



U.S. Nuclear Regulatory Commission
Attn: Mr. Farouk Eltawila
Director – Division of Systems Analysis and Regulatory Effectiveness
Office of Nuclear Regulatory Research
U.S Nuclear Regulatory Commission
Two White Flint North
1545 Rockville Pike
Rockville, Maryland 20852-2738

16 August 2002

Subject: NRC Letter dated 13 May 2002, Plans for GT-MHR Pre-application Interactions

Reference: NRC Project No. 716

Dear Mr. Eltawila:

Thank you for your letter dated May 13, 2002 regarding our proposed plans for preapplication activities on the GT-MHR. We appreciate your comments and agree with your thoughts on maximizing the use and building on existing US reviews of gas-cooled reactor, especially the MHTGR. We concur that this general approach should serve to focus these activities and we have incorporated this into our planning accordingly.

We are currently in the process of developing detailed plans for a project aimed at deploying the GT-MHR. Nevertheless, we believe we can now propose an initial series of topical meetings for the coming year to familiarize NRC staff with the GT-MHR and answer key licensing questions at the earliest possible date. Consistent with your thoughts on a focused review while still following the general outline of the preapplication plan submitted to you, we propose the following:

- **Introduction:** We believe that with NRC staff turnover, an opening meeting to familiarize current staff with the GT-MHR, underlying safety philosophy, and summarize ongoing safety analysis would be beneficial. This meeting would also go over several topics previously unresolved or specifically raised by NRC.
 - Approach to emergency planning and EPZ
 - Plant response to air and water ingress
 - Helium purification system and its safety significance

We propose that this meeting could be held in late September or the first weeks of October

- **Fuel and fission products:** An important aspect of GT-MHR safety and on the critical path to deployment is the TRISO coated fuel. We therefore propose to meet on this subject and discuss;
 - Plan for reestablishing production of “qualified” coated particle fuel in the U.S. and specifically a uranium oxycarbide (UCO) fuel.
 - Quality assurance requirements for fuel manufacturing
 - Source term definition
 - Enrichment (LEU) of GT-MHR’s fuel
 - Containment system in the GT-MHR

We propose holding this meeting in early November at a time to be determined. Because of the complexity and breadth of the topic, a follow on meeting may prove to be beneficial. However, this can be determined as the need arises.

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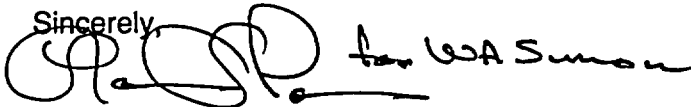
- Graphite technology and acquisition: This meeting would be aimed at reviewing plans for qualifying nuclear graphite sources. We propose that this meeting occur approximately in early March.
- Metals qualification and acquisition: This meeting would be aimed at reviewing plans for high temperature metals anticipated for use in the design, and any required qualification of these materials. We propose that this meeting occur approximately in June.
- Additional Subjects: We are currently reviewing the PBMR review and may decide to take up certain topics, remaining open at the time Exelon withdrew from the review, provide additional information relevant to the GT-MHR and seek closure with NRC. The timing of meetings on these topics will be determined.

We anticipate providing NRC a white paper or other documentation prior to each meeting allowing you to prepare for the meeting. The Conceptual Design Report recently mailed to you will serve as the pre-meeting information prior to our first, introductory meeting. As a product, each topic would result in an NRC letter or other documentation summarizing staff position at the conclusion of your review.

We are ready to start immediately on the above plan. For NRC review we have budgeted \$100k of GA funding. Supplementing this, we understand that DOE has made additional money available to NRC for addressing generic gas reactor issues and/or advanced reactor licensing. We are ready to start immediately on the above plan.

Should you have any questions on this letter or the attachment, please feel free to contact Laurence Parme at 858 443-2518.

Sincerely,



Walter A Simon
Senior Vice President, Reactor Systems

cc:

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