

**17TH ANNUAL SIMULATION SYMPOSIUM
17e SYMPOSIUM ANNUEL DE SIMULATION**

ROYAL MILITARY COLLEGE OF CANADA
KINGSTON, ONTARIO

organized by the
CANADIAN NUCLEAR SOCIETY
16-18 AUGUST '92

organisé par la
SOCIÉTÉ NUCLEAIRE CANADIENNE
16-18 AOÛT 1992

FINAL PROGRAM - SESSIONS - PROGRAMME FINAL

Monday 17 August 1992 – Lundi 17 août 1992

SESSION A1 : THERMALHYDRAULICS - I / THERMOHYDRAULIQUE - I
(0900-1010)

Chairman / Président : M. Carver (AECL-Research / Chalk River)

P. Busono, J. S. Chang & V. Krishnan (McMaster University);
"REGIME-5 : A Code for a Prediction of Steam-Water Two-Phase Flow
Regime Transitions in a Horizontal Pipe".

**M. B. Carver, J.C. Kiteley, J. V. Junop & J. P. Wasilewicz (AECL
Research, Chalk River);** "Validation of the ASSERT Subchannel Code
for MAPLE-X10 Reactor Conditions".

SESSION B1 : REACTOR PHYSICS - I / PHYSIQUE DU REACTEUR - I
(0900-1010)

Chairman / Président : G. Hotte (Hydro-Québec)

**J. Koclas, A. Baudouin, M. Garceau, G. Hotte & C.H. Nguyen (Hydro-
Québec, Montréal);** "Simulations of the Gentilly-2 Reactor During a
Postulated Simultaneous Pressure-Tube Calandria-Tube Event".

D. A. Jenkins & B. Rouben (AECL-CANDU); "Simulating Off-Normal Core
Conditions with Flux Mapping and Power Mapping".

SESSION A2 : THERMALHYDRAULICS - II / THERMOHYDRAULIQUE - II
(1040-1150)

Chairman / Président : M. Carver (AECL-Research / Chalk River)

**R. S. Swartz, J. R. Kowalski & W. I. Midvidy (AECL-Research
Whiteshell & Ontario Hydro);** "Display of Lash Data with IsoVu in a
PC-DOS Environment".

J. S. Chang, G. D. Harvel, V. S. Krishnan, G. F. Round, & I. F. Obinelo (McMaster University); "REGIME-6 Code for Prediction of Co-Current and Counter-Current Flow Regime Transitions in Vertical Two-Phase Flow".

**SESSION B2 : REACTOR PHYSICS - II / PHYSIQUE DU REACTEUR - II
(1040-1150)**

Chairman / Président : G. Hotte (Hydro-Québec)

D. Brissette (Hydro-Québec, Gentilly), M. Beaudet & G. Hotte (Hydro-Québec, Montréal); "Flux Mapping Theory Applications for CPPF Prediction and On-Line Power Distribution Calculations".

R. D. McArthur, B. Rouben, P. Soedijono (AECL-CANDU), P.D. Thompson (New Brunswick Power) & A. Baudouin (Hydro-Québec, Montréal); "LOCA Transient Analysis Using RFSP and FIREBIRD".

**SESSION C1 : THERMALHYDRAULICS - III / THERMOHYDRAULIQUE - III
(1315-1500)**

Chairman / Président : A. Tapucu (Ecole Polytechnique)

D. C. Groeneveld (AECL Research, Chalk River); "CHF Separate-Effects Tests at Chalk River Laboratories".

F. B. P. Tran (Ontario Hydro); "Modelling of the Acoustic Response in the CANDU-PHTS LINAC-II : Model Formulation and Verification".

G. I. Hadaller, R. A. Fortman (Stern Labs), J. Szymanski, W. I. Midvidy (Ontario Hydro) & D. J. Train (IDEA Research); "Frictional Pressure Drop in Aligned and Staggered Tube Banks with Large Pitch to Diameter Ratio".

**SESSION D : REACTOR PHYSICS - III / PHYSIQUE DU REACTEUR - III
(1315-1500)**

Chairman / Président : M. Gold (Ontario Hydro)

D. A. Jenkins & B. Rouben (AECL-CANDU); "Simulating Xenon Transients Via the History-Based Local-Parameters Methodology".

G. Marleau, R. Roy, J. Tajmouati & D. Rozon (Ecole Polytechnique); "Burnup of Gentilly-2 Cell with DRAGON".

J. Tajmouati, D. Rozon, G. Marleau & R. Roy (Ecole Polytechnique); "Comparison of Time-Average Power Distributions in a CANDU-600 Based on PPV, WIMS and DRAGON Lattice Properties".

SESSION C2 : THERMALHYDRAULICS - IV / THERMOHYDRAULIQUE - IV
(1530-1640)

Chairman / Président : A. Tapucu (Ecole Polytechnique)

P. Tye, M. Davidson, A. Teyssedou, A. Tapucu (Ecole Polytechnique) & W. I. Midvidy (Ontario Hydro); "A Preliminary Examination of the Effects of an Orifice on the Counter-Current Flooding Limit in Vertical Tubes".

M. B. Carver, A. O. Banas, J. C. Kiteley, Y. Liner & B. Lidicky (AECL-Research, Chalk River); "Three-Dimensional Multi-Fluid Analysis of Reactor Components".

SESSION E : CONTAINMENT ANALYSIS / ANALYSE DE L'ENCEINTE
(1530-1640)

Chairman / Président : R. A. Gibb (New Brunswick Power)

D. J. Wallace (AECL Research, Whiteshell); "Three-Dimensional Modelling of Aerosol Transport from a Flashing Two-Phase Jet in Containment".

M. Soliman & A. Alizadeh (AECL-CANDU); "Stress Analysis of CANDU Containment Structure Hatch Opening".

Tuesday 18 August 1992 – Mardi 18 août 1992

SESSION F1 : THERMALHYDRAULICS - V / THERMOHYDRAULIQUE - V
(0900-1010)

Chairman / Président : J. Almon (Ontario Hydro - Darlington)

J. Ballyk, J. N. Barkman, H. Huynh & A. Gallia (AECL-CANDU); "Comparison of Multi and Average Channel FIREBIRD Circuit Simulation of a 20% RIH Break".

H.A. Wu, A. Manzer, Y. T. Kim & F. Didomizio (AECL-CANDU); "Non-Linear Impact Analysis for Reverse Flow in CANDU Reactor Fuel Channels".

SESSION G1 : REACTOR PHYSICS - IV / PHYSIQUE DU REACTEUR - IV
(0900-1010)

Chairman / Président : D. Rozon (Ecole Polytechnique)

F. J. Lemay & T. Jamieson (Science Applications International Corporation); "Transport Calculations Using STREAM".

J.-M. Lina, C. K. Scott (Atlantic Nuclear Services), B. Goulard & M. Mayrand (Université de Montréal); "Advanced Simulation of CANDU Reactors at Low-Cost with Parallel Processing".

SESSION F2 : THERMALHYDRAULICS - VI / THERMOHYDRAULIQUE - VI
(1040-1150)

Chairman / Président : J. Almon (Ontario Hydro - Darlington)

P. Tye, A. Tapucu, A. Teyssedou (Ecole Polytechnique) & M. B. Carver (AECL-Research, Chalk River); "Fundamental Derivation of the Equations Used in ASSERT-4 Subchannel Code".

V. T. Tran, J. R. Buell, P. J. Mills & J. E. Kowalski (AECL-Research Whiteshell); "Analysis of Convective Heat Transfer from the MAPLE-X Finned Fuel Rod Surfaces".

SESSION G2 : REACTOR PHYSICS - V / PHYSIQUE DU REACTEUR - V
(1040-1150)

Chairman / Président : D. Rozon (Ecole Polytechnique)

F. J. Lemay, T. Jamieson (Science Applications International Corporation) & T. Cousins (Defence Research Establishment Ottawa); "Radiation Protection Factor Calculations Using the VPF Computer Code".

H. W. Bonin (Royal Military College); "Fuel Management of SLOWPOKE Reactors".

SESSION H : THERMALHYDRAULICS - VII / THERMOHYDRAULIQUE - VII
(1315-1535)

Chairman / Président : J. Almon (Ontario Hydro - Darlington)

A. O. Banas, M. B. Carver, J. C. H. Leung & B. P. Bromley (AECL-Research, Chalk River); "Multidimensional Simulations of Fuel-Rod Appendage Effects on Pressure Drop and Heat Transfer in an Annulus Flow".

S. C. Sutradhar (EACL-Research, Chalk River); "Effects of Slow Power Transients on CHF".

N. K. Popov & B. N. Hanna (AECL Research Whiteshell); "A Critical Flow Model for the Cathena Thermalhydraulic Code".

J. K. Szymanski & G. R. Schneider (Ontario Hydro); "Movement of Two Liquid Columns Separated by a Gas Pocket in a Perforated Nozzle of a Liquid Injection Shutdown System".

Y. T. Kim, H. A. Wu, A. M. Manzer (AECL-CANDU); "Consequences of Channel Flow Reversal Due to a Loss-of-Coolant Accident in the CANDU 3 Reactor Design".

* * * * *

