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2003-GAW-014

2003 July 22

Our File: 108US-013210-021-001
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. Requests for Additional Information – ACR-700 Pre-Application Review (TAC
No. MB5765) to V. Langman from B. Sosa, May 13, 2003

Dear Ms. Sosa:

***Proprietary Software and Associated Documentation in Support of ACR Pre-Application Review,
Non-proprietary DRAGON-IST Code***

In response to an NRC RAI (Reference 1) and in support of AECL Technologies' request for a pre-application review of the ACR-700, please find enclosed a CD containing material (briefly described in Attachment 1) intended to partially satisfy item 12 of the RAI. The CD includes the non-proprietary DRAGON-IST code, input deck and reports.

The DRAGON-IST software and the information listed in Attachment 1 is information belonging to Ecole Polytechnique de Montreal and publicly available from their website. Additional information regarding DRAGON-IST that is proprietary to AECL and held in confidence will be sent shortly under separate cover.

In recognition of the fact that the NRC may choose to provide copies of these reports and software to NRC's consultants, five (5) copies of each CD have been provided. AECL requests that these copies be used whenever it is necessary to pass information to an NRC consultant. Extra copies have also been made and kept by AECL so can be supplied to the NRC on short notice if required.

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If you have any questions on this letter and/or the enclosed information please contact the undersigned at (613) 584-8811 extension 4942.

Yours sincerely,



Glen A. Wolgemuth, Manager
Code Centre and Software Performance

/Attachments:

1. Proprietary Code, Input Deck and Report in Support of ACR Pre-Application Review

/Enclosures:

1. 5 CDs containing copies of the computer program DRAGON-IST Ver.3.04Bb and associated documents.
The CD's are numbered: AECL-CC-CD025C001 through AECL-CC-CD025C005

Attachment 1

Proprietary Software and Associated Documentation in Support of ACR Pre-Application Review
(Letter to B. Sosa, "Proprietary Software and Associated Documentation in Support of ACR Pre-Application Review, **Non-proprietary DRAGON-IST Code**", July 22, 2003)

This package contains 5 identical copies of a single CD. A full Table of Contents is contained on each CD. The Table of Contents is a pdf file that contains links to all of the documents contained on the CD including installation instructions.

DRAGON-IST

The computer code DRAGON contains a collection of models that can simulate the neutron behavior of a unit cell or a fuel assembly in a nuclear reactor and includes all of the functions that characterize a lattice cell code. It contains a multi-group iterator conceived to control a number of different algorithms for the solution of the neutron transport equation. Each of these algorithms is presented in the form of a one group solution procedure where the contributions from other energy groups are included in a source term. The current version of DRAGON contains three such algorithms. The most versatile module corresponds to the EXCELL option which solves the integral transport equation using the collision probability method for general 2-D geometry and for three dimensional (3-D) assemblies. The execution of DRAGON is controlled by the generalized 'GAN' driver. It is modular and can be interfaced easily with other production codes.

The software is provided in both source code (suitable for compiling on a number of different computer platforms) and the executable file for the HP-UX 10.20 O/S. This executable is the qualified version referred to as DRAGON-IST and was used in all of our calculations.

April 15, 2003

Our File: 108US-013210-021-001
Your File: Project No. 722

Ms. Belkys Sosa
ACR Project Manager
US NRC – M/S 0-4D9A
11555 Rockville Pike
Rockville, MD 20852-2738
U.S.A.

Dear Ms. Sosa,

Re: AECL Copyright Notice

During the current pre-application review for the ACR AECL Technologies will be transmitting documents to the NRC that bear an AECL copyright notice. The NRC is permitted to make the number of copies of these reports which is necessary for NRC's internal use in connection with the ACR pre-application review, subject to the requirements of 10CFR 2.790 regarding restrictions on public disclosure to the extent that such information has been identified as proprietary by AECL, copyright protection notwithstanding. For the non-proprietary versions of these reports, where they exist, the NRC is permitted to make additional copies (i.e., beyond those necessary for its internal use) in order to have one copy available for public viewing in the appropriate record retrieval system, ADAMS or from the Public Document Room as may be required by NRC regulations. All copies made by the NRC of any AECL documents must include any copyright and/or proprietary notices that are present in the copies sent to the NRC.

If you have any questions with regards to this letter please contact the undersigned at (905) 823-9060 extension 6543.

Yours sincerely,



for: Vince J. Langman
ACR Licensing Manager