Technological advances in grid code compliance, high penetration and drive train diagnostics of wind energy conversion systems

Wind Power Generation continues to grow and is the key contributor to large scale variable power connected to grid in the renewable energy generation mix. Utility transmission system operators impose stringent grid codes internationally. The emphasis are given to low and high voltage ride-through capabilities, active and reactive power responses during and after faults, and reactive power (voltage) regulation. Rapid technological developments are in progress to meet various grid code requirements. In this paper, fault ride through techniques for all four types of wind energy conversion systems (WECS) are considered and some research studies are presented involving enabling technologies in grid code compliance, congestion management, and drive train diagnostics conducted at the Centre for Smart Grid and Sustainable Power Systems at Curtin University, Australia.

Biography
Syed Mofizul Islam received the BSc degree in Electrical Engineering from Bangladesh University of Engineering and Technology, Bangladesh in 1979, the MSc and PhD degrees in Electrical Power Engineering from the King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia, in 1983, and 1988 respectively. He is currently the John Curtin Distinguished Professor in Electrical Power Engineering and the Director of Centre for Smart Grid and Sustainable Power Systems at Curtin University, Perth, Australia. He received the Dean’s medallion for research at Curtin University in 1999; the IEEE T Burke Haye’s Faculty Recognition award in 2000; Curtin University inaugural award for Research Development in 2012; and Sir John Madsen medal in 2011 and 2014 for best electrical engineering paper in Australia. He has published over 300 technical papers in his area of expertise. He has been a Visiting Professor at Shanghai University of Electrical Power, China. He is also the Dean International for the Faculty of Science and Engineering at Curtin University. He is a member of the steering committee of the Australian Power Institute and a member of the WA EESA board. He is an Editor of the IEEE Transaction on Sustainable Energy and an Associate Editor of the IET Renewable Power Generation. He has over 4500 citations and his h-index is 29.