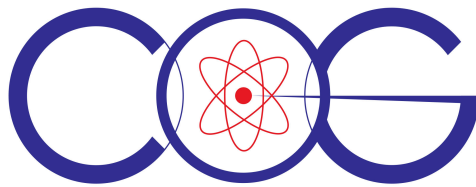


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CANDU Owners Group Inc.



*"Excellence Through Collaboration"*

## March Collaboration Update

**Dear COG members, participants and partners:**

One of the themes that came up time and again at last week's sold out Canadian Nuclear Association conference was the critical importance of collaboration. Utility helping utility, province helping province; collaboration across the supply chain, and across international jurisdictions. The nuclear industry thrives when we work together.

It's why COG was created 40 years ago. There was an issue at the Pickering facility when a pressure tube developed a split. The reactor was safely shutdown and the root cause was determined to be a mis-location of the annulus gas spacer springs. This led to significant learnings for the industry and drove the formation of COG, with the mandate of fostering excellence through collaboration for the CANDU industry. Since then, through pooled funding and shared learning we have helped our members achieve record-breaking operations and billions of dollars in savings, by working together to help one another succeed.

Fast forward to the present, and we are a global organization delivering numerous programs and services along with hundreds of projects each year, with members in six countries and partnerships with key organizations such as the IAEA, EPRI and NEA. And just as COG has, the definition of collaboration has evolved over time. Today, our mandate includes both CANDU and advanced nuclear technologies. We are expanding to ensure we can support member collaboration across a wider range of priorities, including SMRs, new large-scale reactors, and technological advancements to benefit the existing fleet.



Our focus as we look to the future is three-fold. First, the continued success of the CANDU fleet, including refurbishment projects. We are ensuring COG is sustainable and innovative so we can support another 40 years of CANDU operations. Second, new builds and the global expansion of nuclear power. Canada and countries around the world have committed to tripling nuclear power in the coming years to address climate change and strengthen energy security, and COG has a key role to play in driving strategic alignment across our membership while leveraging our unique collaboration model for new technologies. And finally, people and partnerships. Meeting our

industry and global goals is all about people. Ensuring there's a strong talent pipeline that is poised and ready to lead; bringing together talented people across organizations and borders to share learnings and best practices and help our industry prosper – it's what drives our efforts and enthusiasm each and every day.

Our team returned from Ottawa energized and inspired from the opportunity to connect with so many in our nuclear community. Our shared vision of a clean energy future is the core of continued collaboration – and success.

Rachna Clavero,  
President and CEO

## Save the Date: 17th COG/IAEA TCM

### 17th COG/IAEA Technical Committee Meeting



## Save the Date: October 21-25, 2024

Hosted by World Association of Nuclear Operators  
(WANO) in **London, England**

**Who should attend:** All CANDU industry members are welcome to participate.

**Why attend:** Collaborate in-person with international colleagues to develop solutions and exchange best practices on:

**POST REFURBISHMENT AND LONG TERM OPERATIONS**

**While in London you won't want to miss...**

Oct 24-25 **Fundamentals for Operational Excellence at NPPs Workshop**

Oct 24-25 **C6 Fleet Meeting**

**For more information, please contact:**

**TCM:** Mark Skuce [mark.skuce@candu.org](mailto:mark.skuce@candu.org)

**NPPs Workshop:** Rick Manners [rick.manners@candu.org](mailto:rick.manners@candu.org)

**C6 Fleet Meeting:** Nidhi Gaudani [nidhi.gaudani@candu.org](mailto:nidhi.gaudani@candu.org)

**REGISTER HERE:**

<https://site.pheedloop.com/event/COGTCM/home>



## Innovating Outages

Managing nuclear plant outages has been compared to being on an auto racing pit crew. To be successful, both require pace, efficiency, teamwork, effective diagnostics and strategy, and most importantly, a focus on safety. And both teams recognize that their efforts can have a material impact on performance.

To that end, from January 16-17, COG hosted a workshop focused on "Achieving Innovation in Outage Reduction." The workshop brought together experts from COG member utilities and industry to exchange best practices, address challenges and develop strategic approaches that will shape the future of outage reduction in the nuclear sector. The group shared insights on a wide range of topics including risk-informed methods, AI applications,

outage maintenance, outage scope optimization, outage planning, outage work performance, and outage scope change management.

The workshop concluded with a moderated panel discussion on the path forward needed to advance a common vision, set strategic goals, and further align on current and future focus areas. In the race against climate change, this crew is focused on continuous improvement and working together to optimize outage planning and delivery.



### Here's what participants had to say about the benefits of industry collaboration on outage reduction:

*"Coming to COG {for this workshop} is good because it brings the CANDUs together. And we all know different things. We have some improvements we've made {at Bruce Power} through our 30-Day Outage initiative that are different than what Darlington has done with their D4F initiative. So we can learn from each other in regards to what we are doing to improve. I think it's important even though our technology is slightly different that we align on our approach, be successful together and learning through {the} gains or challenges each one of us has in order to be successful collectively as a group."*

Trevor Beck, Bruce Power

*"While systems may be different, there are a lot of {outage-related} activities in common, for example dealing with piping, concrete or passive systems. So, it is good to understand what is happening in Canada, communicate what is happening in the US, and determine if there are any tools or solutions, we can share with one another."*

Diego Mandelli, Idaho National Laboratory (INL)

*"We will be running our nuclear fleets for many years to come. If we can optimize our outages after refurbishment, it would be very beneficial for the financial performance of our fleets. It is good for all stakeholders that we are as efficient as possible."*

Michael Khelawan, OPG

*"We're providing a lot of R&D support for utilities in this area, in particular in the use of Artificial Intelligence for online monitoring and other new technologies. It's really good to hear from the utilities on their needs and objectives."*

Salim El Bouzidi, CNL

## COG R&D Fuel Channel Seminar

The 15th COG R&D Fuel Channel Seminar will be held from May 7-9, 2024, at the Ajax Convention Centre. This is a bi-annual event, last held in 2022. The 2024 theme is **"Novel Evaluation Methodologies for Addressing New Challenges in Pressure Tube and Spacer Integrity."** The event will feature presentations and updates from industry experts exploring various technical areas including hydrogen and deuterium concentration, crack initiation and growth assessment in pressure tubes, core evaluations, and spacer integrity.

We hope you can join us! Registration link is [HERE](#).



## SNN Secondment

On February 1, Paul Serban joined COG on a six month secondment from SNN Cernavoda in Romania as part of the Information Exchange Line of Business.

Paul brings many years of experience from Cernavoda, with previous roles including CNE Operations Engineer and Commissioning Engineer. In his current role as System Responsible Engineer – HVAC, he is accountable for improving and increasing the reliability of HVAC systems, developing work plans, issuing system health reports, developing and revising maintenance reports and coordinating complex station activities.



## COG's CANDU Industry Audit Committee (CANIAC) Program - Saving Resources, Strengthening Quality Assurance and Compliance

Facilitating effective and efficient joint quality assurance audits benefits the CANDU industry by minimizing total audits while fostering excellence across the supply chain. To that end, COG's CANIAC program has been endorsed by COG members for its ability to ensure standardized and credible audit reports. The program promotes efficiency by enabling suppliers to share resources and audit costs, while reducing the burden of multiple audits on sub-suppliers. Sometimes less really is more!

In February, program participants came together at the COG office for the CANIAC Annual General Meeting. Over 50 representatives from participating organizations were in attendance to review program activities from 2023, discuss upcoming changes for 2024, foster collaboration and exchange ideas in support of continuous program improvement.



## Hear from CANIAC program participants on the program's value:

*“Our (Hatch) reliance on CANIAC is twofold: first, to streamline our supplier auditing process, eliminating redundancy and costs associated with duplicate audits; second, to foster collaboration among members. The Annual General Meetings (AGMs) and Steering Committee Meetings serve as excellent platforms for discussing supplier issues and challenges. It’s a rewarding experience to work alongside fellow members, promoting auditing services to adhere to the highest industry performance standards, enhance effectiveness, and optimize supply chain management.”*

Thomas Kurien, HATCH, Head of CANIAC Steering Committee

*“The nuclear industry is a small one. {Through CANIAC we can} work together as industry suppliers to promote excellence in our supplier base and highlight and promote excellent suppliers. {For} Kinectrics, having the opportunity to use such suppliers helps us achieve our business objectives.”*

Justin Hubbard, Kinectrics

*“It’s great to see the entire supplier base in the nuclear industry, especially in Ontario, Canada come together with all the same challenges, wanting to work together to resolve them in the same way. I think the collaboration is excellent. We all want to share audits and appreciate that CANIAC is leading the way.”*

Thelma Richard, BWXT NEC

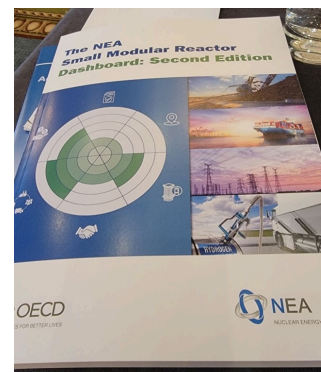
## Supporting SMRs



In February, COG participated in a number of events related to SMR advancement.

On February 27, COG participated in the **Pan-Canadian Small Modular Reactors (SMRs) and Advanced Reactors (ARs) Research and Development Workshop** hosted by AECL.

The workshop brought together stakeholders from government, industry, and academia to assess the opportunities and barriers to the deployment and operation of SMRs and ARs. COG’s Carlos Lorencez moderated a panel to obtain insights and perspectives from SMR Vendors on the research programs and initiatives in government, industry, and academia relevant to their technologies, and to identify gaps and opportunities for future collaborative research to ensure the future deployment of SMRs and ARs.



Also on February 27, Rachna Clavero delivered opening remarks at an international workshop aimed at advancing SMRs in Canada and globally to decarbonize energy systems and other key infrastructure. **Accelerating SMRs for Net Zero: NEA International Workshop on the Economics of SMRs** brought together innovators and experts to share insights and address challenges for the successful deployment of SMRs.

Rachna highlighted that collaboration will be essential in enabling Canada to be a leading contributor to the successful rollout of SMRs. She provided an overview of the pan-Canadian approach, modelled from the successful deployment of CANDU technology, and shared the progress to date on Canada’s three stream strategy for SMRs, which is being undertaken collectively by Bruce Power, NB Power, OPG and SaskPower. The event marked the release of the new edition of the NEA SMR Dashboard, which provides a comprehensive assessment on the status of 56 SMR designers and companies worldwide, an important resource for the industry which can be [downloaded here](#).



And last but not least, in partnership with OPG, COG organized a workshop focused on **Risk-Informed Nuclear Emergency Planning Basis for Small Modular Reactors (SMRs) and Other New Technologies (ONTs)**.

Workshop participants reviewed the nuclear emergency planning framework in Canada, including the roles and

responsibilities of nuclear power plant operators, the CNSC, and other Federal and Provincial agencies, as well as methodologies for establishing the extent of the Emergency Planning Zone (EPZ) that protects the public from radiological consequences of postulated accidents. Risk-informed approaches may be adopted to ascertain the size of the EPZ commensurate with the risks associated with SMRs that employ advanced design safety features. Attendees included representatives from the CNSC, Health Canada, Emergency Management Ontario, New Brunswick Emergency Measures Organization, NB Power, OPG, Bruce Power, McMaster University, SaskPower, Saskatchewan Public Safety Agency, Kinectrics, and CNL. Thank you to Robin Manley for facilitating.

## COG Member and Partner Updates



**NB Power and OPG's Successful Partnership:** Expertise from Ontario Power Generation showing results at Point Lepreau: NB Power



**Register for the CNS Conference** taking place June 16-19, 2024, hosted by SaskPower. The conference theme is "Pathways to Securing a Clean Energy Future."



**Natural Resources Canada announces funding** to support Ontario's clean energy future through pre-development work of the Bruce C Project.



**AtkinsRéalis launches Canadians for CANDU.** Their mission is to secure Canada's clean energy future through the adoption of CANDU® technology.



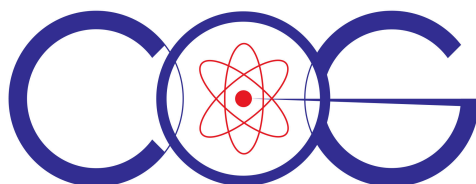
**Calian Strengthens Nuclear Capability** with Acquisition of MDA Ltd. Nuclear Assets.

## Stay up-to-date on COG News and Information

- COG has a YouTube channel – [watch our videos](#).
- [Follow us](#) on LinkedIn for weekly news and updates.
- Visit [COGonline.org](#), our one-stop collaboration tool and information access portal with more than 45,000 OPEX data entries, a calendar of events, and a workspace for peer teams, forums and committees.



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