

*****Email submission *****

From: bharath@erlphase.com <bharath@erlphase.com>
Sent: Tuesday, 30 June 2020 8:54 AM
To: Future Energy <FutureEnergy@aemo.com.au>
Subject: RIS webinars and AEMO's future energy systems

My colleagues and I listened to the very impressive RIS Webinars and read the presentations with interest. We were excited to see the studies and the level of research the future energy systems team has done behind these webinars and the clarity in the challenges AEMO sees in Australia's power system in the future

We are a Canadian manufacturer of protective relays and power system monitoring disturbance and fault recorders. While our initial focus was in North America, in the last few years we have diversified to other markets globally. We have met with some of your colleagues in AEMO in the last couple of years essentially to get an idea of what AEMO has in place and is planning in the future to ensure power system stability

Based on the reports and information provided by you in the RIS Webinars and the associated appendices, we believe that AEMO will benefit with having intelligent devices that will monitor the system in real time, provide real time data to a dispatch center and provide operational features with the intention of maintaining power system security while operating this resource mix at very high instantaneous penetrations of wind and solar generation.

This will be needed to maintain the proper operation of the National Electricity Market, and maximize consumer benefits at the lowest system cost, while meeting reliability, security, and emissions expectations

We pioneered, and still are the only manufacturer, of a relay (S-PRO) for monitoring and protecting the system from oscillations due to sub harmonic frequencies in the kind of power systems the RIS studies have highlighted. Our TESLA Disturbance and Fault recorder captures information from system disturbances and faults, as well as a PMU streams synchrosphasors for wide area monitoring. While between them these two IED's would help in monitoring and taking corrective action for power system stability in such systems, we realize, there are more challenges which need to be met.

ERLPhase would like to explore with AEMO the development of the products and solutions that will assist in the decision making and will also automate some of the actions needed to maintain the system in optimum operating conditions. We believe that there will be a need for such advanced microprocessor-based devices to measure and monitor quantities that can be used to make operational decisions with the speed of a protective device.

We look forward to be involved in such dialogue with you.

Best Regards



Bharath, Sales Manager International
ERLPhase Power Technologies Ltd., 74 Scurfield Blvd., Winnipeg, MB R3Y 1G4
Tel: (204) 477-0591 x254, Cel: (204) 292-0187
Email: bharath@erlphase.com, Web: www.erlphase.com

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