

SMR requirements in focus

A joint COG-EPRI SMR webinar brought together global vendors, owner-operators and regulators to discuss common interests and needs

CANDU Owners Group's (COG) small modular reactor (SMR) program continues to play a leading role in developing a harmonized approach to SMR deployment in Canada and internationally.

The latest example of this work came in September with a joint webinar held in partnership with Electric Power Research Institute (EPRI), co-chaired by Rachna Clavero, COG's outgoing Deputy CEO and Director, Nuclear Safety & Environmental Affairs, as well as, Andrew Sowder, EPRI's Sr. Technical Executive in Advanced Nuclear Technology.

The webinar presentations and panelists focused on SMR "requirements," which Sowder sees as "one word with many meanings." In his opening remarks, he outlined how a regulator's SMR objectives and needs differ from those of a vendor or a utility/owner-operator and, collectively, all SMR players have a role in building common understanding.

Clavero, in her opening statement, cited examples of international nuclear collaboration that SMR-focused organizations could model. These examples included the Nuclear Energy Agency's Multinational Design Evaluation Programme, involving regulatory authorities from 16 countries, as well as COG's support of the CANDU 6 fleet, with participation from five different countries, working together toward common interests and goals. COG is also working with the World Nuclear Association (WNA) to draft a paper documenting the transport of radioactive materials, another example of international harmonization which can act as a model for SMRs.

The webinar is part of an SMR series hosted by the Organization of Canadian Nuclear Industries (OCNI) and the Canadian Nuclear Society (CNS). It was also a preview of a full-day workshop planned for the G4SR-2 International SMR Conference in October 2021.

Participants from Ontario Power Generation (OPG), Canadian Nuclear Safety Commission (CNSC), NuScale Power and WNA's Cooperation in Reactor Design Evaluation and Licensing (CORDEL) working group served as both presenters and panelists. COG Project Manager Laurie Fraser also served as a panel moderator.

Highlights included:

- OPG's Robin Manley discussing how global regulatory harmonization could cut costs and reduce licensing times as well as duplication of work between SMR-involved countries;
- CNSC's Ramzi Jammal noting industry and vendors have a key role alongside regulators in determining safety criteria and the basis for safety design; and
- NuScale's Tom Bergman, who was also representing CORDEL and COG's SMR Technology Forum (SMRTF), discussing how an international "design approval process" could allow for the same SMR design to be developed in multiple countries under different regulatory frameworks.

While the presenters focused on the opportunities collaboration and harmonization could bring to SMR development, they also noted some of its risks and challenges. Jammal and Manley acknowledged that the goal is to find common areas of interest and not to adopt the most conservative requirements. Manley also proposed an approach in which the first successfully developed SMR can be used as a "springboard," to support an international approach based on initial lessons-learned emerging from that proof of concept. This approach, Manley suggested, could also support the timeline of existing SMR work.

Earlier this summer, COG contributed to another SMR discussion on global regulatory issues. In June, Clavero served as a panelist for the International Framework for Nuclear Energy Cooperation (IFNEC) webinar on global SMR licensing challenges.

Over the next year, COG's SMR program, through the work of its CEO and Technology Forums as well as its Vendor Participant Program will continue its active role in facilitating information exchange and development on SMR activities. This work will be led by recently named SMR Program Manager Natalie Alderson.

There will be a continued focus on developing an international SMR regulatory review framework and strengthening global harmonization efforts. COG will also continue its work with nuclear-focused organizations, such as EPRI and WNA, to bring global nuclear stakeholders together as SMR development expands.

[Click here](#) to view a recording of the COG-EPRI SMR Webinar hosted by OCNI and CNS.



Achieving Harmonization

Harmonization requires collaboration

1. Between regulators, and also between industry players; vendors, supply chain, operators
2. Examples include:
 - Work performed in the past on Multinational Design Evaluation Project (MDEP), and current work between COG-WNA
 - CANDU 6 fleet in five countries – CNSC engagement
3. Can be an enabler for an international fleet. Risks to consider:
 - Taking the most limiting requirements from each country
 - Introducing delays or changes to the process mid-stream

Today's panelists discuss their role in collaboration and establishing requirements

Collaboration is hard work and does not happen organically!



COG Deputy CEO Rachna Clavero discusses the benefits of harmonization through collaboration at a COG-EPRI joint webinar in September.