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Wide Area Monitoring System on 220kV/500kV Real Grid For Renewabel Resources Intergration

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Abstract:

Wide Area Monitoring System (WAMS) based on Frequency Disturbance Recorders (FDRs) deployed on Egyptian Power grid for mapping and visualization of all system parameters. The FDRs are deployed on live 220kV/500kV grid system. The project is funded from the National Telecommunication Regulatory Authority (NTRA). The Egyptian Wide Area Monitoring System (EWAMS) achieved at HUHS Helwan University Host Server that gather information from many FDR units geographically dispersed throughout the boundary of the power grid. The data manipulated and managed on a center containing many servers. The Synchrophasor system with wide deployment of using (FDRs) phasor measurement units and high-speed communications to deliver and collect synchronized high-speed grid operating data, along with analytics and other advanced on-line applications will improve real-time situational awareness and decision support tools to enhance system stability. The EWMS is a good environment for many applications that can help the utilities to enhance their Grid.

Biography:

M. M. Eissa (M'96–SM'01) was born in Helwan, Cairo, Egypt, on May 17, 1963. He received the B.Sc. and M.Sc. degrees in electrical engineering from Helwan University, Cairo, in 1986 and 1992, respectively, and the Ph.D. degree from the Research Institute for Measurements and Computing Techniques. Hungarian Academy of Science Budapest, Hungary, in 1997 (PhD Study is cooperated with Duisburg University-Institute of Electrical Engineering-GERMANY). Currently, he is a Professor with Helwan University. In 1999, he was invited to be a Visiting Research Fellow at the University of Calgary, Calgary, AB, Canada. He was a chair Prof. at King Abdul-Aziz University-KSA for sponsored project "Demand Side Management and Energy Efficiency" from Saudi Electricity Company during period 2008-2010. From 2012, he is the PI for a large scale project "SMART GRID FREQUENCY MONITORING NETWORK (FNET) ARCHITECTURE AND APPLICATIONS-220kV/500kV" NTRA-Egypt (www.helwan-ntra.com)-2012, END-USER Egyptian Electricity