Lecture by

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Enhancing Power System Resilience from Planning, Operation and Restoration Perspectives

In recent years, extreme weather has caused some major blackouts in several countries around the globe, and around 80% of power outages in North America were caused by extreme weather. Power system resilience is employed to describe the capability of managing anticipating extraordinary and high-impact, low-probability events, rapidly recovering from these disruptive events, and taking efficient measures so as to be better prepared for addressing similar events in the future. How to enhance power system resilience is a hot topic in both academic and industrial communities. Given this background, the following topics will be covered in this speech:

1. Motivation of enhancing the resilience of a modern power system with high penetration of intermittent renewable generation;
2. Characteristics of a resilient power system;
3. Efforts in three stages for enhancing power system resilience, including power system planning, on-line fault diagnosis, and quick system restoration;
4. Prospects of future research.

Fushuan Wen has been a full professor in *Zhejiang University*, China since 1997. He is listed in "Most Cited Chinese Researchers" in six consecutive years from 2015 to 2020 by Elsevier. He is the Editor-in-Chief of *Energy Conversion and Economics*, the deputy Editor-in-Chief of *Automation of Electric Power Systems*, and serves as the editor, subject editor and associate editor of several international journals. He has been undertaking various teaching, research and visiting appointments in *National University of Singapore*, *Hong Kong Polytechnic University*, *University of Hong Kong*, *South China University of Technology*, *University of New South Wales* in Australia, *Queensland University of Technology* in Australia, *Brunei University of Technology*, *Technical University of Denmark*, *Nanyang Technological University* in Singapore, *Murdoch University* in Australia, *Tallinn University of Technology*, *Hangzhou Dianzi University*, *Commonwealth Scientific and Industrial Research Organization* (CSIRO) in Australia, *Shenzhen Institute of Artificial Intelligence and Robotics for Society*. His research interests include power industry restructuring, power system alarm processing, fault diagnosis and restoration strategies, smart grids and electric vehicles, as well as artificial intelligence applications in power and integrated energy systems. He is a Fellow of IEEE.