



IEEE Power & Energy Society Winnipeg Section PRESENTS...A LUNCHEON MEETING

<p>TOPIC: MB Hydro Experiences with SynchroPhasor Implementations</p> <p>PRESENTER: Tony Weekes, P.Eng.</p> <p>TIME AND DATE: 12:00 Noon, Tuesday, November 15, 2011</p> <p>LOCATION: Holiday Inn South, 1330 Pembina Highway, Winnipeg</p>	<p><i>Abstract:</i></p> <p>A Wide Area Measurement System (WAMS) will allow Manitoba Hydro to realize a comprehensive synchronized view of the Northern AC system yielding the following benefits:</p> <ol style="list-style-type: none"> 1. Facilitate the coordinated and precise tuning of damping controls using GPS synchronized near real-time readings of system voltage, current and frequency measurements as part of the following projects and locations: <ul style="list-style-type: none"> • The seven units at Kelsey G.S. refurbishment which include high initial response exciters and PSS. • The new Birchtree SVC which will include an SDC. • The three units proposed for Wuskwatim G.S. will include high initial response static exciters and modern PSS. • Grand Rapids is being considered for PSS as well 2. Facilitate the potential refinement of existing northern ac damping controllers: <ul style="list-style-type: none"> • Ponton SVC and SDC. • Kettle units 1 and 2 PSSs <p>The Wide Area Measurement System (WAMS) project was approved for implementation in June of 2010 and at present consists of 8 PMUs with a total of 22 sites expected by 2012.</p> <p>PMU Measurements time stamp data to within a fraction of a microsecond compared to conventional RTU and Telemetry systems which typically perform one scan every 2 seconds allowing for:</p> <ol style="list-style-type: none"> 1. Continuous monitoring of electromechanical, inter-area, inter-plant and local oscillations in the power system. 2. Ability to see and use high resolution data to improve models and analysis of the system in near-real time. 3. Ability to study and analyze historical events. 4. Ability to better maintain and protect the grid reliability. 5. Validation of planning and operating study models as off-line study results are benchmarked against on-line results <p>SynchroPhasor data can be used to provide early indication of grid problems (abnormal angle difference; inter-area oscillations; voltage stability).</p> <p>This presentation will focus on the first application of this WAMS Measurement System in a recent commissioning of a new Birchtree SVC and how the PMU infrastructure was very important to the successful coordinated tuning of the controls.</p>
<p>◇ Cash bar available at Noon. ◇ Lunch served at 12:15 PM. ◇ Meeting concluded at 1.30 PM. ◇ Cost of the meal (payable at the door).</p> <p>Early registration(<i>On or Before 10th Nov..</i>) IEEE Members - \$15.00 Non-Members - \$19.00</p> <p>Late registration (<i>After 10th Nov..</i>) IEEE Members - \$17.00 Non-Members - \$21.00</p> <p>The IEEE PES Winnipeg Chapter must guarantee a minimum attendance to the hotel, so please take a moment to register early by RSVP to Steven Howell by Thursday Noon, 10 Nov. 2011, in one of the following ways:</p> <p>Phone: 360-3457 Email: showell@hydro.mb.ca</p>	

Biography:

Tony Weekes, M.Sc., P.Eng.

Tony Weekes works in the HVdc area of Protection and Control for System Performance at Manitoba Hydro. He is the Principal HVdc System Support Engineer responsible for conducting studies and investigations, as necessary, to ensure the reliable operation of the Nelson River HVdc Transmission scheme as an integral part of the Manitoba Hydro System. For the past years Tony has also been the corporate representative for the Eastern Interconnected Phasor Project (now called the North American SynchroPhasor Initiative) which has the goal of providing improved security of the power system through the use of wide area monitoring. Tony is also the technical lead for Wide Area Measurement / MISO PMU Placement project which will monitor Manitoba Hydro's Northern AC System with the goal of providing high resolution operational data to System Performance, System Planning and the Midwest ISO.

Tony has a diverse engineering background in System Planning, Station Design, HVdc Engineering, Communications Engineering, Integrated AC Network Studies, Protection and Control, with experience in Design and Commissioning. He holds Bachelor and Masters of Science degrees in Electrical Engineering from the University of Manitoba and has been a registered professional engineer with the province of Manitoba for over 25 years.

Re: IEEE PES Luncheon Meeting at 12:00 Noon on Tuesday, November 15 2011

Name: _____ Any Diet Restrictions: _____

Company: _____

Telephone no.: _____ Number in party: _____

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