 million.

Such a disproportionate annual fee requirement would place small modular reactor designs at a significant competitive disadvantage with other designs without any reasoned basis for doing so. This would act as a disadvantage to the development of new modular designs, because the higher fees would penalize licensees for selecting a small modular design instead of a large light water reactor design.

For several reasons, NRC resources for regulating a modular facility, such as a PBMR plant, should be similar to NRC resources for regulating a large light water reactor, and therefore NRC's annual fees for each should be similar. First, the modules at a site will have a single licensing basis. Second, modular reactors will be designed to be simpler and safer than large light water reactors. Finally, modular reactors will require a smaller workforce than existing light water reactors, thereby simplifying the NRC's oversight responsibilities.

For all of these reasons, it is reasonable and appropriate to treat multiple small modules at a site as a single facility for purposes of assessing annual fees, and NRC should initiate rulemaking to accomplish this goal.

PBMR proposes the following attributes of a new annual fee structure to be developed through rulemaking:

- The annual fee structure should be based on thermal power ratings rather than electric power ratings. Using thermal power ratings will prevent any confusion about the differences between using a reactor to produce electricity or to produce process heat. Additionally, using thermal power helps negate any differences between various reactor designs and would be more predictable and constant than other possible factors for future plant designs.

- The rulemaking should define the new term "modular reactor plant." A modular reactor plant should be defined as one or more reactors with a common final safety analysis report, in which each of the reactors is equal to or less than 1500 MWt and the plant is defined as equal to or less than 4000 MWt in the aggregate[2] for the purpose of fee assessment.

- The annual fees for any reactor that is not part of a modular reactor plant, including the current fleet of large light water reactors and any new large light water reactors, should be calculated in the same manner as they are calculated today.

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[2] The value of 4000MWt is approximately equal to the aggregate electric power rating for modular reactors being treated as a single equivalent reactor under the Price Anderson Act ("PAA") provisions. This change in the PAA was made for analogous reasons to those relevant to the ANPR, i.e., so that small modular reactors would not be unfairly treated relative to large reactors.

- The annual fees for a modular reactor plant up to 4000 MWt should be equivalent to fees for one large light water reactor. If a site were to contain a number of modular reactors that in total exceed 4000 MWt, each combination of reactors totaling up to 4000 MWt would be treated as a separate modular reactor plant and would be subject to a separate annual fee. For example, if the modular reactors at a site were to total 10,000 MWt, the site would be deemed to consist of three modular reactor plants for the purpose of assessing annual fees and the annual fees would be equivalent to those for three large light water reactors.

The above fee structure would account for the discrepancies between the traditional large light water reactors and future modular reactors, such as the PBMR. The fee calculation would remove much of the undue hardship that would be imposed by the current fee structure on small modular reactors. Additionally, assessing the annual fees for a modular reactor plant in the above manner recognizes that the NRC would not incur any significant increases in resource requirements as the number of modular reactors at a site increases up to the 4000 MWt limit.

PBMR appreciates the opportunity to provide the above comments on the ANPR and looks forward to participating in a future rulemaking on a variable annual fee structure that would account for differences between the current large light water reactors and future modular reactors.

Sincerely,

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Received: from mail1.nrc.gov (148.184.176.41) by TWMS01.nrc.gov
(148.184.200.145) with Microsoft SMTP Server id 8.1.358.0; Thu, 21 May 2009
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with ESMTP; 21 May 2009 19:34:06 -0400
Received: from [10.242.132.21] by copweed01.morganlewis.com with ESMTP (SMTP
Relay (Email Firewall v6.3.1)); Thu, 21 May 2009 19:42:23 -0400
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Received: from COPXCMS02.morganlewis.net ([10.242.132.12]) by
COPEXHT01.morganlewis.net ([10.242.132.21]) with mapi; Thu, 21 May 2009
19:34:01 -0400
From: "Burdick, Stephen J." <sburdick@morganlewis.com>
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Date: Thu, 21 May 2009 19:33:59 -0400
Subject: PBMR Comments on
"Variable Annual Fee Structure for Power Reactors" (RIN 3150-AI54)
Thread-Topic: PBMR Comments on
"Variable Annual Fee Structure for Power Reactors" (RIN 3150-AI54)
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