



From left: Woo Sang Lee, KHNP, Mark Knutson, OPG, Fred Dermarkar, COG, Min-Chul Kim, KHNP and Sorin Ghelbereu, SNN Romania at the 15th COG-IAEA Technical Committee Meeting in November.

Strengthening safety culture

15th COG-IAEA TCM highlighted safety success stories from across the nuclear industry and showed how continuous improvement has helped COG member plants enhance performance

The global CANDU fleet's commitment to safety excellence comes in many forms.

Those diverse strategies and initiatives were on display at the CANDU Owners Group (COG)-International Atomic Energy Agency (IAEA) Technical Committee Meeting (TCM) hosted by Korea Hydro & Nuclear Power (KHNP) in early November.

With nearly 90 attendees participating from eight different countries, several of the 45 presentations delivered at the meeting touched on projects, initiatives and approaches being employed by COG and industry members to strengthen safety culture and enhance operational performance at CANDU plants worldwide.

"This year's slate of TCM presentations reinforced the CANDU industry's continued commitment to safety culture, continuous improvement and human performance," says COG Information Exchange Director John Sowagi, who spoke at the meeting. "From learning about KHNP's company-wide focus on safety culture, to Ontario Power Generation's (OPG) Asset Management Improvement Initiative, to Societatea Nationala Nuclearelectrica (SNN) Romania's successful Preventive Maintenance Optimization Program – TCM attendees brought home tangible examples of safety activities supporting and strengthening plant performance."

Other safety-focused initiatives discussed at TCM included:

- KHNP's use of artificial intelligence, big data and machine learning to predict and diagnose equipment failures;
- Enhanced flux mapping methodology employed by Nucleoeléctrica Argentina Sociedad Anónima's (NA-SA) Embalse Nuclear Plant to improve safety detector readings;
- New Brunswick Power's equipment reliability improvement initiative in which it established a "culture of prevention," at its Point Lepreau Generating Station;
- An analysis by Bruce Power's Neman Ali on the safety impact of common mode events such as extreme weather or other factors external to a plant; and
- COG's Supplier Participant Program and Human Performance Metrics Initiative which encourages and promotes enhanced safety and quality within the nuclear supplier community.

Notable TCM speakers included: COG President & CEO Fred Dermarkar, SNN Romania's Sorin Ghelbereu, Cantemir Ciurea of Romania's Nuclear Regulator and OPG's Dean Townsend. All COG members, the Canadian Nuclear Safety Commission and COG supplier participants Kinectrics, KEPCO E&C and SNC-Lavalin were among other presenters at the meeting.

Other issues discussed at the TCM included how outstanding CANDU fleet operations along with a successful track record of project and lifetime asset management serve as enablers for continued investment in nuclear technologies around the world. A strong global reputation for reliability and operational excellence has also helped to drive innovation and strengthen public support for nuclear technology. TCM presentations also discussed the strong value offered by nuclear life extension work as compared to investments in renewable and fossil fuel technologies.

Immediately following the TCM in Gyeongju, the World Association of Nuclear Operators (WANO) and COG held an equipment reliability workshop and the C6 Fleet Forum convened for a face-to-face meeting (more information in sidebars).

To access TCM presentation materials, visit the [TCM event page](#) on COGonline.

The COG-IAEA TCM occurs every two years hosted by a COG member. In 2021, the TCM will be hosted by SNN Romania.

First COG-WANO equipment reliability workshop focuses on proactive leadership

The recent WANO Tokyo Centre-COG Equipment Reliability (ER) Workshop provided an international platform for senior engineering managers responsible for ER programs and processes to network, share knowledge and insights.

Ten countries had representatives participate in the two-day workshop facilitated by WANO, COG and Électricité de France staff. The workshop was attended by both CANDU and other nuclear industry members.

In addition to ER, the workshop also focused on preventative maintenance and single point vulnerability programs. Presentations on the three topical areas were delivered followed by breakout sessions where groups worked to develop solutions to specific issues.

The workshop highlighted the need for strong leadership, early staff engagement, an effective corrective action program and a strong questioning attitude as foundational elements in an effective

ER program. It also demonstrated the benefit of collaboration between COG and the various WANO centres worldwide. Future meetings and discussions between COG and WANO are planned to identify topics for additional workshops and other opportunities for collaboration.



The first COG-WANO equipment reliability workshop held in Gyeongju, Korea was facilitated by staff from COG, WANO and Électricité de France.

C6 Fleet Forum shares common issues

The C6 Fleet Steering Committee met for a face-to-face meeting in Gyeongju, following TCM, to review the status of ongoing projects and discuss priorities for 2020. Design modification exchange, airlock reliability improvements, plant outage optimization, common preventive maintenance programs and inter-utility emergency part transfer process improvements were identified as areas for further collaboration in the coming year. The purpose of the C6 Fleet Forum is to exchange information on design, safety analyses, equipment lifecycles and to discuss common issues.



Attendees at November's two-day C6 Fleet Steering Committee Meeting that followed TCM Korea.