

January 12, 2005

ORGANIZATION: ATOMIC ENERGY OF CANADA LIMITED (AECL) TECHNOLOGIES INC
SUBJECT: SUMMARY OF MEETING HELD ON DECEMBER 2, 2004, TO DISCUSS
ACR-700 REACTOR PHYSICS CODES

The Nuclear Regulatory Commission (NRC) hosted a public meeting with Atomic Energy of Canada Limited (AECL) Technologies, Inc. on December 2, 2004, at the U.S. Nuclear Regulatory Commission (NRC) Headquarters in Rockville, MD. The purpose of this meeting was to discuss the main elements of the reactor physics program for the Advanced CANDU Reactor (ACR-700) design. For a list of meeting attendees refer to Attachment 1.

AECL Technologies Inc. provided the NRC staff with the following presentations:

- C ACR Physics Program Overview
- C ACR Physics Codes and Models Assessment, Development and Verification
- C ACR ZED-2 Physics Measurements
- C ACR Physics Toolset Validation

The ACR-700 physics program was updated to support design certification requirements and AECL plans to continue to improve their toolset beyond the design certification application submittal through their nuclear platform research and development (R&D) program. AECL stated they plan to provide a report in January 2005 describing their code development and experimental program. In February 2005, they plan to provide, for the staff's review, a checkerboard voiding assessment report that includes a coupled multi-channel thermal hydraulics and reactor physics large break loss-of-coolant accident (LBLOCA) simulation. In addition, AECL plans to provide the details of the Zero Energy Deuterium-2 (ZED-2) facility requested by the staff and a report addressing the suitability of ZED-2 for ACR-700 experiments.

The experimental components of the ACR-700 physics program include: checkerboard voiding measurements, reactivity coefficients including coolant void reactivity (CVR), fuel temperature, and partial void reactivity, fine-structure measurements, reactivity device measurements, and kinetics measurements.

AECL's validation database will include data from other critical facilities; such as, D/sub 2/O Critical Assembly (DCA) facility in Japan, the Deuterium Moderated Pile Low Energy Reactor (DIMPLE) facility in the United Kingdom, ORGEL Critical Experiment (ECO) facility in Italy, and the Savannah River facility in the United States.

The meeting concluded with a discussion on the key review issues identified in the ACR-700 pre-application safety assessment report (PASAR). AECL stated that they intend to address as many issues as possible before submitting the design certification application. AECL suggested quarterly progress update meetings throughout phase three of the pre-application review to update the staff on the progress of the ACR-700 reactor physics program.

Additional details on the material covered in this meeting may be accessed through the ADAMS system under Accession No. ML043410254. If you do not have access to ADAMS or if there are problems in accessing the handouts located in ADAMS, contact the NRC Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr@nrc.gov.

Members of the public were in attendance but did not make public comments.

/RA/

Belkys Sosa, Project Manager
New Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Project No. 722

Enclosures: As stated

cc w/encls: See next page

Additional details on the material covered in this meeting may be accessed through the ADAMS system under Accession No. ML043410254. If you do not have access to ADAMS or if there are problems in accessing the handouts located in ADAMS, contact the NRC Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr@nrc.gov.

Members of the public were in attendance but did not make public comments.

/RA/

Belkys Sosa, Project Manager
New Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Project No. 722

Enclosures: As stated

cc w/encls: See next page

ADAMS ACCESSION NUMBER: ML043560277

OFFICE	PM:RNRP	SC:RNRP
NAME	BSosa	LDudes
DATE	12/21/04	12/23/04

OFFICIAL RECORD COPY

Distribution for December 2, 2004, Meeting Summary dated January 12, 2005

Hard Copy

RNRP R/F

PUBLIC

LDudes

BSosa

E-mail

PUBLIC

DMatthews/FGillespie

RNRP Group

OGC

ACRS/ACNW

JJolicoeur, EDO

AAttard

JTapp

MWaterman

FAkstulewicz

RTaylor

JHardy

PClifford

DCarlson

NPKadambi

JDanna

FEltawila

ACR-700 Reactor Physics Codes

December 2, 2004 O-10B4 8:30AM - 4:45 PM

ATTENDANCE LIST

Name	Affiliation	Phone	E-Mail
H. Ludewig	BNL	631-344-2624	ludewig@bnl.gov
J. Lebenhaft	PSI	41-79-757-7826	julian.lebenhaft@psi.ch
Robert Taylor	NRC	301-415-1437	rxt2@nrc.gov
Jeff Hardy	NRC	301-415-4029	jxh12@nrc.gov
Christian Carrier	CNSC	613-944-6774	carrier@cnscccsn.gn.ca
Belkys Sosa	NRC	301-415-2375	bxs2@nrc.gov
Robert Ion	AECL	905-823-9060 x4913	ionr@aecl.ca
Benjamin Rouben	AECL	905-823-9060 x4550	roubenb@aecl.ca
Glenn Archinoff	AECL	301-332-9152	archinoffg@aecltechnologies.ca
Hank Chow	AECL	905-823-9060 X3607	chowh@aecl.ca
Peter Boczar	AECL	613-687-6470	boczarp@aecl.ca
Francis Akstulewicz	NRC	301-415-1136	fma@nrc.gov
Paul Clifford	NRC	301-415-4043	pmc3@nrc.gov
Mike Waterman	NRC	301-415-2818	mew1@nrc.gov
Jeremy Tapp	NRC	301-415-2258	jet4@nrc.gov
Tony Attard	NRC	301-415-2876	aca@nrc.gov
N. P. Kadambi	NRC	301-415-5896	npk@nrc.gov
Joe Hegner	Dominion	804-273-2770	joseph_hegner@dom.com
Mike Schoppman	Framatome ANP	301-524-7695	mas22@comcast.net
Don Carlson	NRC	301-415-0109	dec1@nrc.gov

ACR-700

cc:

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

Mr. Thomas P. Miller
U.S. Department of Energy
NE-20, Rm. A286
Headquarters - Germantown
19901 Germantown Road
Germantown, MD 20874-1290

Mr. David Lochbaum
Nuclear Safety Engineer
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, NW, Suite 300
Washington, DC 20001

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

Ms. Patricia Campbell
Winston & Strawn
1400 L Street, NW
Washington, DC 20005

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

Dr. Jack W. Roe
Vice President
Advanced Technologies & Laboratories
International, Inc.
20010 Century Boulevard, Suite 500
Germantown, MD 20874

Mr. Brendan Hoffman
Research Associate on Nuclear Energy
Public Citizens Critical Mass Energy
and Environmental Program
215 Pennsylvania Avenue, SE
Washington, DC 20003

Mr. Tom Clements
6703 Gude Avenue
Takoma Park, MD 20912

Mr. Glenn H. Archinoff
5275 Westview Drive
ACR Suite
Frederick, MD 21703-8306

Mr. Victor G. Snell
Director of Safety and Licensing
Atomic Energy of Canada Limited
2251 Speakman Drive
Mississauga, Ontario
Canada L5K 1B2

Mr. Glenn R. George
PA Consulting Group
130 Potter Street
Haddonfield, NJ 08033

Mr. J. Alan Beard
GE Nuclear Energy
13113 Chestnut Oak Drive
Darnestown, MD 20878-3554

Mr. Ian M. Grant
Canadian Nuclear Safety Commission
280 Slater Street, Station B
P.O. Box 1046
Ottawa, Ontario
K1P 5S9

Mr. Gary Wright, Manager
Office of Nuclear Facility Safety
Illinois Department of Nuclear Safety
1035 Outer Park Drive
Springfield, IL 62704

Mr. Ronald P. Vijuk
Manager of Passive Plant Engineering
AP1000 Project
Westinghouse Electric Company
P. O. Box 355
Pittsburgh, PA 15230-0355

Dr. Greg Rzentkowski
Canadian Nuclear Safety Commission
P.O. Box 1046, Station 'B'
280 Slater Street,
Ottawa, ON, K1P 5S9
Canada

Mr. Ed Wallace, General Manager
Projects
PBMR Pty LTD
PO Box 9396
Centurion 0046
Republic of South Africa

Mr. John Polcyn, President
AECL Technologies Inc.
481 North Frederick Avenue
Suite 405
Gaithersburg, MD 20877

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

Mr. Ken Petrunik
Vice President, Project and Services
Atomic Energy of Canada, Limited
2251 Speakman Drive
Mississauga, Ontario
Canada L5K 1B2

Mr. Ron Simard
6170 Masters Club Drive
Suwanee, GA 30024

E-Mail:
jim.mallay@framatome-anp.com