MEMORANDUM OF UNDERSTANDING

between the

FEDERAL ENERGY REGULATORY COMMISSION

and the

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INCORPORATED

This Memorandum of Understanding ("MOU") is entered into by and between the United States Federal Energy Regulatory Commission (FERC) and the Institute of Electrical and Electronics Engineers, Incorporated (IEEE) on behalf of the Power & Energy Society (IEEE PES), hereinafter "the Parties." IEEE is a not-for-profit organization that engages in scientific and educational activities directed toward advancement of the theory and practice of electrical, electronics, communications and computer engineering. FERC regulates aspects of the energy industry in the United States, including reliability of the nation's bulk power system.

I. Purpose

The purpose of this MOU is to facilitate interactions between FERC and IEEE on matters of mutual interest pertaining to the nation's bulk power system. Through this MOU, the Parties seek to more effectively align their efforts to address energy infrastructure and energy market challenges due to significant changes in energy supply, demand, and technology. Technology changes, including the growth in renewable generating resources, distributed energy resources, electric vehicles, and energy storage, among others, coupled with the increased availability of natural gas, and new environmental requirements provide new opportunities for improving the efficiency and reliability of the bulk power system. Increasingly volatile weather patterns (storms, tsunamis, solar flares, etc.), and cyber and physical security concerns, in combination with increased demands to deliver quality electrical power, have resulted in increased public focus to improve electrical energy delivery.

As new technologies are developed, they will require careful examination to understand their impacts, requirements, and potential benefits for integration into the electric energy system. Recognizing the mutual interest in mobilizing the technical community to address these challenges pertaining to the reliable and efficient operation of the nation's bulk power system, FERC and IEEE are formalizing this understanding for the purpose of facilitating dialogue and coordinating activities leading to the implementation of effective strategies for enduring responsibilities of both organizations. This purpose statement is not

exhaustive and FERC and IEEE may decide to cooperate in other areas of mutual interest.

Cooperation between FERC and IEEE under this MOU may include but is not limited to the following objectives for electric energy systems:

- 1. Sharing technical needs and addressing challenges for infrastructure planning, operation, and market optimization;
- 2. Identifying existing and emerging technological requirements and needs and approaches for addressing them; and
- 3. Developing, disseminating and sharing information on advancements in technology and associated policy and standards for planning, operations, and maintenance of electric energy systems and their component parts.

II. Coordination

IEEE PES will act as the IEEE lead organization and will consult within other divisions of IEEE as necessary.

Through this MOU, the Parties agree to work together to advance the objectives stated above and will develop an implementation plan to accomplish them. An initial draft implementation plan is incorporated as an addendum under this MOU.

III. Terms and Termination

This MOU shall remain in effect until terminated by either party upon written notice to the other party. Parties should endeavor to give sixty (60) days prior written notice of such termination.

This MOU in no way restricts either of the Parties from participating in any activity with other public or private agencies, organizations or individuals.

This MOU is neither a fiscal nor a funds obligation document. Nothing in this MOU authorizes or is intended to obligate the Parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value.

This MOU is not legally enforceable and shall not be construed to create any legal obligation on the part of either Party, including that of a federal contractor. This MOU shall not be construed to provide a private right or cause of action for or by any person or entity.

This MOU does not imply endorsement by either party of the other organization, its products or its services.

This MOU is subject to, and will be carried out in compliance with, all applicable laws, regulations and other legal requirements.

IV. Modifications

This MOU may be modified by mutually acceptable written amendment duly executed by authorized officials of FERC and IEEE.

V. Entire Agreement

This MOU constitutes the full and final understanding of both Parties on all subjects contained within it. All prior negotiations, understandings, and agreements are merged into this MOU.

VI. Execution

The Parties have caused this MOU to be executed in duplicate originals by their duly authorized representatives and is effective on the date of the last signature below.

For the Federal Energy Regulatory Commission

Michael Bardee DATE

Director, Office of Electric Reliability

Federal Energy Regulatory Commission

For the Institute of Electrical and Electronics Engineers, Incorporated

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IEEE President and CEO