INTERNATIONAL CONFERENCE ON

QUALITY, LEADERSHIP AND MANAGEMENT IN THE NUCLEAR INDUSTRY

15TH FORATOM–IAEA MANAGEMENT SYSTEMS WORKSHOP

16-19 JULY 2018

OTTAWA, CANADA

MSTF2018.ORG

#ManageNuclear

PRELIMINARY PROGRAMME

Organized by FORATOM
in cooperation with the IAEA
and hosted by Bruce Power

FORATOM
THE VOICE OF THE EUROPEAN NUCLEAR INDUSTRY

IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Bruce Power
Innovation at work

Day 1 Monday 16 July 2018

07.00 Registration Opens

08.00 **Parallel sessions**

Learning Track 1: Human Technology Organization (additional fees may apply)
Helen Rycraft, Senior Safety Officer – International Atomic Energy Agency (IAEA)

The effective design of Human Technology Organizations (HTO) and their interfaces is the key to maintaining both safe and effective reliable operation. The IAEA standards refer to this as a systemic approach. This session will give participants an opportunity to apply HTO when approaching design, operations and events in a structured way. HTO allows aspects to be reviewed and understood in context, and improvement opportunities can be identified and assessed for their impact. Through case studies, theory and practical exercises, participants will deepen their understanding of HTO concepts. At the end of this session, participants will have the knowledge to describe HTO concepts and their applicability to peers and leaders in their organization and make the case for integrating systematic HTO thinking into their management system implementation.

Places limited to 45, allocated on a first come first served basis.

Learning Track 2: Safety Culture (additional fees may apply)
John Froats, Associate Professor and Nuclear Engineer in Residence - University of Ontario, Institute of Technology (Canada)

This session will provide participants with an improved understanding of what safety culture is and the role of leaders in establishing and preserving a `healthy' safety culture in a nuclear company. Participants will gain a better understanding of their role in leading and setting safety culture within their organization and will also walk away with the tools necessary to effectively interact with employees and contractors to influence change.

Places limited to 45, allocated on a first come first served basis.

Learning Track 3: Commercial Grade Dedication (additional fees may apply)
Doug Brown, ASME (USA)

This half day learning session focuses on the application of Commercial Grade Dedication to meet current industry needs and regulatory requirements. Case studies and best practices with an emphasis on non-traditional dedications such as software, calibration and other services are used to illustrate the application of current Commercial Grade Dedication requirements and the roles and responsibilities of owners, Engineering, Procurement, Construction service providers, and suppliers. The requirements of ASME NQA-1-2012 Quality Assurance Requirements for Nuclear Facility Applications are used as the framework for this discussion.

Places limited to 45, allocated on a first come first served basis

09.45 Refreshment Break

10.15 **Learning tracks continue**

12.00 Welcome brunch *

13.00 **Opening remarks and traditional welcome**

13.15 **Learning Tracks 1 and 2 continue (parallel)**

Learning Track 4: Counterfeit Fraudulent and Suspect Items (CFSI) (additional fees may apply)
Roger Moerman, Atkins (USA)

The training workshop introduces the participant to the growing counterfeit issue through hands-on demonstration with actual hardware parts and materials. The training format is an interactive workshop approach with participants discussing processes, components, roles and responsibilities. The dialogue includes clues on detection and prevention of potential counterfeit, fraudulent, and suspect items; updates on new threats and impact on nuclear industry supply chain.

Places limited to 30, allocated on a first come first served basis

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Learning Track 5: Failure Mode Effect Analysis (FMEA)
Johane Lemay, ITPGMP Consulting Inc. (Canada)

FMEA is a systematic approach to identify the way in which a design / process can fail to meet critical customer requirements. This session will help participants develop an understanding of the basics of the FMEA tool as a structured approach to risk management. Participants will learn how to use the FMEA tool to:

- Prevent System, Product and Process problems before they occur by estimating the risk of specific causes with regard to the failures.
- Reduce costs by identifying system, product and process improvements early in the development cycle by evaluating the current control plan for preventing failures from occurring.
- Prioritize actions that decrease the risk of failure.
- Evaluate the system, design and processes from a new vantage point.

Places limited to 30, allocated on a first come first served basis

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Young Generation Nuclear event: Knowledge Transfer and Leadership
Moderator: TBC

Adriènne Kelbie, Chief Executive Office, Nuclear Regulation (UK)
Fred Dermarkar, President and Chief Executive Officer, CANDU Owner's Group (Canada)
Rebecca Krulicki, Engineering Trainee, Outage Health Initiative, Bruce Power (Canada)
Lee Causey, Lead Procurement Engineer, Duke Energy and Vice President, NAYGN (USA)

Join experienced nuclear leaders and young generation colleagues to share ideas and hear personal stories related to leadership and knowledge transfer. This session will bring together young professionals and senior managers. Those new to sector will be able to discuss a variety of issues of relevance to them with those that already have several years of experience under their belt.

15.00 Break

15.30 **Learning tracks continue**

17.30 **Welcome Reception**
Join us for the opening cocktail and meet with conference exhibitors!

21.00 Departure: Light Show on Parliament Hill (no cost, optional, weather permitting) **

Day 2: Tuesday 17 July 2018

07.00 Registration opens

07.15 **Women in Nuclear Networking Breakfast**

Join WiN-Canada President / WiN-Global Vice President **Heather Kleb** to network with WiN peers. Not yet a WiN member but interested in becoming one? You are welcome to sign up!

Places limited to 50 – pre-registration required for this event. Contact QLM.MSTF@goldenplanners.ca with the subject ***WiN Breakfast*** to register your interest. You will receive a confirmation indicating whether your request can be accommodated.

08.30 **Opening Plenary Session and Introduction of Honorary Chair**

- **Yves Desbazeille**, Director General, European Atomic Forum (FORATOM)
- **Mikhail Chudakov**, Deputy Director General and head of Department of Nuclear Energy, International Atomic Energy Agency (IAEA)
- **Frank Saunders**, Vice President Nuclear Oversight & Regulatory Affairs, Bruce Power (Canada)

09.00 **Keynote Remarks from Honorary Chair**

Dr. Michael Binder, President and Chief Executive Officer, Canadian Nuclear Safety Commission (Canada)

09.20 **Working Together – Better**

Adriènne Kelbie, Chief Executive, Office for Nuclear Regulation (UK)

09.55 **NEA's approach: guiding leaders for today and tomorrow**

Yeonhee Hah, Head of the Division of Radiological Protection & Human Aspects of Nuclear Safety, Nuclear Energy Agency

10.15 **Remarks**

Julian Gadano, Undersecretary of Nuclear Energy, Ministry of Energy and Mining (Argentina)

10.35 Networking Break

11.15 **Understanding Exposure and Vulnerability to Future Real World Dangers.**

Dr. Paul Colin Smith, Associate Director, Arup (UK)

11.35 **Insights from Industry Leaders**

- **Bill Pitesa**, Chief Nuclear Officer, Nuclear Energy Institute (USA)
- **Hideki Masui**, Deputy Chief Nuclear Officer, TEPCO (JAPAN)
- **Ian Grant,** Consultant in Nuclear Safety and Regulation (UAE)

Senior leaders will share their personal experience on how they have achieved a high level of quality and safety during their career. Get some heartfelt insights into what motivates leaders to be vigilant and constantly advocate for quality and safety.

12.30 Lunch

13.30 **Parallel Session 1 – Large Scale Change – Project Management and Digital Transformation**

Moderator: TBC

13.40: Transition from Functional to Project Management Organization to Manage the New Nuclear Build Project in the Environment of a Newcomer Country
Dmitrij Pokidysev, Akkuyu Nuclear JSC (Turkey)

13.55: Use of a Systematic Approach to Window Level Project Oversight (SAWLPO) in Darlington Nuclear Refurbishment
Rob Templeton, Senior Quality Manager, Darlington Refurbishment, Ontario Power Generation (Canada)

14.10: Panel – Excellence in Project Management
Moderator: TBC

- **Hervé Maillart**, Vice President, International Projects, Électricité de France (France)
- Invited: **Kelly Trice**, Executive Vice President, Projects and Field Services, Bruce Power (Canada)
- Invited: Speaker TBD

When planning and executing a multi-million or billion dollar project, more is at stake than just money. Thousands of people, entire communities, and the company's future viability are often relying on its success. To help mitigate the risks associated with such an undertaking, this panel will discuss large projects within the nuclear industry and address how to streamline them. It will walk you through important topics such as simplifying working modes, the role of project managers, and the importance of defining project objectives.

13.30 **Parallel Session 2 – Life Cycle Transitions – Safety and Culture Considerations**
Chair: TBC

13.40: Management Problems and Challenges in a Nuclear Centre Closing Fuel Cycle Activities
Paulo Lainetti, Nuclear and Energetic Research Institute - IPEN-CNEN/SP (Brazil)

13.55: Regulatory response to the transition from a government owned and government operated (Go-Go) model to a government owned and contractor operated (Go-Co) model and the resulting management of change.
Kenneth Jones, Canadian Nuclear Safety Commission (Canada)

14.10: Panel discussion – Managing Transitions
Moderator: TBC

- **Pam Duerden**, EHSS&Q Director, Magnox Limited (UK)
- **Helen Rycraft**, Senior Nuclear Safety Officer, Department of Nuclear Safety, Division of Nuclear Installation Safety, Operational Safety Section, IAEA
- **Hussain Al Jaberi**, Nawah Quality Assurance Program Manager, Nawah Energy (UAE)

This session will address the unique considerations of the human and organizational factors relevant during the transition between lifecycle stages in a nuclear facility. It will consider new builds, commissioning, operation, major refurbishments and decommissioning to examine the challenges faced in each new phase and how to smoothly transition between them.

13.30 **Parallel Session 3 – Standards**

*Chaired by **Susan Oh**, Acting Director, Standards – Power Generation and Petroleum & Natural Gas, CSA Group (Canada)*

Presentation on CSA Group's Concensus Process

13.50: Standards and Regulations: Who Knows Best?

*Moderator: **Pekka Pyy,** Senior Expert, Organization & Management Systems - International Atomic Energy Agency*

- **Michael Frediani**, Director Auditing and Inspections, ASME
- **Laurent Kueny**, Vice President Nuclear Services, Bureau Veritas (France)
- **Ron Schrotke**, Chair, NQA-1 Main Committee
- Invited Speaker, ISO Standards (Canada)

There are a host of different regulations and standards used internationally in the field of nuclear management systems and quality management. In many cases the standard come to comply with a certain regulation, in some others they are consensus standards created by Standards Development Organizations (e.g. ISO) and aim at improvement e.g. in customer satisfaction. The International Atomic Energy Agency has its safety standards series for all nuclear facilities and activities. The many different pedigrees and approaches can make it challenging to make informed decisions about which to use. This session will provide an overview of available standards, their background, purpose, scope and applicability to help participants make informed decisions.

14.40: Workplace Psychological Health and Safety: Learn about ideas on new concepts in workplace Health & Safety management systems including those involving psychological health and safety (such as the Canadian Standard CSA Z1003) and how ISO 45001 has laid the groundwork for further international development in this area
Ian M. F. Arnold MD, MSc, CSPQ, FCBOM, FRCPC, DOHS, CEA, CRSP (Canada)

15.00 **Poster session** and refreshment break

15.30 **Special Session: FORATOM-Canadian Nuclear Industry Meeting (invitation only)**

Hosted by:

- Dr Teodor Chirica, President, European Atomic Forum (FORATOM) and
- Fred Dermarkar, President and Chief Executive Officer, CANDU Owner's Group

This meeting is by invitation only. It provides an opportunity for senior leaders in the Canadian Nuclear Industry and FORATOM to present the current status of the Canadian and European markets. Key policy drivers will be discussed as well as avenues for collaboration

15.45 **Parallel Session 1 – Large Scale Change – Project Management and Digital Transformation**

15.50: Remarks
Speaker: TBC

16.10: Panel – A journey of Innovation
Moderator: TBC

- **Sean Lawrie**, Partner, ScottMadden (USA)

- **Jason Wight**, Director of Station Engineering, Pickering Nuclear Generating Station, Ontario Power Generation (Canada)
- **James J. Hutto,** Business Modernization Director, Southern Nuclear Operating Company (USA)

Once the promise of process improvement has delivered maximum benefit, organizations are embarking on a journey of automation and deployment of new technology as part of their continuous improvement and efficiency measures. 3D printing, data analytics, robotics, and artificial intelligence will transform our industry. Learn about the journey of pioneers in this area, consider the safety and quality considerations of such initiatives, and be understand the basics of some emerging technology that will reshape how we manage everyday tasks in the nuclear industry

17.00: Discussion

15.45 **Parallel Session 2 – Life Cycle Transitions – Safety and Culture Considerations**
Moderator: TBC

15.50: Shaping Culture: A shift in culture can only happen if supported by an enabling management system: This session will examine how management systems can either enable or hinder large scale culture change. Over dependence on systems and processes in a highly regulated environment can lull the organization into a checklist mentality and routine mindset, ultimately eroding safety. What is the balance between compliance, discipline and buy-in? What tools support a desired shift in culture? Hear from experts who are helping organizations tackle these critical questions and learn the key to getting the results you need.

- **Jan Teuwen** and **Ward Metzler**, DuPont Sustainable Solutions (USA)

16.25: Remarks
Invited speaker, BrucePower (Canada)

16.40: Integrating a Common System in a Uncommon Culture, A Developing Case Study
Glenn McTaggart, Emirates Nuclear Energy Corporation (UAE)

17.00: Safety culture and cooperation
Olivier Guillaume, Research Engineer, EDF (France)

17.10: Invited speaker

15.45 **Parallel Session 3 – Standards**

15.50: ASME Special Committee on Additive Manufacturing for Pressure Equipment: The ASME Board on Pressure Technology Codes and Standards has established a Special Committee on Additive Manufacturing for Pressure Equipment. The Additive Manufacturing Committee held its first meeting in August 2017. The Committee is a joint committee with the ASME Board on Nuclear Codes and Standards with a goal to provide technical direction for additive manufacturing of pressure equipment. The Additive Manufacturing Committee is charged with developing a technical baseline to support development of a standard or guideline addressing the structural integrity

governing the construction of pressure retaining equipment by the additive manufacturing processes. The Additive Manufacturing Committee is now engaged in the development of a series of topical reports that address material qualification, process qualification, design margins, and NDE. This presentation provides an overview of the AM committee activities and initial direction from the work completed to date.
Presentation by **George Rawls**, ASME delivered by **Richard W Barnes**, M. Eng. Sc., P. Eng., FASME, President, ANRIC Enterprises (Canada)

16.10: Integrating Human Performance across the Management System – Considerations for Suppliers and Licensees
Pamela Tume, Director IP, Human Performance, OpEx and Nuclear Security, SNC Lavalin (Canada)

16.30: Invited Speaker

16.50: Canadian Standards Demystified: An Inside Look at CSA Nuclear Standards
Moderated by Mervah Khan, Project Manager, Power Generation, CSA Group

- **Richard Schewaga**, Chair, CSA N286 Technical Committee (Canada)
- **Craig Sellers**, Chair, CSA N299 Subcommittee (Canada)

Nearly 15 percent of Canada's electricity is generated from just four nuclear power plants. The contribution of nuclear energy to the country's power grid is significant – and Canada's CANDU reactors are used in other countries – but generating nuclear energy is a complex undertaking. It relies on advanced reactor technology, highly-skilled personnel, and stringent safety practices to mitigate risks. Standards are critical to addressing these challenges. CSA Group's suite of nuclear standards provides an interlinked set of requirements for the management of nuclear facilities and activities. The standard, *CSA N286 - Management system requirements for nuclear facilities,* provides overall direction for developing and implementing sound management practices and controls, while the other standards provide technical requirements and guidance that support the management system. This session will demystify the N286 Standard and a two key elements of the management system to support your work and give you the opportunity to take a deep dive into the standards **and** ask questions:

- *CSA N286 – Management system requirements for nuclear facilities*
  This standard identifies management system requirements for nuclear facilities based on 12 management system principles. It applies to top management who have the overall accountability for the nuclear facility and integrates the requirements from management system standards for health, safety, environment, security, economics, and quality.
- *CSA N299 – Quality assurance program requirements*

17.30 Sessions conclude

19.00 **"Taste of Canada" reception** (Invitation only)*

21.00 Departure: Light Show on Parliament Hill (no cost, optional, weather permitting) **

FOR ACCOMPANYING PERSONS: Weather permitting, accompanying persons will have the opportunity to enjoy a tour of Ottawa during the afternoon

Day 3: Wednesday 18 July 2018

07.00 Registration opens

07.15 Student delegate breakfast with Mentors

08.30 **Morning Plenary**

Keynote Remarks by

- **Rumina Velshi**, Commission Member, Canadian Nuclear Safety Commission (Canada)
- **Dr Teodor Chirica**, President, European Atomic Forum (FORATOM)

09.15: Turning the Conversation to the Future

*Moderator: **Rachna Clavero**, Director, Nuclear Safety & Environmental Affairs, CANDU Owners Group Inc (Canada)*

- **Michael Rencheck**, President and Chief Executive Officer, Bruce Power (Canada)
- **Kathy McCarthy**, Vice President of Research and Development, Canadian Nuclear Laboratories (Canada)
- Invited speaker

10.15 Refreshment break

10.45 **Parallel Sessions**

Parallel session 1: Regulatory

Chair: Greg Lamarre, Director General, Safety Management Directorate, Canadian Nuclear Safety Commission

This session will explore key topics of particular interest to leaders and specialists working in international regulatory bodies.

11.00: Regulatory Requirements and Oversight of Licensee Management Systems and/or Quality Management/ Assurance Programs

*Moderator: **Pierre Lahaie**, Director, Management System Division, Canadian Nuclear Safety Commission (Canada)*

This session will present perspectives from international regulators on the challenges and good practices of providing oversight of licensee management systems and/or quality management/assurance programs.

11.15: Technical assessments of licensee's management system documentation-a Canadian Regulatory perspective

Dan Papaz, Canadian Nuclear Safety Commission (Canada)

11.30: CNSC Regulatory Safety Oversight Culture

Eman Ibrahim, Senior Project Officer, Canadian Nuclear Safety Commission (Canada)
Ross Richardson, Director of the Internal Quality Management Division, Canadian Nuclear Safety Commission (Canada)

11.45: Discussion

Parallel session 2: Supply Chain

Chair: Fred Dermarkar, President, Candu Owner's Group (Canada)

This session will provide an opportunity for customers, suppliers, and contactors to share experiences and address emerging risks in supply chain regulation including challenges with commercial grade dedication, counterfeit, fraudulent and suspect items (CFSI) as well as the more recent implications of the risks of additive manufacturing technology such as 3D printing.

11.00: Supply Chain Panel

*Moderator: **Ron Oberth**, President, Organization of Canadian Nuclear Industries (Canada)*

Hear from leading industry suppliers on the key challenges and opportunities in the nuclear industry, including in areas such as quality management, human performance and safety culture. Presentations by:

- **Pamela Tume**, Director IP, Human Performance, OpEx and Nuclear Security, SNC Lavalin (Canada)
- **Deucksoo Lee**, Senior Vice President, Nuclear Services Department, KEPCO E&C (Korea)
- **Leonid Letchford**, Head of Quality Department, Rosatom (Russia)
- Invited Speaker

Parallel session 3: Security

Topics in Physical and Cyber Security

Chair: Kathleen Heppell-Masys, Director General, Directorate of Security and Safeguards, Canadian Nuclear Safety Commission (Canada)

This stream will cover a variety of safety related topics with overarching themes of quality management for security activities, integration of non-nuclear security requirements into a nuclear regime, challenges and opportunities of sharing operating experience, emerging trends in cyber and physical security regulations, combining safety and security culture assessments, and effective oversight and change management practices. Hear from experts and practitioners on how security is integrated into the management system, emerging trends, case studies and best practices.

11.00: Updating Threat Model: Using past assessment and incident analysis to predict cyber attributes and characteristics of the adversary

Mark Fabro, President and Chief Security Scientist, Lofty Perch, Inc. (Canada)

11.30: **Considerations for implementation of Cybersecurity Requirements**: This standard covers the cyber security of nuclear facilities and pertains to the securing of essential computer systems and components against cyber-attacks resulting in loss of availability, degradation or loss of ability to perform their intended function, compromise of their integrity, and loss of confidentiality of their information.

Scott Hilts, Department Manager Information Security, Bruce Power and Chair, N290.7 Technical Subcommittee (Canada)

11.45: Encouraging Industry Leaders to Demonstrate Nuclear Security Governance
Lovely Maria Umayam, Research Analyst and Project Manager, Stimson Center (USA)

12.00: Discussion

Parallel session 4: Management System Implementation

Chair: TBC
Best practices on implementation of management systems with respect to leadership, integration of processes, performance and use of assessments and continuous improvement.

10.55: The Technology Opportunity that Comes from the Emergence of Entrepreneurial Nuclear: An emerging class of nuclear entrepreneurs is pushing to change the trajectory of deployment of nuclear energy, from a single commercial product (gigawatt-scale electricity production) to a wide range of energy products. They envision a transition from on-site built specialty products to factory built, rapidly deployed system. That transition also allows for a more rapid inclusion of technology innovations from emerging areas such as advanced manufacturing, big data and associated analytics, and high-performance computing. This presentation will outline this trend and what it means for the future of nuclear energy.
Todd Allen, Senior Fellow, Third Way, Professor University of Wisconsin (USA)

11.15: Aligning the IT Enterprise and the IMS Process Architecture: an Essential Step Towards a Lean Management System
Peter Vermaercke, SCK-CEN (Belgium)

11.35: Journey towards an Integrated Management System
Paul Marsden, Head of Quality Assurance and Management Systems, Horizon Nuclear Power and **Barry Middleton**, Director, PricewaterhouseCoopers (UK)

11.55: Who is Responsible for Managing Risks in a Management System and a Process-Based Structure?
Veerle Stroobant, ONDRAF/NIRAS (Belgium)

12.15 Lunch

13.15 **Parallel Sessions**

Parallel session 1: Regulatory

Effective Management Systems for Regulatory Bodies
Moderator: ***Laura Talbot Allan,*** *President TACG Consulting (Canada)*
Regulators are accustomed to evaluating the management systems of licensees, but what of the development, implementation, assessment and continuous improvement of their own management system? This session will showcase the challenges and best practices from regulators around the world in the implementation of their own management system.

13.30: From a quality management based on ISO standards to a management system based on IAEA requirements
Annick Deltenre, Federal Agency for Nuclear Control (Belgium)

13.45: The Development of an Integrated Management System for Ghana's Nuclear Regulatory Authority
Kodzo Dzide, Nuclear Regulatory Authority (Ghana)

14.00: Review of the IMS at Polish Regulatory Body
Katarzyna Kaczmarczyk, National Atomic Energy Agency (Poland)

14.15: Status of NNRA Management System Regime/Challenges
Rita Ama, Nigerian Nuclear Regulatory Authority (Nigeria)

14.30: Development and Implementation of Management System at PNRA
Muhammad Masaood, Pakistan Nuclear Regulatory Authority (Pakistan)

14.45: Discussion

Parallel session 2: Supply Chain

Supply Chain – Key Topics

13.20: Application of QA Standards in the supply chain in NPPs and Other Facilities in Brazil
Paulo Cesar Ferreira Jr., Eletronuclear (Brazil)

13.35: Kinectrics error-free operation through use of human performance tools
Deanna Lopez, Kinectrics Inc. (Canada)

13.50: Supplier's perspective of the IMS benefits and tools for management
Alexanne Pizycki, Senior Quality Assurance Manager and Business Development, EMC Power Canada Limited (Canada)

14.05: Discussion

14.15: Has Conformity Assessment got a Role in Future Reactor Safety and Quality Achievement? ASME Conformity Assessment certification and accreditation programs are an example of ASME's commitment to high quality and enhancing public safety in the global market. Companies that obtain ASME's Certificate of Authorization go through a rigorous process that verifies, through independent auditor review, their ability to create and document a quality control/assurance system and uniquely requires them to demonstrate their capabilities in implementing this system. With an eye on the future, ASME Conformity Assessment continues to work on incorporating Advanced Manufacturing, 3D Printing and high temperature reactors into its suite of products. ASME Standards & Certification continues to strive for the incorporation of the highest levels of safety margins for next generation of nuclear reactor designs. Implementation of these designs before construction will help gain public confidence that the nuclear reactors are being built to the highest safety standards.
Michael Frediani, Director Auditing and Inspections, ASME

14.30: 21 Tools for Addressing CFIs: This presentation will discuss the 21 tools that can be used address counterfeit and fraudulent items (CFIs) in nuclear facility applications. The tools are as presented in IAEA publications related to procurement and CFIs.
John Moore, CANDU Owners Group (Canada)

Parallel session 3: Security

Safety and Security Integration – Key Topics

13.20: Understanding Exposure and Vulnerability to Future Real World Dangers. Dr. Paul Colin Smith, Associate Director, Arup (UK)

13.40: A regulatory document on safety culture, inclusive of security culture

Tanya Hewitt, Human and Organizational Performance Specialist, Canadian Nuclear Safety Commission (Canada)

14.00: NRC's Safety/Security Culture: This session describes how the US NRC has incorporated security into their safety culture policy with examples of security "findings" in NRC inspections that are binned with safety culture traits

Diane Sieracki, Senior Safety Culture Program Manager, US Nuclear Regulatory Commission (USA)

14.20: Issues and Challenges of Building Cyber DBT for Countries Embarking Nuclear Power Programme: Lessons Learned from Bangladesh

Dr Md. Dulal Hossain, Bangladesh Atomic Energy Commission (Bangladesh)

14.40: Changing Security Culture: A Working Perspective

Lisa Marshall, Senior Manager Organizational Design & Business Change, Ontario Power Generation (Canada)

Parallel session 4: Management System Implementation

13.15: Developing Talent and Proficiency

*Moderated by **Germaine Watts**, Intelligent Organizational Systems, Inc. (Canada)*

13.20: Multi-Level Organizational Optimization Using Predictive People Analytics: Using Propensity Management™ to Enhance the Resiliency, Adaptiveness, and Performance of Organizations

Germaine Watts, Laurie Comeau, Geri Canty, Intelligent Organizational Systems Inc. (Canada)

13.50: Remarks

Invited Speaker

14.05: Engineering Proficiency- Darlington Refurbishment Engineering, Ontario Power Generation

Kelly Reid, Rahul Nandi, Nienke Smith, Ontario Power Generation (Canada)

14.20: Discussion

14.35: Nuclear Leadership Development: This session will discuss the concept of nuclear leadership and how it can be developed. The areas include all the phases that need to be present for development including tools and ways to measure progress. The related community of practice website by the International Atomic Energy Agency, currently in trial, us will be used to support the presentation.

- **Pekka Pyy**, Senior Expert, Organization and Management Systems, International Atomic Energy Agency
- **Helen Rycraft**, Senior Safety Officer, International Atomic Energy Agency
- **Pam Duerden**, EHSS&Q Director, Magnox Limited (UK)

15.00 **Poster Session** and refreshment break

15.45 Parallel Sessions

Parallel session 1: Regulatory

15.45: Greater Than the Sum of Its Parts: The Energy Infrastructure Initiative (EII): Market conditions identical to those that gave rise to counterfeit consumer items and luxury goods are causing similar havoc to industrial products and construction materials. One thing that the majority of Intellectual Property Rights (IPR) holders and enforcement organizations all agree on is that there is an identified and ongoing need for enhanced cooperation and education amongst all stakeholders and intermediaries to ensure that the fight against such criminality and its effects becomes more cohesive and well informed. The U.S. Nuclear Regulatory Commission's (NRC), Office of Investigations (OI), the law enforcement arm of the agency, in collaboration with the U.S. Department of Homeland Security's National Intellectual Property Rights (IPR) Center, has launched the Energy Industry Initiative (EII). This presentation spotlights the EII, its operational concepts, its' benefits to its members, and the vision for its future.
Dan Pasquale, US Nuclear Regulatory Commission (USA)

16.15: Regulatory Oversight of Suppliers and Contractors: This session will present perspectives around oversight by regulators of licensees' suppliers and contractors, in particular for large projects (typically engineer, procure, construct service contracts) such as new build, major component replacement, large maintenance outages and decommissioning.
Moderator: ***Stuart Allen,*** *Supply Chain Regulation Lead, Office of Nuclear Regulation, Vendor Inspection Co-operation Working Group Chair (UK)*

16.30: Challenges in the Qualification of First of a Kind Equipment: This presentation will briefly cover the concept of equipment qualification (e.g. environmental, seismic, EMI/RFI, etc.) from a supplier perspective, and address some of the challenges a supplier might face in trying to qualify first of a kind equipment for nuclear safety-related applications.
Jeffrey Jacobson, Senior Vendor Inspector, Nuclear Regulatory Commission (USA

16.45: Contracting out Accountability
Paul Wong, Canadian Nuclear Safety Commission (Canada)

17.00: Discussion

Parallel session 2: Supply Chain

15.45: Practices and Developments for Nuclear Industry "Other Party" Accreditation and Certification: The ongoing publication of a new standard ISO19443 dedicated to the Quality management system of Nuclear Suppliers is a unique opportunity for the nuclear industry to benchmark "other party" accreditation & certification schemes which are in place in other industries.
***Moderator: Greg Kaser**, Senior Project Manager, World Nuclear Association (UK)*

- **Scott Klavon**, Director of Nadcap and Aerospace Industry, Performance Review Institute
- **Laurent Kueny**, Bureau Veritas (France)
- **Peter Vermaercke/Jan Van Looke**, BELAC (l'Organisme belge d'Accréditation/ de Belgische Accreditatie-instelling): An accreditation body's perspective (Belgium)
- **Dmitry Vashurkin**, Rosatom (Russia)

Session objectives:

- To learn about the advantages and opportunity for an 'other party' accreditation/certification program for the international nuclear supply chain
- To exchange views on making wider use of the ISO system in certifying suppliers for nuclear related procurement
- To develop an action plan for an initiative with a view to launching this at the World Nuclear Symposium (5-7 September 2018)

17.10: Joint Audit Programs - the Canadian Experience: This session will provide an overview of two joint audit programs offered by CANDU Owners Group (COG) and Nuclear Procurement Issues Corporation (NUPIC) that demonstrate how industry collaboration can reduce supply chain related costs while enhancing quality, consistency and robustness of audits. CANDU Procurement Audit Committee (CANPAC) and CANDU Industry Assessment Committee (CANIAC) are two joint audit programs under COG. CANPAC is a prime example of collaboration among CANDU utilities. The Program has successfully provided cost-effective supplier auditing service to its Participants for last 16 years. Joint audit program eliminates the need for utilities to individually conduct audits of the same supplier. Supplier also benefits from less business disruptions as a result of joint audit. The Program also help minimize risks of poor quality audits as a result of shortage of quality auditing capabilities in Canadian market. With proven success of CANPAC Program, COG launched CANIAC Program that offers joint auditing services to Tier 1/Tier 2 suppliers to audit their sub-suppliers. NUPIC is similar to COG CANPAC Program for U.S. nuclear utilities and several international utilities. CANPAC members can use CANPAC resources to fulfil their NUPIC commitments for NUPIC audits. This session is for you if you wish to hear more about these Programs and benefits of industry collaboration in nuclear supply chain area.
Sonia Qureshi, Director of Joint Projects and Services, CANDU Owners Group (Canada)

Parallel session 3: Security

15.45: Integration of Safety and Security (Discussion)
*Facilitated by **Helen Rycraft**, Senior Safety Officer, International Atomic Energy Agency (IAEA)*

Parallel session 4: Management System Implementation

15.45: Nuclear Leadership Development (continued)

16.15: Management System Implementation Lessons Learned from Emerging Nuclear Countries
Moderator: TBC

16.30: The PNRI Management Systems: Status and Challenges
Maria Ramiro, Head, Planning Section Philippine Nuclear Research Institute (Philippine)

16.45: Development of Management system in Ghana
Charles Klutse, Ghana Atomic Energy Commission (Ghana)

17.00: Integrated Management System Development for Jordan Research and Training Reactor (JRTR)
Ali Al-Asasfeh, Jordan Atomic Energy Commission (Jordan)

17.15: Discussion

17.30 Sessions conclude

19.00 Departure from Westin Hotel for dinner

19.30 **Official conference dinner** hosted by Bruce Power, at the Canadian Museum of History*

22.30 Return to Westin Hotel

Day 4: Thursday 19 July 2018

07.00 Registration opens

08.30 **Reportage from each Stream – Key Learnings**

09.00 **Remarks**
Mary Cianchetti, President Standards, CSA Group (Invited)

09.20 **Storyteller Series**
Charles Packer, President, Cherrystone Management Inc. (Canada)

10.05 Refreshment Break

10.45 **Parallel sessions**

Parallel session 1: Management System Implementation Lessons Learned
Moderator: TBC

11.00: A New Design Control Process and its Impact on the Management System
Mario Agadakis, Comisión Nacional de Energía Atómica (Argentina)

11.15: Experience from SKB developing a management system, finding the balance between process management and line management, in a strong line management culture with local culture
Pierre Arvidsson, Senior adviser – Quality development Swedish Nuclear Fuel and Waste Management Co (Sweden)

11.30: Comply company personnel with the process-based IMS to achieve the best of leadership oriented to safety: challenges, opportunities, solutions
Irina Florenta MARIN, PhD, Cernavoda Nuclear Power Plant (Romania)

11.45: Quality Management System for the SLOWPOKE-2 Facility of Polytechnique Montreal
Cornelia Chilian, Senior Research Scientist and SLOWPOKE-2 Reactor Manager and Director of the NAA Laboratory, Polytechnique Montreal (Canada)

12.00: What a nuclear new build could learn from anti money laundering establishment in a bank? A case study
Pawel Lotko, Independent Consultant (Poland)

12.15: Discussion

Parallel session 2: Human and Organizational Performance
*Moderator: **Suzanne Dolecki**, Senior Human Factors Specialist, Canadian Nuclear Safety Commission, Chair of the Working Group on Human and Organizational Performance (Canada)*

11.00: Role of EDF Corporate in Performance Improvement and leadership initiative
Hervé Maillart, Vice President, International Projects, Électricité de France (France)

11.15: HTO Considerations for Organizational Development - Creation of the Life Extension division
Mickael Davaze, Manager, Life Extension, Bruce Power (Canada)

11.30: Nuclear Knowledge Management in Vietnam
Trung Tinh Nguyen, Vietnam Agency for Radiation and Nuclear Safety (Vietnam)

11.45: Management of change at CNE Cernavoda
Ionut Zaharov, Cernavoda Nuclear Power Plant (Romania)

12.00: Canadian Standard on Psychological Health and Safety in the Workplace: Impact on safety/incidents
Sapna Mahajan, Director, Programme and Priorities, Mental Health Commission of Canada (Canada)

12.30: Discussion

Parallel session 3: Culture

Moderator: TBC

11.00: Improve the Safety Culture in Design Organization by Self-assessment
Xianglian He, Shanghai Nuclear Engineering Research and Design Institute (China)

11.15: Using a questionnaire to assess nuclear safety culture is efficient only under certain conditions
Valerie Lagrange, EDF (France)

11.30: Improving Safety Culture and Organizational Performance: Applying Science-Based Methodologies to "Wicked" Problems
Andrew Hegedus, Demosophia LLC (USA)

11.45: Quality Culture: Safety Culture in design and manufacturing organization
Ilya Gorokhov, Gidropress (Russia)

12.00: A Conceptual Model to Analyze the Impact of External Influences to the Development of Culture for Safety in Nuclear Organizations of Bangladesh.
Abid Imtiaz, Bangladesh Atomic Energy Commission (Bangladesh)

12.15: Discussion

Parallel session 4: Implementation of CSA N299 – Quality assurance program requirements

Moderated by **Mervah Khan***, Project Manager, Power Generation, CSA Group*

Quality assurance programs are critical in improving safety and efficiency in the nuclear power industry. The new suite of CSA N299 series of standards on Quality assurance program requirements for the supply of items and services for nuclear power plants, has revived the quality assurance requirements originally referenced in CSA Z299 and provides the nuclear industry with the

opportunity to update their requirements to reflect current practices. The CSA N299 series of Standards defines a consistent set of quality assurance program requirements for the provision of items and services for nuclear power plants. This session will provide details on the CSA N299 standards to engage the suppliers, vendors, and users impacted by the publication of this new suite of standards. The session will be focused on the background on the standard, implementation plans from utilities, and insights from a supplier panel.

Parallel session 5: Audit, Assessment and Effectiveness Reviews

Moderator: TBC

11.00: Running an Effective Internal Assessment Program
Ecaterina Clavel, Clavel Quality Consultants (Canada)

11.15: Why a successful Internal Auditor needs to be an effective Leader?
Herminia Roman, Senior Manager of Nuclear Oversight Engineering, Ontario Power Generation (Canada)

11.30: Using lean methodology to simplify and deliver value from the management effectiveness review process
Johane Lemay, Management Consultant, ITPGMP Consulting Inc. and **Susan Brissette**, Department Manager, Management System Bruce Power (Canada)

11.45: Reshaping Performance Indicators at Loviisa NPP.
Jukka Paivarinta, Fortum Power and Heat Oy (Finland)

12.00: Remarks
Speaker tbc

Parallel session 6: Specifications

Moderator: TBC

11.00: Why is it so difficult to achieve a Quality Product? A common issue that continues to plague the nuclear supply chain is the inability of suppliers to provide items that satisfy the requirements of the utilities. Items received often do not meet the expectations of the utilities. Rework can add to the cost and result in missed deadlines. Suppliers on the other hand express frustration with the requests they receive from utilities, finding them unclear and lacking information. There are several contributing factors to this issue that will be discussed; one of the main contributors is that the Technical Specification which forms the basis of the request is poorly written. This presentation explores the reasons why and offers practical solutions.
Richard W Barnes, M. Eng. Sc., P. Eng., FASME, President, ANRIC Enterprises (Canada)

11.20: Quality in the Supply Chain Management at Rosatom.
Dmitry Vashurkin and **Leonid Letchford**, ROSATOM State Atomic Energy Corporation (Russia)

11.40: Quality Specifications and Effective Vendor Oversight - Lessons Learned and Good Practices
Invited Speakers

12.00: Discussion

12.45 **Lunch and special guest speaker**

14.15 **Official conference conclusions**

Friday 20 July 2018 – Optional "Fringe Events"

Touristic/technical tours (additional fees apply)

* Option for accompanying person to register to attend, at a cost. Please indicate when registering for the conference

** Option for accompanying person to attend, at no cost. On site sign up.

Posters

Risk Management using Fuzzy Logic based Risk Matrix Analysis
Magdy Mahmoud Zaky Abdelaal, Egyptian Atomic Energy Authority (Egypt)

Development of Professionals for a Raw Characterization Laboratory: Challenges and Strategies
Yulia Balashevska, Ecocentre (Ukraine)

That which gets measured gets fixed
Gregor Cameron, Section Manager, Bruce Power (Canada)

Application of a Graded Approach on the Implementation of a Management System for ETRR-2 Research Reactor
Ayman A Eisa, Egyptian Atomic Energy Authority, (Egypt)

Development of a quality manual for radioisotope production plants
Yasser Ellethy, Egyptian Atomic Energy Authority (Egypt)

Use of the ISO conformity assessment (CASCO) toolbox in the nuclear energy field
Ignacio Manuel Guerreiro, National Atomic Energy Commission (Argentina)

An experience on Nuclear Personnel Certification System in Indonesia according to ISO-17024
Baskan Hanurajie, Center for Nuclear Standardization and Quality (Indonesia)

Integrating the knowledge management process into the corporate management system
Svitlana Kulchytska, Deputy director of Department of Nuclear Energy and Atomic Industry, Ministry of Energy and Coal Industry of Ukraine

Integrated Management System types for Nuclear Organizations, A Comparative Overview
Glenn McTaggart, Emirates Nuclear Energy Corporation (UAE)

Ontario Power Generation - Leaders Developing Leaders
R. Reyns and **Andrew Elnazir,** Ontario Power Generation (Canada)

Introducing Innovation management requirements in the nuclear sector
Julieta Sayan, Quality Assurance Analyst, National Commission of Atomic Energy (Argentina)

Application of a graded approach to continuously improve the CNSC Management System
Ananda Senathirajah, Canadian Nuclear Safety Commission (Canada)

The Harmonisation of Nuclear Safety and Security Culture and the responsibilities of the Management
Mate Solymosi, Somos Environmental Protection Ltd (Hungary) and **Susan Brissette**, Bruce Power (Canada)

Knowledge Management and Training for New Graduates: Exposure to Regulation and Management Systems
Gavin Steedman, Canadian Nuclear Safety Commission (Canada)

The issue of Quality Management in improving the Tunisian industrial participation in the first NPP
Chokri Zammali, Tunisian Electricity and Gas Company (NPP Project) (Tunisia)