

Happy New Year! Welcome to the January 2015 issue of the Langford newsletter and thanks for being with us for another year.

What's On

Watt-hour Engineering's eighth biennial **We Meet** will be held on March 3 - 5. There will be General Group Sessions as well as specialized hands-on training in small groups of four or fewer students, on software as well as hardware. See [Radian](#)

Ontario News

Lack of Understanding - Ontario's \$1.9-billion smart meter program for hydro utilities has delivered few benefits for the hefty cost, says Ontario's auditor general. She also said Ontarians are paying billions of dollars extra for electricity. See [Toronto Star](#) and Bob Chiarelli's response on [CP24](#).

Merger Complete - The IESO and the OPA merged on January 1 to become the new IESO. The merger hopes to improve efficiency in agencies, reduce costs and help mitigate future cost impacts to ratepayers. Visit the new website at www.ieso.ca.

Apology - At a ceremony in Thunder Bay in December, the OPG apologized for the

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Product Spotlight! – Google PUE

The data center industry uses the measurement PUE, or power usage effectiveness, to measure efficiency. Most data centers use almost as much non-computing or “overhead” energy (like cooling and power conversion) as they do to power their servers. At Google, since they first started reporting their PUE in 2008, they have reduced this overhead to only 12%.

Their fleet-wide PUE dropped

damage caused by several dams on the Nipigon River and by the Ogoki River Diversion. The projects, completed between 1918 and 1950, flooded the community, damaged habitat and destroyed burial grounds. See [CBC](#)

Smart Grid Fund - Ontario is supporting 17 new energy projects through its Smart Grid Fund program. This round of funding will support projects in the areas of: energy storage, electric vehicle integration, behind the meter, microgrids, grid automation, and data analytics. See [Ontario](#) and [Renew Grid](#).

New FIT - The OPA is offering 332 new FIT renewable energy contracts that represent 100 MW. Of these, 121 projects (31.4 MW) are with First Nation and Métis community participation, 60 projects (18.6 MW) with community participation, and 151 projects (50 MW) with municipal or public sector participation. See [OPA](#).

Ring of Fire - A large Northeastern Ontario Aboriginal organization is positioning itself to become a major player in the Ring of Fire development by bringing upwards of a thousand megawatts of energy from Quebec to service the Ring and to service Timmins if a smelter is needed there. See [Cochrane Times](#).

New Metering Standard - Underwriters Laboratories has announced that Canadian

significantly through the use of multiple on-line power meters in data centers to measure power consumption over time. The energy used by their cooling infrastructure and IT equipment was tracked by separate meters, giving Google very accurate PUE calculations. All power-consuming elements were accounted for by using dozens or even hundreds of power meters in their facilities.

The use of multiple meters in conjunction with a power management software such as PME (Power Monitoring Expert) from Schneider Electric can provide an effective platform for monitoring and reducing data center PUE. For full case study see [Google](#) or contact sales@langford-assoc.com

Radian Research Data Integration

The Radian Research Bantam Plus/WE20 has an integrated feature that makes it ideal for field meter site testing. With little setup, the Bantam Plus/WE20 can be configured to push test results back to the main office in an automated

stakeholders, with the assistance of UL technical experts, are set to begin work on the development of an electric utility meter standard for Canada. See [UL](#).

Reduced Rate Approved - OPG has been given approval by the province's energy regulator for a 10 per cent increase in the rate it is paid for electricity. The OEB says OPG had requested an increase of 23.4 per cent. See [CTV News](#).

The Year in Review

January - OPG accepts the report made by the auditor general on its HR policies, legislation to eliminate domestic content requirements in renewable projects,, and Toronto Hydro rejects burying power lines in wake of ice storm.

February - Ministry of Environment appeals decision that wind turbines hurt turtles, TOU rates don't reduce energy use, and Nanticoke burns its last coal.

March - A wrinkle in billing rules drains millions from a hydro customer account, the 50 MW energy storage RFP, and the Men's Gold Medal Hockey Game has a dramatic effect on electricity usage in Ontario.

April - New process for large renewable energy projects, hydro electric power potential on the Trent-Severn Waterway, and looking

fashion. The only requirement outside of the provided software and hardware is that the local PC be connected to the internet with access to your company's local WATT-Net database. A simple VPN, LAN or WAN connection would resolve this requirement. The data is synchronized using the powerful WATT-Net Database Software and its ability to export results to an external WATT-Net Database using a Secure TCP/IP connection. See [Radian](#)

for untapped generation options in Northern Ontario.

May - Debt retirement charge off the bill, considering selling off OPG and Hydro One, and no more coal in Ontario.

June - Green energy in the election campaign, more work needed on Darlington proposal, and grid faces increasing risk of cyberattacks.

July - Private Members Bill to amend the Criminal Code on copper theft, highrise apartments need bigger power backup systems after ice storm, and Canada now the largest international market for LEED.

August - A fundamental change in electricity rate design, the first grid-connected commercial flywheel in Canada, and consideration of Hearn Power Generating Station as a sports facility.

September - Possible Ontario-Quebec power exchange, copper and steel composite used for grounding at Hydro One stations, and employee pensions at electricity agencies are 'not sustainable.'

October - Merger of the OPA and IESO, rock-solid case for burying nuclear waste at the Bruce nuclear plant, and North America's largest power plant fuelled completely by

biomass.

November - U.S. opposition to nuclear repository, a plan to buy Hydro One's electricity distribution business and carve it up, and a \$300,000 ad campaign. to deliver the message to invest in the electricity distribution system.

December – No evidence to support a link between exposure to wind turbine noise and health, 'Conservation First' directive, and sweeping powers to protect courts and power generating plants.

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