



ONTARIO POWER GENERATION

OPG works with COG supplier participant Curtiss-Wright on seismic testing of equipment, which takes place at the supplier's Newmarket, Ontario facility. OPG's 2020 EPRI Technology Transfer Award recognized its work on site-specific seismic hazards. Image: Curtiss-Wright

EPRI Award three-peat for OPG

The CANDU Owners Group member brings home prestigious Technology Transfer Award for third straight year

Ontario Power Generation's (OPG) innovative use of seismic safety margin research has resulted in millions of dollars in cost savings, improved plant safety and gained recognition from Electric Power Research Institute (EPRI).

The work of OPG's Nasser Aly, Sevana Bedrossian, Katherine Gromek and Lambert Li won the CANDU utility a 2020 EPRI Technology Transfer Award (TTA), during Nuclear Power Council Advisory Week, held virtually earlier this year. Since 2015, OPG has won five EPRI TTAs which recognize applications of research contributing to improved plant safety and efficiency.

The OPG team applied EPRI research in the areas of seismic fragility, margin guidance and probabilistic risk assessment (SPRA) to revise and update internal guidelines and practices at Darlington Nuclear, relating to earthquake response and preparedness.

In 2020, the Darlington seismic hazard updates were reported to the Canadian Nuclear Safety Commission (CNSC) and helped secure regulatory acceptance. The application of the research also delivered millions of dollars in cost

efficiencies to OPG by showing the seismic safety readiness of existing plant infrastructure.

EPRI's Seismic Probabilistic Risk Assessment Implementation Guide was a key resource used to inform OPG's seismic hazard updates. The guide provides utilities with methods to perform SPRAs for a variety of applications. The major elements of SPRA include: seismic hazard analysis; fragility evaluation and plant systems and sequence analysis and seismic risk quantification.

OPG was one of the first utilities in North America to implement and update its site-specific seismic hazards using the new EPRI methodology. The new approach could potentially be used or benchmarked by other CANDU plant operators to demonstrate meeting safety goals under the updated seismic hazard.





From left: OPG's Nasser Aly, Sevana Bedrossian, Katherine Gromek and Lambert Li, 2020 EPRI Technology Transfer Award winners.

Previous EPRI winners

For the sixth year in the last seven, a COG member has won at the prestigious EPRI Technology Transfer Awards. Below is a list of previous award winners:

2019

OPG's Shashank Gandhi for Probabilistic Safety Analysis Project

Application: Allowed OPG to demonstrate stronger alignment with regulatory safety requirements and improved plant operational efficiency

OPG's Peigang Cao, Emily Cornthwaite, Anil Garg, Ranganathan Santhanam and Pamela Woods for SMART Chemistry Pressurized Water Reactor Online Monitoring Demonstration

Application: Allows for almost continuous chemistry data monitoring resulting in more accurate data readings over manual approaches

2018

OPG and Bruce Power for Standardized Task Evaluations (OPG's Alex Crichton, Paul Villeneuve and Al Shiever; Bruce Power's Steve Cotton, Jodie McNabb, Rick Hagen and Byron House)

Application: Utilities use the evaluations program to ensure worker proficiency and job performance prior to arrival on-site

2016

NB Power's Jennifer Lennox for Use of Heat Exchanger Guidance to Develop In-house Program

Application: Guidance for heat exchanger program development and preventive maintenance plans

2015

OPG's Ghulam Khawaja and Bryan Villemaire for Innovative Applications of Modular Accident Analysis Program (MAAP) Code

Application: Upgrade of emergency operation procedures, severe accident management guidelines and plant designs to enhance nuclear safety

2014

CNL's Mike Wright for Materials Degradation Matrix

Application: Fundamental understanding of the degradation phenomena/mechanisms in CANDU PHWRs