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

Pre-Conference Sunday 15 July 2018 – Optional Fringe Events and Registration

Touristic Tours: Watch for more information about Touristic Tours on our website: www.mstf2018.org, and in communications to delegates

10.00 Stop by the Registration & Information Desk to say hello! Volunteers and members of the Organizing Committee will be in the area for most of the day, looking forward to meeting you and helping you settle in for the week. Note registration capability will only be available from 16:00h.

16.00 Registration & Information Desk Opens

If you want to beat the rush on Monday morning, or just get an extra 15 minutes of sleep, drop by the registration desk on Sunday to pick up your package and delegate badge so you are ready to start on Monday morning.

19.00 Registration & Information Desk Closes

21.30 Departure: Northern Lights: Sound and Light Show on Parliament Hill (no cost, optional, weather permitting) **

Sponsored by: **ES Fox** providing stadium blanket seats for your comfort (some chairs available). Please bring your blanket seat with you. Parliament is an easy 15 minute walk from the Westin. Meet at the conference registration desk.

Day 1 Monday 16 July 2018

07.00 Registration & Information Desk Opens

Hydrations Stations - Sponsored by: **Abraflex**

08.00 **Parallel sessions**

Learning Track 1: Human Technology Organization (additional fees may apply)
Helen Rycraft, Senior Safety Officer, International Atomic Energy Agency (IAEA)
Wendy Anyster, Director, Leadership Vine Ltd., (UK)

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, Board Nuclear Codes and Standards Member, 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 **Opening Remarks**
Greetings
Chief Kirby Whiteduck, Pikwakanagan First Nation

Smudging Ceremony
Remarks on Traditional Storytelling
Elder Dan Ross, Pikwakanagan First Nation

Welcome brunch *
Sponsored by: **Ontario Power Generation** and **Nuclear Waste Management Organization**

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

Learning Track 4: Counterfeit, Fraudulent and Suspect Items (CFSI) (additional fees may apply)
Roger Moerman, CFSI Consultant, 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, Management Consultant, 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: ***Andrei Goicea****, Executive Manager, FORATOM*

Adriènne Kelbie, Chief Executive, Office for 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 Refreshment Break

15.30 **Learning tracks continue**

17.30 **Welcome Reception****
Sponsored by: **Energy Solutions and Deloitte**

Join us for the opening cocktail, meet fellow delegates and exhibitors!

19.00 Registration & Information Desk Closes

21.30 Departure: Northern Lights: Sound and Light Show on Parliament Hill (no cost, optional, weather permitting) **

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Day 2: Tuesday 17 July 2018

07.00 Registration & Information Desk opens

Hydrations Stations - Sponsored by: **Abraflex**

07.15 **Women in Nuclear Networking Breakfast**
Sponsored by: **Canadian Nuclear Association**

Join WiN-Canada President / WiN-Global Vice President **Heather Kleb** to network with WiN peers.

08.00 Getting Started Morning Coffee
Sponsored by: **Canadian Nuclear Safety Commission**

08.30 **Plenary Session**
*Chair: **Yves Desbazeille**, Director General, European Atomic Forum (FORATOM)*

08.35: Opening Remarks and Introduction of Honorary Conference Chairperson

- **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, and President, Ontario Nuclear Innovation Institute (Canada)

08.55: Keynote Remarks from Honorary Chair - Perspectives After a Decade as Canada's Nuclear Watchdog
Dr. Michael Binder, President and Chief Executive Officer, Canadian Nuclear Safety Commission (Canada)

09.15: Working Together – Better
Adrièn 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, OECD Nuclear Energy Agency

10.15: Nuclear Energy in Argentina: A Strategic Vision on Leadership and Organization for a Sustainable Future / The CAREM 25 Project
Marcelo Salvatore, Director for Nuclear Technology Assessment, Ministry of Energy and Mining (Argentina)

10.35 Networking Break with refreshments
Sponsored by: **KCI Consultants**

11.05 **Plenary Session resumes**
*Chair: **Ramzi Jammal**, Executive Vice-President and Chief Regulatory Operations Officer, Regulatory Operations Branch, Canadian Nuclear Safety Commission (Canada)*

11.10: Vulnerability to Problematic Supply Chain Events and Endemic Shock Scenarios
Dr. Paul Colin Smith, Associate Director, Arup (UK)

11.30: Insights from Industry Leaders: 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.

- **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)

12.30 Lunch
Sponsored by: **Abraflex**

13.30 **Parallel Session 1 – Large Scale Change – Digital Transformation and Project Management**
*Chair: **Peter Elder**, Vice President Technical Support Branch and Chief Scientific Officer, Canadian Nuclear Safety Commission (Canada)*

13.45: Exelon's Digital Transformation Journey
Joan Knight, Director of Innovation, Exelon (USA)

14.05: Panel – A Journey of Innovation: 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 understand the basics of some emerging technology that will reshape how we manage everyday tasks in the nuclear industry.
*Moderator: **Sarah Shortreed**, CIO and Vice President, Information Technology, Bruce Power (Canada)*

- **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)

13.30 **Parallel Session 2 – Life Cycle Transitions – Safety and Culture Considerations**
*Chair: **Jan Van Looke**, Head of Integrated Management System, Belgoprocess and Chair, FORATOM Management System Working Group (Belgium)*

13.40: Management Problems and Challenges in a Nuclear Centre Closing Fuel Cycle Activities
Paulo Lainetti, Senior Technologist, 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, Management System Specialist, Canadian Nuclear Safety Commission (Canada)

14.10: Panel Discussion – Managing Transitions: 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.
*Moderator: **Angela Coulas**, Director, Management System, Canadian Nuclear Laboratories (Canada)*

- **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**, Head of Nuclear Audits, Nawah Quality Assurance Program Manager, Nawah Energy Company (UAE)

13.30 **Parallel Session 3 – Standards**

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

13.35: Presentation on CSA Group's Consensus Process

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

13.50: Quality and Management System Standards – What Should I Use?: 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 some of the most frequently used standards, their background, purpose, scope and applicability to help participants make informed decisions.

Moderator: Moderator: Patti L Wiggins, CPA, CMA, Management System Manager, Point Lepreau Nuclear Generating Station, New Brunswick Power Corporation (Canada)

- **Pekka Pyy,** Senior Expert, Organization & Management Systems - International Atomic Energy Agency (IAEA)
- **Laurent Kueny**, Vice President Nuclear Services, Bureau Veritas and Nuclear Quality Standard Association (France)
- **Ron Schrotke**, Chair, NQA-1 Main Committee
- **Ecaterina Clavel**, Clavel Quality Consultants (Canada)

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 Group Photo

15.15 Networking Break with refreshments
Sponsored by: **ScottMadden**

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 (Canada)

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 – Digital Transformation and Project Management**

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

16.05: 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)

16.20: Panel – Excellence in Project Management:
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, governance, benefits management and the critical interfaces with project management, the role of project managers, and the importance of defining project objectives.
*Moderator**: Guy Lembach,** Partner, Capital Projects, Deloitte (Canada)*

- **Hervé Maillart**, Vice President, International Projects, EDF (France)
- **Pierre Tremblay**, President/CEO Canada Nuclear Operations Inc., AECOM (Canada)

17.30: Discussion

15.45 **Parallel Session 2 – Life Cycle Transitions – Safety and Culture Considerations**
*Moderator: **Arie Boer**, Risk & IMS Manager, EPZ, The Netherlands*

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, Principal Consultant, and **Ward Metzler**, Principal, DuPont Sustainable Solutions (USA)

16.25: You Can Count On Me: Changing Behaviours Through Emotion: This presentation will provide you with insights on how to support leadership in shifting culture from compliance based to commitment based through affective communication and visual media.

Sarah Foster, Communications Specialist, Bruce Power (Canada)

16.40: Integrating a Common System in a Uncommon Culture, A Developing Case Study
Glenn McTaggart, Department Manager, Management System, Nawah Energy Company (UAE)

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

17.10: How Expensive Is Safety?
Natalia Amosova, Managing Partner, Apollo Plus (Switzerland)

17.30: Discussion

15.45 **Parallel Session 3 – Standards**

15.45: 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)

16.05: 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)

16.25: Crossing Borders: Introduction of US 10CFR50 Appendix B Compliant Quality Assurance Program at a European OEM
Dr. John Kickhofel, Managing Partner, Apollo Plus (Switzerland)

16.45: Cost-effective Compliance with Multiple International Nuclear Quality Standards: This presentation will highlight Sargent & Lundy's insight on the challenges of compliance with multiple international quality standards in a cost-effective manner. Sargent & Lundy is engaged in nuclear power project work for a wide array of international companies with their own prevailing codes and standards. The presentation will discuss various approaches toward fulfilling these requirements and focus on ways to optimize start-up time and allow staff to focus on the project's technical challenges in a manner that will meet or exceed the project's required quality standards. The presentation will also highlight the benefits of working with multiple international quality standards and the learning opportunity that this exposure provides. In summary, the presentation will demonstrate that being called on to implement multiple international quality standards is both a challenge and an opportunity
Randy Kurtz, Vice President, Quality Assurance Director, Sargent & Lundy (USA)

17.05: Canadian Standards Demystified: An Inside Look at CSA Nuclear Standards: 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 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*
  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. It also provides the nuclear industry with the opportunity to update their requirements to reflect current practices

Moderator: Mervah Khan, Project Manager, Power Generation, CSA Group (Canada)

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

17.30: Discussion

18.00 Sessions conclude

19.00 Registration & Information Desk Closes

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

Sponsored by: **Canadian Nuclear Safety Commission, ES FOX, FORATOM**, and **Bruce Power**

21.30 Departure: Northern Lights: Sound and Light Show on Parliament Hill (no cost, optional, weather permitting) **

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

Day 3: Wednesday 18 July 2018

07.00 Registration & Information Desk opens

Hydrations Stations - Sponsored by: **Abraflex**

08.00 Getting Started Morning Coffee
Sponsored by **BWXT**

08.30 **Plenary Session**
*Chair: **Frank Saunders**, Vice President, Nuclear Oversight & Regulatory Affairs, and President, Ontario Nuclear Innovation Institute (Canada)*

08.35: Keynote Remarks by **Rumina Velshi, P.Eng.,** Commission Member, Canadian Nuclear Safety Commission (Canada)

08.55: Keynote Remarks by **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 (Canada)*

- **Michael Rencheck**, President and Chief Executive Officer, Bruce Power (Canada)
- **Kathy McCarthy**, Vice President of Research and Development, Canadian Nuclear Laboratories (Canada)
- **Robert Fletcher**, President Civil Nuclear, Rolls Royce (UK)

10.00 Refreshment break with **POSTER SESSION**
Sponsored by: **Ontario Power Generation**

10.45 **Parallel Sessions**

Parallel session 1: Regulatory
*Chair: **Greg Lamarre**, Director General, Safety Management Directorate, Canadian Nuclear Safety Commission (Canada)*

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: This session will present perspectives from regulators on the challenges and good practices of providing oversight of licensee management systems and/or quality management/assurance programs.
*Moderator: **Pierre Lahaie**, Director, Management System Division, Canadian Nuclear Safety Commission (Canada)*

11.15: Technical Assessments of Licensee's Management System Documentation - a Canadian Regulatory Perspective
Dan Papaz, Management System Specialist, Canadian Nuclear Safety Commission (Canada)

11.30: Regulatory Oversight of Management Review
Kuen Sia, Management System Specialist, Canadian Nuclear Safety Commission (Canada)

11.45: Remarks
Jeffrey Jacobson, Senior Vendor Inspector, U.S. Nuclear Regulatory Commission (USA)

12.00: 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 (South Korea)
- **Leonid Letchford**, Head of Quality Department, Rosatom (Russia)
- **Darryl Spector**, President, Promation Nuclear (Canada)

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 session 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: The calculation of an accurate and realistic cyber risk profile has become a challenge due to the complexity in determining both the vulnerabilities in highly integrated digital I&C systems (plant, physical, transport, etc.) and the anticipated attributes and characteristics a threat actor will use in attacking nuclear operations. This session will explore results from tactical cyber security assessments, actual investigation findings and new ideas for 'kill chain' modelling to see what tools, techniques and procedures the modern adversary is expected to develop. This information can then be used by the stakeholder to develop accurate and effective cyber security measures to deter, detect, delay and respond to cyber events.
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

Maria Lovely Umayam, Research Analyst and Project Manager, Stimson Center (USA)

12.00: Discussion

Parallel session 4: Management System Implementation

*Chair: **Peter Vermaercke**, IMS Manager, SCK•CEN, Belgian Nuclear Research Centre (Belgium)*

This session will address emerging trends, best practices and lessons on implementation of management systems with respect to integration of processes, risk management, performance and use of assessments and continuous improvement. There will be additional breakout sessions on leadership and proficiency, and on culture.

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 systems. 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, IMS Manager, SCK•CEN, Belgian Nuclear Research Centre (Belgium)

11.35: Journey Towards an Integrated Management System
Colin Ellam, Organisational Effectiveness Director, 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, Coordinator, Control of the Organization and Continuous Improvement, ONDRAF/NIRAS (Belgium)

12.15 Lunch
Sponsored by: **Deloitte**

13.20 **Parallel Sessions**

Parallel session 1: Regulatory

Effective Management Systems for Regulatory Bodies: 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.
Moderator: ***Laura Talbot Allan,*** *President TACG Consulting (Canada)*

13.35: From a Quality Management Based on ISO Standards to a Management System Based on IAEA Requirements Annick Deltenre, Information Officer, Federal Agency for Nuclear Control (Belgium)

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

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

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

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

14.50: 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., Head of Quality Assurance, Eletronuclear (Brazil)

13.35: Kinectrics Error-free Operation Through Use of Human Performance Tools
Deanna Lopez, Human Performance Manager, Kinectrics Inc. (Canada)

13.50: Quality & Safety Culture through Leadership and Personal Accountability
Terry Armstrong, Vice-President Nuclear, ES Fox (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 (US)

14.35: 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, Director Corporate Services & CFO, CANDU Owners Group (Canada)

Parallel session 3: Topics in Physical and Cyber Security

13.20: Safety and Security Integration – Key Topics

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

13.45: A Regulatory Document on Safety Culture, Inclusive of Security Culture
Tanya Hewitt, Human and Organizational Performance Specialist, Canadian Nuclear Safety Commission (Canada)

14.05: U.S. NRC: Safety and Security – Policy and Oversight: 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)

14.25: Issues and Challenges of Building Cyber DBT for Countries Embarking Nuclear Power Programme: Lessons Learned from Bangladesh
Dr Md. Dulal Hossain, Chief Engineer, Bangladesh Atomic Energy Commission (Bangladesh)

14.45: Discussion

Parallel session 4: Management System Implementation - Breakout 1 - Leadership
*Moderator: **Germaine Watts**, Partner and CEO, 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, Partner and CEO, **Laurie Comeau, Geri Canty,** Intelligent Organizational Systems Inc. (Canada)

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

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

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 (IAEA)
- **Pam Duerden**, EHSS&Q Director, Magnox Limited (UK)
- **Wendy Anyster**, Director, Leadership Vine Ltd., (UK)

Parallel session 4: Management System Implementation - Breakout 2 – Assessments of Culture

*Moderator: **Phil Smith**, Project Manager, Nuclear Safety & Environmental Affairs, Candu Owner's Group (Canada)*

13.30: Improve the Safety Culture in Design Organization by Self-assessment

Xianglian He, Deputy Director of Department of Quality and Safety Management, Shanghai Nuclear Engineering Research and Design Institute (China)

13.45: Using a Questionnaire to Assess Nuclear Safety Culture is Efficient only under Certain Conditions

Valerie Lagrange, Nuclear Safety Management & Human Factor Advisor, EDF (France)

14.00: Improving Safety Culture and Organizational Performance: Applying Science-Based Methodologies to "Wicked" Problems

Andrew Hegedus, Founder/President, Demosophia LLC (USA)

14.15: Quality Culture: Safety Culture in design and manufacturing organization

Ilya Gorokhov, Chief specialist on quality and safety culture, OKB "GIDROPRESS" (Enterprise of ROSATOM, Russia)

14.30: A Conceptual Model to Analyze the Impact of External Influences to the Development of Culture for Safety in Nuclear Organizations of Bangladesh.

Abid Imtiaz, Chief Scientific Officer, Bangladesh Atomic Energy Commission (Bangladesh)

14.45: CNSC Regulatory Safety Oversight Culture

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

15.00 Networking Break with refreshments

15.35 Parallel Sessions

Parallel session 1: Regulatory

15.40: 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, Senior Reactor Systems Engineer, US Nuclear Regulatory Commission (USA)

16.00: Supply Chain – Key Issues – Regulatory Perspective: 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**, Professional Lead, Human and Organisational Capability, Office of Nuclear Regulation, Vendor Inspection Co-operation Working Group Chair (UK)*

16.15: 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)

16.30: Contracting out Accountability
Paul Wong, Management System Specialist, Canadian Nuclear Safety Commission (Canada)

16.45: Discussion

Parallel session 2: Supply Chain

15.40: 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 (USA)
- **Laurent Kueny**, Vice President Group Strategy, Bureau Veritas (France)
- **Jan Van Looke**, Head of Integrated Management System, Belgoprocess and Chair, FORATOM Management System Working Group (Belgium)
- **Dmitry Vashurkin**, Deputy Head of Quality Directorate, Rosatom (Russia)

- **Hervé Maillart**, Vice President, International Projects, EDF (France)

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)

17.00: 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 helps 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: Topics in Physical and Cyber Security

15.40: Socio-Technical System Wholeness: A Theoretical Model Applied to Nuclear and Radiological Security Programs: Researchers and practitioners continue to study the causes of high-consequence failures in complex socio-technical systems. Analyses focusing on linear causal pathways are common when considering vulnerabilities in nuclear and radiological security programs. These linear pathways typically focus on individual human error or technical system malfunctions. A new model is proposed using an integral approach that describes vulnerability from a systemic wholeness perspective. The presentation is a description of the main points of the wholeness model and provides examples of characteristic patterns of concern.
Dr. William J. Toth, Group Leader, Threat Reduction Initiatives Group, Oak Ridge National Laboratory (USA)

16.00: Establishing an Effective Cyber Security Program: Leveraging Cyber Risk Intelligence and Leading Practices: Cyber threats are real. In recent years, cyberattacks have become increasingly coordinated and sophisticated, with cyber criminals targeting specific organizations, regions and customers and third party vendors/suppliers as a means to gaining access to an organization's crown jewels. To prevent potential financial, reputational and operational damage, organizations must adopt a comprehensive approach to cyber risk mitigation through a comprehensive view of people, processes and technology. Board and executive awareness of an organization's cyber security risk profile needs to be enhanced. This presentation will discuss

programmatic approaches and leading practices organizations can leverage to establish an effective cyber security program.
Kent Schramm, Director, Cyber Risk Services, Deloitte (Canada)

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

Parallel session 4: Management System Implementation

15.40: Comply Company Personnel with the Process-based IMS to Achieve the Best of Leadership Oriented to Safety: Challenges, Opportunities, Solutions
Irina Florenta Marin, PhD, Head of Management System Department, Cernavoda Nuclear Power Plant (Romania)

15.55: Management System Implementation Lessons Learned from Emerging Nuclear Countries
*Moderator: **Nawal Chishty, P. Eng.,** Senior Advisor, Stakeholder Relations, Ontario Power Generation (Canada)*

- **16.10: The PNRI Management Systems: Status and Challenges - Maria Ramiro**, Head, Planning Section Philippine Nuclear Research Institute (Philippine)
- **16.25: Development of Management system in Ghana - Charles Klutse**, Research Scientist, Ghana Atomic Energy Commission (Ghana)
- **16.40: Integrated Management System Development for Jordan Research and Training Reactor (JRTR) - Ali Al-Asasfeh**, Quality Director, Jordan Atomic Energy Commission (Jordan)
- **16.55: Discussion**

17.20 Sessions conclude

17.30 Registration & Information Desk Closes

18.15 Shuttle Service - Departure from Westin Hotel for dinner – please remember your dinner ticket!
Buses (supplied by 417 Bus Lines – look for the yellow school bus) will depart from the main entrance of the Westin Hotel beginning at 18.15 to take you to the Conference Dinner at the Museum of History in Gatineau, Quebec, hosted by Bruce Power. The last bus will leave for the Museum at 19.00. The journey takes approximately 10 minutes.

Please gather in the lobby of the Westin hotel and have your dinner ticket with you.

19.00 **Canadian Experience Dinner** at the Canadian Museum of History * in Quebec
Dinner sponsored by: **Bruce Power**
Entertainment sponsored by: **AECOM**

Dress code: Wear what makes you happy; denim acceptable

21.45 Shuttle Service - Return to Westin Hotel and Novotel Hotel
Buses will be available at the Museum for return to the Novotel and Westin Hotel beginning at 21.45. The last bus will depart at 22.30, if required.

Day 4: Thursday 19 July 2018

08.00 Registration & Information Desk opens

Hydrations Stations - Sponsored by: **Abraflex**

08.00 Getting Started Morning Coffee
Sponsored by: **ScottMadden**

08.30 **Plenary Session**
*Chair: **Pekka Pyy**, Senior Expert, Organization and Management Systems, International Atomic Energy Agency (IAEA)*

08.35: Report from each Parallel Session Chair – Key Learnings

09.00: How Standards Make a Difference: a Discussion: Standards have an enormous impact on safety, the environment, the global economy and can help foster the wider acceptance and adoption of new or innovative technologies. The value of any standard increases when industry, academia, governments, regulators, and consumers all have an opportunity to participate in its creation and continued development. In this discussion, CSA Group's President of Standards, Mary Cianchetti, will shed light on how standards are designed to be interconnected to benefit multiple industries and shares why the collaboration and participation of people from all walks of life are critical in addressing current and future challenges facing the world around us.
Mary Cianchetti, President Standards, CSA Group (Canada)

09.20: Storyteller Series - Beowulf and the Dark Side of the Golden Hoard: The session will remind us that we came to the Conference entirely for the sake of stories: to hear stories from the platform, to exchange stories in discussion and, most critically, to leave with some of our self-narratives adjusted and re-written. It will use the Old English poem Beowulf to trace the archetypal journey of self and cultural identity through Beowulf's encounters in the known and unknown worlds, and will finish with the question "What is the dark side of our golden hoard?"
Charles Packer, President, Cherrystone Management Inc. (Canada)

10.00 Networking break with Refreshments

10.30 **Parallel sessions**
To help us plan, please sign up for your intended session, during the conference. There will be sign-up sheets. Some sessions will showcase additional presentations, but the discussion is intended to be general, covering topics that were addressed throughout the entire conference.

Is there a topic on focus that you think is missing and merits a discussion? Come and talk to the organizing committee members during the conference. We can't guarantee a special session, but we can connect you with the moderator of the most likely session related to your topic area, and try to gauge the broader group interest in the topic.

Parallel session 1: Management System Implementation Lessons Learned
*Chair: **Irina Florenta Marin, PhD,** Head of Management System Department, Cernavoda Nuclear Power Plant (Romania)*

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

11.00: 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, SKB (Sweden)

11.15: 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)

11.30: What a Nuclear New Build could Learn from Anti Money Laundering establishment in a Bank? A Case Study
Pawel Lotko, Independent Consultant (Poland)

11.45: Discussion

Parallel session 2: Human and Organizational Performance

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

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

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

11.15: Management of Change at CNE Cernavoda
Ionut Zaharov, Senior Engineer, S.N. Nuclearelectrica S.A. - Cernavoda Nuclear Power Plant (Romania)

11.30: Expanding our Notion of Health and Safety: Leveraging Innovative Solutions to Impact Safety and Incidents
Sapna Mahajan, Director, Programme and Priorities, Mental Health Commission of Canada (Canada)

11.45: Discussion

Parallel session 3: Performance Monitoring, Audit, Assessment and Effectiveness Reviews

*Chair: **Macit Cobanoglu**, Manager Supplier Participant Program, CANDU Owners Group (Canada)*

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

11.00: Why a Successful Internal Auditor Needs to be an Effective Leader?
Herminia Roman, Senior Manager of Nuclear Oversight Engineering, Ontario Power Generation (Canada)

11.15: 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)

11.30: Reshaping Performance Indicators at Loviisa NPP.
Jukka Paivarinta, Head of People and Performance, Fortum Power and Heat Oy (Finland)

11.45: Discussion

Parallel session 4: Implementation of CSA N299 – Quality Assurance Program Requirements

Chair: **Mervah Khan***, Project Manager, Power Generation, CSA Group (Canada)*

- **Craig Sellers**, CSA N299 TSC Chair (Canada)
- **Ken Barley**, Manager, Supply Chain Quality Services, Bruce Power (Canada)
- **Nancy Boraso**, Global Director, Nuclear Quality Assurance, Hatch Ltd. (Canada)
- **Dan Rusnac**, Corporate Q.A. Manager, E.S. Fox Ltd. (Canada)
- **Tracy Mason**, Director, Corporate Quality Assurance, Black & McDonald Limited (Canada)
- **Dorina Fleites**, Quality Assurance Manager, Power Generation Region, Black & McDonald Limited (Canada)

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 experiences and lessons learned from vendors who have transitioned to CSA N299 highlighting key issues such as audit program, CFSI, and safety culture.

Parallel session 5: Specifications

Chair: ***Rodney Whitley****, Director, Quality Management & Nuclear Safety – CB&I Project Services Group (USA)*

10.45: 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)

11.05: Quality in the Supply Chain Management at Rosatom.
Dmitry Vashurkin Deputy Head of Quality Directorate, and **Leonid Letchford**, Head of Quality Department, ROSATOM State Atomic Energy Corporation (Russia)

11.25: Quality Specifications and Effective Vendor Oversight - Lessons Learned and Good Practices: As plant owners contract out more of the work that traditionally has been done in house, and allows the Vendor Partners to use their own processes and procedures in providing services to the Owners, it becomes critical for Owners to articulate their requirements and expectations in a way that Vendors can understand and easily address. As Owner's, we tend to specify that the Vendor procedures to be used must "Meet or Exceed" our procedures, which doesn't give useful guidance to Vendors. This workshop discussion will explore the best ways for Owners to specify their requirements in a way that Vendor Partners can easily understand and meet them **Chris Elliott,** MCR Oversight & Regulatory Support Manager, Bruce Power (Canada)

11.45: Discussion

Parallel session 6: Supply Chain Effectiveness – Contract Lifecycle Management

*Chair: **Mark Woods**, National Utility Supply Chain Leader, Deloitte (Canada)*

10.30: Leveraging Category Management & Contract Management to improve Nuclear Supply Chain Effectiveness & Responsiveness: Understanding how to create value across supply chain involves a comprehensive review of how to create commercial leverage while ensuring materials and services are available on time, at the right place and are on spec to drive greater efficiencies, lower downtime and improved equipment ownership costs. Although not at the front of mind of many power producers, Contract Lifecycle Management is essential to ensuring the realization of value generated by Category Management and Strategic Sourcing. The management of contract informs decision-making, improves effective supplier management and reduces contract leakage. By the end of this session, participants will have knowledge on different approaches that the utilities can take to embark on the category management and contract management and able to articulate the key benefits that such approaches can produce for the utility bottom line while improving safety.
Mark Woods, National Utility Supply Chain Leader, Deloitte (Canada)

Parallel session 7: Innovation Roundtable

*Chair: **Frank Saunders,** Vice President, Nuclear Oversight & Regulatory Affairs, and President, Ontario Nuclear Innovation Institute (Canada)*

10.30: A key theme of the conference is innovation and digital transformation. This round table provides the opportunity to bring together leaders to share collective expertise and knowledge in advancing nuclear applications and technologies through innovation. Nuclear innovation requires industry wide collaboration. This roundtable will explore collaborative opportunities in the areas of:

- Artificial intelligence and cyber security
- Medical and industrial isotopes
- Heath and environmental excellence
- Economic development for underrepresented demographics such as indigenous peoples
- Advancements in operational excellence in nuclear

Parallel session 8: Security, Risk, Resilience, and Business Continuity
Chair: ***Lisa McBride (Marshall),*** *Senior Manager, Organizational Design & Business Change Centre of Excellence, Ontario Power Generation (Canada)*

10.30: This session will explore in greater detail some of the concepts presented earlier in the conference, and provide participants with the opportunity to share experience, discuss best practices, and identify areas where greater collaboration or industry guidance could be beneficial.

10.50: A Taxonomy of Shock Scenarios
Dr. Paul Colin Smith, Associate Director, Arup (UK)

11.10: Discussion

12.40 **Lunch**
Sponsored by: **Hatch and Canadian Nuclear Safety Commission**

13.30 **Remarks**

13.55 **Closing remarks**
Jan Van Looke, Head of Integrated Management System, Belgoprocess and Chair, FORATOM Management System Working Group (Belgium)

14.15 **Official conference conclusions**

15.00 Registration & Information Desk Closes

Friday 20 July 2018 – Optional "Fringe Events"

Touristic 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

Development of Professionals for a Raw Characterization Laboratory: Challenges and Strategies
Yulia Balashevska, Head of Laboratory, 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, Associate Professor, Egyptian Atomic Energy Authority, (Egypt)

Development of a Quality Manual for Radioisotope Production Plants
Yasser Ellethy, RPF Manager, Egyptian Atomic Energy Authority (Egypt)

Integrated Management System Types for Nuclear Organizations, A Comparative Overview
Glenn McTaggart, Department Manager, Management System, Nawah Energy Company (UAE)

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

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)

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, Olga Aksentyeva and Erik Menna, Canadian Nuclear Safety Commission (Canada)

Exhibitors

ASME
Canadian Nuclear Safety Commission
CSA Group
FORATOM
Nuclear Waste Management Organization
Ontario Power Generation