



The Technical Solutions Centre

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FOR IMMEDIATE RELEASE

New Brunswick Innovation to Assist Energy Challenges

Fredericton, November 27, 2007 - John Aikens is beaming with pride and enthusiasm about an innovative New Brunswick technology his team recently deployed at an Ontario CANDU nuclear reactor.

The device, known as a FOLTM (Feeder On-Line Thickness Monitoring System), precisely measures pipe wall thickness through an externally-mounted ultrasonic sensor. This is a significant technology advancement in a high radiation environment at temperatures up to 310 degrees Centigrade. In a CANDU nuclear power plant, the integrity of feeder pipes is important as they circulate heavy water coolant which removes heat from the reactor.

So what is the benefit? In today's intensely challenging energy business, the goal is to minimize facility downtime without compromising safety. The FOLTM system provides continuous pipe wall thinning data while the reactor is in full operation allowing successful trending of feeder pipe thinning rates. This thinning information can be used by the utilities to safely optimize feeder pipe replacement and can reduce the amount of inspection required during a shutdown. Shutdowns in a typical CANDU plant can cost in the vicinity of \$1 million per day.

The FOLTM system represents more than a decade of research led by Dr. Pawel Kielczynski, Senior Researcher with RPC's Mechanical Systems and Diagnostics group. Earlier versions of the FOLTM have been previously deployed at Point Lepreau and Gentilly in Quebec and have been incorporated in developing research at Japan Nuclear Cycle and Southwest Research Institute in Texas. A more advanced system was successfully installed at Darlington Nuclear station in Ontario and most recently at Pickering Nuclear station near Toronto. The installation in Ontario is a permanent deployment of a 22-channel system collecting data from feeder pipes on the face of the reactor. The project involved designing, constructing and testing the sensors, software and control cabinet; installing the sensors and control cabinet on the reactor; and, training operational staff on the use and maintenance of the equipment. The project concluded early this month with the successful deployment and product training.

With the energy sector motivated to optimize efficiency, there are additional opportunities for realtime monitoring and on-line measurement devices. RPC is currently partnered with the Center for Nuclear Energy Research (CNER) on a related development project. CNER is developing a corrosion monitoring device that has already been successfully tested on a CANDU reactor.

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About RPC

RPC is an independent contract R&D and technical services organization located in Fredericton, NB. RPC's complement of 100 scientists, engineers and technologists are supported by a 13,000 sq. meter facility housing world-class analytical chemistry and material-testing laboratories, extensive prototype design, manufacture and testing services and a wide variety of pilot facilities for the development and improvement of industrial and environmental processes and products.

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