



1st International Technical Meeting on Fire Safety and Emergency Preparedness for the Nuclear Industry

June 17 to 19, 2015

*Hilton Mississauga / Meadowvale
6750 Mississauga Road
Mississauga, ON L5N 2L3*

<http://www.cns-snc.ca/events/fsep-2015/>

FSEP 2015 PROGRAM

WEDNESDAY

Hazel McCallion Ballroom

18:00 – 20:00 Registration and Welcome Cocktails

THURSDAY

OPENING SESSION

Graydon Ballroom C&D

08:30 – 08:45 Welcoming / Opening Address
T. Lapping (Canadian Nuclear Society)

08:45 – 09:00 Opening Address from Honorary Chair
G. Rzentowski (International Atomic Energy Agency)

PLENARY SESSION

Graydon Ballroom C&D

09:00 – 09:30 Nuclear Emergency Preparedness and Response in Canada: The Federal Nuclear Emergency Plan's Perspective
Claude Bouchard (Health Canada – Radiation Protection Bureau)

09:30 – 10:00 Exercise Unified Response Challenges in Responding to Large Scale Disasters
Dave Nodwell, Pedro Bilbao and Kathy Bleyer (The office of the Fire Marshal and Emergency Management)

Coffee Break

10:30 – 11:00 Exercise Unified Response and Lessons Learned
Jim Coles – Director of Emergency Management & Fire Protection (Ontario Power Generation)

11:00 – 11:30 Bruce Power Emergency Preparedness and Response
John Collin – Chief of Emergency and Protective Services (Bruce Power)

11:30 – 12:00 Question and Answer Period

Lunch

TECHNICAL SESSION ONE

Room - TBD

13:30 – 13:50 Fire Protection Engineering Resource Optimization in a Large Organization with a Widely Diverse Stakeholder Base and Operations in Multiple Plant or Business Sectors
Robert Ladd (AMEC)

13:50 – 14:10 Fukushima Daiichi Fire and Explosion
Hossam (Sam) Shalabi (CNL)

14:10 – 14:30 Issues of Reactive Hazards and Combustible Gas Management from Legacy Solid Nuclear Fuel Wastes
Robert Apthorpe, James Burelbach and Martin Clouthier (Fauske & Associates)

14:30 – 14:50 Design & development of Fire Protection System using Remote Terminal Unit for Prototype Fast Breeder Reactor
Rajendra Prasad Behera, Murali N and Satya Murty S.A.V. (India Gandhi Centre for Atomic Research)

14:50 – 15:10 Determining the Minimum Fire Protection Requirements for Decommissioning
Kory Krueger (PLC Fire)

15:10 – 15:30 OECD/NEA High Energy Arcing Fault Events (HEAF) Project
Nick Melly (U.S. Nuclear Regulatory Commission)

Coffee Break

15:50 – 16:10 Responding to Fukushima without Going Broke
Thomas McCormack (NEXUS Engineering)

16:10 – 16:30 Determining Water Supply Adequacy at Existing Stations
Larry Keeping (PLC Fire)

16:30 – 16:50 Behaviour of Glove Box Fire
Michael Coutin and Laurent Audouin (IRSN)

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TECHNICAL SESSION TWO

Room TBD

13:30 – 13:50	Current Fire Protection Regulatory Approach for Nuclear Facilities in Canada Abderazzaq Bounagui, Ivan Bolliger and Andrei Blahoianu (CNSC)
13:50 – 14:10	Vulnerability of Nuclear Safety Systems to Fire Kenneth Dungan and Luke Morrison (PLC Fire)
14:10 – 14:30	Applications of Risk Informed Performance Based Methods of Fire Protection to Nuclear Power Plants Shobhit Shanker (AMEC)
14:30 – 14:50	CANDU Fire Probabilistic Risk Assessment (PRA) Hassam (Sam) Shalabi (CNL)
14:50 – 15:10	Normalized Heat Load as Method for Barrier Assessment for Rooms with Low Combustible Load Grant Roach and Luke Morrison (PLC Fire)
15:10 – 15:30	Automated Zone Fire Modeling for Fire Risk Assessment at Nuclear Facilities Martin Clouthier (Fauske & Associates)

Coffee Break

15:50 – 16:10	Fire Modeling using CFD Approach for Estimation Important Parameters During Fire Scenarios in Typical room of NPP Dhanesh Nagrale, Pavan Sharma, and Avinash Gaikwad (Atomic Energy Regulatory Board, India)
16:10 – 16:30	Use of Fire Hazard Analysis to Cost Effectively Manage Facility Modifications Kory Krueger (PLC Fire)
16:30 – 16:50	Fire Safety and Emergency Preparedness Within Canada's Nuclear Liability Insurance Regime Jacques Plourde (Nuclear Insurance Association of Canada)

TECHNICAL SESSION THREE

Room TBD

13:30 – 13:50	Large Eddy Simulation (LES) of a Large Scale Fire in Confined and Ventilated Compartments Duy Le, Cecile Devaud, Beth Weckman and Abderrazzaq Bounagui (University of Waterloo)
13:50 – 14:10	Numerical Simulation of an Electrical Cabinet Fire Jean-Paul Joret, William Plumecocq and Jean-Marc Richaud (IRSN)
14:10 – 14:30	Hydrogen Transport and Distribution in Reactor Auxiliary Buildings During a Severe Accident Sung Jin Lee and Martin Clouthier (Fauske & Associates)
14:30 – 14:50	French Fire CFD Code ISIS: Some Benefits of Such Calculations for Fire Safety Analysis Celine Lapuerta, Jean-Marc Ricaud and Sylvain Suard (IRSN)
14:50 – 15:10	IRSN Global Process for Conducting a Comprehensive Fire Safety Analysis for Nuclear Installations Thierry Vinot, Yannick Ormieres and Jocelyne Lacoue (IRSN)
15:10 – 15:30	Cable Flammability Testing James Raines and Vincenzo DiBenedetto (Fauske & Associates)

Coffee Break

15:50 – 16:10	Fire Tests of Cable Trays in Confined and Ventilated Compartments: Ventilation Effects Pascal Zavaleta, Laurent Audouin and Laurence Rigollet (IRSN)
16:10 – 16:30	Recent German Approach for Assessing the Risk from Fire Hazards Considering All Plant Operational States and Post-Fukushima Requirements Marina Roewekamp and Heinz-Peter Berg (GRS gGmbH)
16:30 – 16:50	Fire Modelling as a Tool for Fire Safety Cameron McGregor and Devin Glennie (CNL)

CONFERENCE BANQUET

Graydon Ballroom A & B

Cocktails at 6:00pm and Dinner at 6:30 pm

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FRIDAY

PLENARY SESSION

Graydon Ballroom C&D

09:00 – 09:30	Lessons Learned from Fukushima – Leadership Perspective John Osborne – General Manager, Isotope Reliability (Canadian Nuclear Laboratories)
09:30 – 10:00	Evolution in Emergency Preparedness and Response Strategy since Fukushima and the Positive Impact on Overall Plant Safety Frank Saunders – VP, Nuclear Oversight and Regulatory Affairs (Bruce Power)
Coffee Break	
10:30 – 11:00	The Role of the Regulator in Emergency Preparedness Raoul Awad – Directorate of Security and Safeguards (Canadian Nuclear Safety Commission)
11:00 – 11:30	Nuclear Safety at a Single Unit Station, and the Roles which Fire Safety and Emergency Preparedness Play in Achieving the 3 C's (Control, Cool, Contain). Wade Parker – Director of Fire, EP, Security and Training (New Brunswick Power)
11:30 – 12:00	Question and Answer Period

Lunch

TECHNICAL SESSION FOUR

Room TBD

13:30 – 13:50	Enhancements to Severe Accident Management Guidelines to Address Fukushima Daiichi Lessons Learned Lovel Gilbert (Bruce Power)
13:50 – 14:10	Update of Severe Accident Management Guidelines at Point Lepreau Generating Station Derek Mullin, Scott Robertson (New Brunswick Power)
14:10 – 14:30	Event simulations as applied to fire safety and emergency preparedness within the nuclear industry Steven Ward (Global Risk Innovations)
14:30 – 14:50	Canadian Emergency Biodosimetry Dose Response Network Farrah Flegal and Ruth Wilkins (CNL / Health Canada)
14:50 – 15:10	Emergency Mitigating Equipment in Probabilistic Safety Assessment – Modelling Approaches and Lessons Learned Ben Hryciw, Eliseo Chan and Jack Vecciarelli (Bruce Power)
15:10 – 15:30	Hydrogen Risk Management and Assessment at CANDU Nuclear Power Plants in Canada Samuel Gyepi-Garbrah and Ki Cheung Leung (CNSC)

Coffee Break

15:50 – 16:10	Use of Multiple Barriers to aid in Event Progression Lovel Gilbert (Bruce Power)
16:10 – 16:30	Emergency Preparedness Improvements at Point Lepreau Nuclear Generating Station J. Scott Robertson (New Brunswick Power)
16:30 – 16:50	Identification of Human and Organizational Factors during Emergency Response Jeh Cooper, Chelsea Trudeau and Lawrence Lupton (CNL)

TECHNICAL SESSION FIVE

Room TBD

13:30 – 13:50	Fire Prevention and Your Safety Culture Engaging Your Workforce Kevin Austin (CFPS ret)
13:50 – 14:10	OECD/NEA Fire Incident Records Exchange Project Dr. Marina Rowekamp (GRS)
14:10 – 14:30	Fire Protection Inspection, Testing and Maintenance - Programs, Audits and OPEX Lyle Hamre (PLC Fire)
14:30 – 14:50	Fire Protection Program Automation Thomas McCormack (NEXUS Engineering)

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14:50 – 15:10	Vortex Hybrid Fire Suppression System Andrew Burt (Victaulic)
15:10 – 15:30	Technology – Fire Protection Systems Pram Maharaj (OPG)
Coffee Break	
15:50 – 16:10	Emergency Response Equipment- Having what you need Richard Roberts (Heritage Safety)
16:10 – 16:30	Determining Fire Detection Requirements for Low Hazard Areas Ron Brewer and Ghaith Qamheiah (PLC Fire)
TECHNICAL SESSION SIX	
Room TBD	
13:30 – 13:50	Uncertainty quantification of fire modeling for a typical room of NPP using probabilistic approach Dhanesh Nagrale, Subrata Bera, Anuj Kumar Deo, Mahendra Prasad and Avinash Gaikwad (Atomic Energy Regulatory Board, India)
13:50 – 14:10	Modeling of Fire in Unique Spaces of a Nuclear Facility Grant Roach and Luke Morrison (PLC Fire)
14:10 – 14:30	Focus on the studies in support of fire safety analysis IRSN fire modeling approach for nuclear fuel facilities Raphael Meyrand, Julien Espargilliere and Thierry Vinot (IRSN)
14:30 – 14:50	Focus on the experimental investigations in support of fire PSA concerning the French 1300 MWe Nuclear Power Plants Julien Espargilliere, Thierry Vinot and Laurent Audouin (IRSN)
14:50 – 15:10	Impact of Mechanical Ventilation on Fire Severity in Nuclear Facilities Grant Roach and Luke Morrison (PLC Fire)
15:10 – 15:30	Aerosol Leak Path Factors During a Fire in a Process Facility Sung Jin Lee and Martin Clouthier (Fauske & Associates)
Coffee Break	
15:50 – 16:10	Emergency Mitigating Equipment: Applying Lessons from Fukushima Brian Cumming (Bruce Power)
16:10 – 16:30	Lessons-Learned from NFPA-805 Transitions at US Nuclear Utilities Paul Coleman (EPM Engineering)