

November 13, 2003

Our File: 108US-01321-021-001  
Your File: Project No. 722

U.S. Nuclear Regulatory Commission,  
Document Control Desk,  
Washington, D.C. 20555

Attention: Ms. B. Sosa  
Project Manager, ACR

Reference:

1. Letter from B. Sosa to V. Langman, "Requests for Additional Information – ACR-700 Pre-Application Review (TAC No. MB5765)", May 13, 2003.
2. Letter V. Langman to B. Sosa, "RAI for ACR-700 Physics and Fuel Related Data", June 15, 2003.

Dear Ms. Sosa,

Re: **Response to RAI #14 of May 13, 2003, (Physics and Fuel Related Data)**

In response to NRC RAI # 14 (Reference 1) and as committed in Attachment 1 of Reference 2, please find attached a CD containing electronic copies of six proprietary physics experiment reports as listed in Attachment 1.

These reports support the resolution of focus topic # 9 (i.e., confirmation of negative void reactivity) and focus topic #3 (i.e., computer codes and validation adequacy).

The physics information and data contained on the enclosed CD are proprietary information of the type that AECL normally maintains in confidence and withholds from public disclosure. The information has been handled and classified as proprietary to AECL as cited in the affidavit provided in Attachment 2. Therefore, it is requested that the AECL proprietary information contained on the enclosed CD, be handled by the USNRC on a confidential basis and be withheld, in their entirety, from public disclosure in accordance with the provisions of 10CFR2.790 and 9.17.

If you have any questions on this letter and/or the enclosed training material please contact the undersigned at (905) 823-9060 extension 6543.

Yours sincerely,



Vince J. Langman  
ACR Licensing Manager

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see Attached  
List*

CD's To

1 CD File Center

(5 CD's To Don Carlson)  
RES T-10-F-13A

(4 CD's To Anthony Affard)  
NRR O-10-B-1

/Attachments:

1. List of Proprietary Physics Experiment Reports
2. AECL Proprietary Information Affidavit

/Enclosures:

1. CD containing copies of Proprietary Physics Experiment Reports.

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**Attachment 1**

**List of Proprietary Physics Experiment Reports**

(Letter V. Langman to B. Sosa, "CANDU Fuel Papers", November 17, 2003)

1. "ACR Physics Experiments in ZED-2 using NU Fuel", AECL Report 108-123110-440-001/FFC-RRP-454, Revision 1, August 2003.
2. "Planned Physics Experiments in ZED-2 in Support of ACR", AECL Report 108-123110-440-002/FFC-RRP-464, Revision 0, September 2003.
3. "Analysis of Full-Core and Substitution Experiments with 28-Element UO<sub>2</sub> Fuel at 20-22.86 cm Pitch", AECL Report 108-123110-440-003/FFC-RRP-478, Revision 0, July 2003.
4. "Substitution Experiments on 37-Element LVRF Fuel into a 21.59-cm Pitch ZED-2 Lattice", AECL Report 108-123110-440-004/FFC-RRP-497, Revision 0, July 2003.
5. "Fine-Structure Measurements on 37-Element LVRF in a 21.59-cm Pitch ZED-2 Lattice", AECL Report 108-123110-440-005/FFC-RRP-516, Revision 0, August 2003.
6. "Analysis of Substitution Experiments on 37-Element LVRF Fuel into a 21.59-cm Pitch ZED-2 Lattice", AECL Report, AECL Report 108-123110-440-006/FFC-RRP-523, Revision 0, September 2003.
7. "Validation of WIMS-AECL on Tight Pitch ZED-2 Experiments using Light Water Cooled 28-Element NU Fuel", AECL Report 108-119190-440-006/FFC-RRP-507, Revision 0, September 2003.

Please note that the report "Validation of WIMS-AECL on Tight Pitch ZED-2 Experiments using Light Water Cooled 28-Element NU Fuel" (108-119190-440-006/FFC-RRP-507), Rev. 0, makes reference in Section 5 (i.e., Coolant Void Reactivity of the ACR Lattice) to the earlier fuel design, with 2.0 wt% <sup>235</sup>U in 42 pins and central pin NU with 4.6% Dysprosium. The current fuel design is 2.1 wt% <sup>235</sup>U in 42 pins, and central pin NU with 7.5% Dysprosium.

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ATTACHMENT 2

APPLICATION FOR THE NUCLEAR REGULATORY COMMISSION'S WITHHOLDING  
FROM PUBLIC DISCLOSURE  
OF PROPRIETARY AECL REPORTS

10 C.F.R. § 2.790  
AFFIDAVIT OF KEN HEDGES

I, Ken Hedges, Vice-President, Technology, AECL Technologies Inc., do hereby affirm and state:

1. I am the Vice-President, Technology for AECL Technologies Inc., and have been delegated the function of reviewing the proprietary information sought to be withheld from public disclosure, and am authorized to apply for its withholding on behalf of AECL Technologies Inc.
2. In the attached letter B. Sosa from V. Langman, "Response to RAI #14 of May 13, 2003, (Physics and Fuel Related Data)", dated November 13, 2003, and the CD enclosed with that letter, AECL Technologies Inc. is providing information in support of the Nuclear Regulatory Commission's (NRC) pre-application review of the Advanced CANDU Reactor (ACR). The information provided constitutes proprietary commercial information that should be held in confidence by NRC pursuant to 10 CFR §§ 2.790(a)(4) and 9.17(a)(4), because of one, or more, of the following reasons:
  - i. This information is confidential and has been held in confidence by AECL, which is the parent company of AECL Technologies Inc. The information is contained in AECL reports or other documents that are normally held in confidence in accordance with AECL's procedures for the protection of information. The reports or other documents are part of AECL's comprehensive safety and technology base for the CANDU design, and their commercial value extends beyond the original development costs, which in themselves are considerable.
  - ii. The information is contained in CANDU Owners Group Inc. (COG) reports that are held in confidence by both AECL and the Canadian nuclear utilities that participate in research and development programs via COG. There is a rational basis for holding the reports in confidence since the information contains sensitive technical and/or commercial information relating to the supporting research, design and/or operation of CANDU reactors. Also, COG reports are only distributed to participants in COG research and development programs. These participants expend significant amounts of money to fund the COG research and development programs, which produce the information described in these reports. Additionally, public disclosure by the NRC of the information contained in COG reports, which are supplied in confidence by COG to AECL, could jeopardize the future availability of such information to AECL. AECL is contractually obligated to COG and to other participants in COG programs

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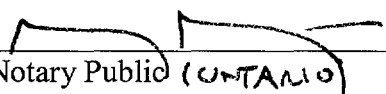
to maintain the confidentiality of such reports. AECL relies, in part, on COG reports to improve the safety, operability and maintainability of the ACR, and to help develop and recommend improvements to enhance the safety, operability and maintainability of existing CANDU plants. COG would be reluctant to provide such information to AECL, and could move to restrict AECL Technologies' ability to provide such reports to the NRC, if there was a possibility that the NRC might make the information publicly available, after being supplied to the NRC by AECL Technologies Inc. AECL would suffer harm to its commercial business and competitive position if it did not have access to these reports and was unable to improve existing and future designs. Further, other participants in COG research and development programs would be reluctant to enter into such programs in which AECL was a participant; those participants enter into and fund such programs with the expectation that the results will remain confidential to COG and program participants; if there is a possibility that information generated in such programs would become publicly available through AECL Technologies' provision of COG reports to the NRC, they will not wish to participate in research programs with AECL. For the same reason, disclosure of such reports by the NRC would also hinder the ability of the NRC to receive similar reports in the future from AECL Technologies, since COG would likely withhold such reports from AECL.

- iii. This information is being transmitted to the NRC in confidence.
- iv. This information is generally not available in public sources and could not be gathered readily from other publicly available information.
- v. Public disclosure of this information would create substantial harm to the competitive position of AECL by disclosing sensitive commercial information about the design and/or operation of CANDU reactors and/or the ACR to other parties whose commercial interests may be adverse to those of AECL. Also, the information contained in these reports has been developed at significant cost to AECL (the parent company of AECL Technologies).

3. Accordingly, AECL Technologies Inc. requests that the information provided in Enclosure 1 be withheld from public disclosure pursuant to the policy reflected in §§ 2.790(a)(4) and 9.17(a)(4).

  
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Ken Hedges, Vice-President, Technology, AECL Technologies Inc.

Subscribed and sworn before me on this 19 day of Nov, 2003.

  
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Notary Public (ONTARIO)  
GREG SAYER.