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University of Toronto to be demonstration site for world's largest solid oxide fuel cell power plant

Ontario Power Generation and Siemens Westinghouse have announced that the University of Toronto at Mississauga (UTM) will be the location for the first pre-commercial demonstration of the world's largest solid oxide fuel cell (SOFC) power plant.

The unit will be incorporated into the existing physical plant at UTM in the fall of 2003, following extensive testing at Kinectrics Inc., the key engineering and systems integrator on the project.

According to Tapan Bose, director of the Hydrogen Research Institute at the University of Quebec at Trois Rivieres and president of the Canadian Hydrogen Association, this will mark the first time anywhere that this leading edge R&D technology will be tested on a commercial platform. Advantages of the technology include high rates of energy efficiency and virtually no emissions.



Huge solid oxide fuel cell is being tested by engineering and systems integrator Kinectrics Inc. at its facility in Toronto. Partners in the fuel cell power plant program include Siemens Westinghouse, the Province of Ontario, the Government of Canada, the U.S. Department of Energy, Ontario Power Generation, the University of Toronto and the Hydrogen Research Institute.

"Moving from the laboratory to real life conditions is an exciting milestone on the road to more sustainable, Kyoto-compatible energy solutions for electricity customers," said Ron Osborne, OPG's president and CEO. "We are pleased to play a role in testing the commercial viability of this fuel cell system as fuel cells represent an important alternative energy technology for the future."

The unit is capable of producing about eight per cent of the campus' current electricity needs, as well as hot water - the equivalent of meeting the electricity and hot water needs on an annual basis for more than 200 households.

The successful operation of the power plant on a commercial platform at UTM would represent an important step toward commercial readiness of the fuel cell technology. When commercially proven, such a fuel cell system could be located directly where the energy is consumed, such as small industrial sites, universities, hospitals, or even small neighbourhoods.

Siemens Westinghouse is developing manufacturing processes and is building a plant near Pittsburgh to house its fuel cells business. The company plans to come to market as early as 2006 with the unit that will be tested at UTM.

In 2000, OPG, a commercial company wholly owned by the Province of Ontario, partnered with the Government of Canada, the U.S. Department of Energy, Siemens Westinghouse Power Corporation and Kinectrics Inc. to develop the world's largest atmospheric solid oxide combined heat and power fuel cell system. Government of Canada funding for the prototype was provided through the Climate Change Action Fund/Technology Early Action Measures, Natural Resources Canada, and the National Research Council.