New IEEE Standard Addresses Smart Grid Work Around the World

IEEE announced that IEEE 2030 – IEEE Guide for Smart Grid Interoperability of Energy Technology and Information Technology Operation with the Electric Power System (EPS), End-Use Applications, and Loads – has been approved and published. IEEE 2030 establishes a globally relevant Smart Grid interoperability reference model and knowledge base that can be used by utilities who are developing their infrastructure roadmaps, by manufacturers who are planning Smart Grid systems and applications, by scientists who are conducting research, by governments who are crafting regulations and by standards-development organizations (SDOs) who are writing additional standards for the Smart Grid.

“This is the world’s first system-of-systems, foundational standard that has been created from the ground up to inform Smart Grid interconnection and interoperability, and it happened in a rapidly paced, two-year development environment that demanded the integrated contributions of hundreds and hundreds of people from across the Smart Grid’s three primary disciplines: power systems, communications and IT (information technology),” said Dick DeBlasio, IEEE 2030 Working Group chair, chief engineer at the National Renewable Energy Lab (NREL) facility of the U.S. Department of Energy and IEEE Smart Grid liaison to the National Institute of Standards and Technology (NIST). “IEEE 2030 is poised to support the accelerated rollout of the Smart Grid and realization of the revolutionary benefits—greater consumer choice, improved electric-system reliability and increased reliance on renewable sources of energy—that it promises for people worldwide.”

IEEE 2030 is available for purchase at IEEE Standards Store.

IEEE 2030 provides alternative approaches and best practices for Smart Grid work worldwide and defines terminology, characteristics, functional performance and evaluation criteria and the application of engineering principles for Smart Grid interoperability of the EPS with end-use applications and loads. Additionally, it defines design tables and the classification of data-flow characteristics necessary for interoperability, with emphasis on functional interface identification, logical connections and data flows, communications and linkages, digital information management, cyber-security and power generation usage.

Work has already commenced on three IEEE 2030 extensions:

•IEEE P2030.1 – Guide for Electric-Sourced Transportation Infrastructure – is intended to establish guidelines that can be used by utilities, manufacturers, transportation providers, infrastructure developers and end users of electric-sourced vehicles and related support infrastructure in addressing applications for road-based personal and mass transportation.

•IEEE P2030.2 – Guide for the Interoperability of Energy Storage Systems Integrated with the Electric Power Infrastructure – is intended to help users achieve greater understanding of energy storage systems by defining interoperability characteristics of various system topologies and to illustrate how discrete and hybrid systems may be successfully integrated with and used compatibly as part of the electric power infrastructure.
•IEEE P2030.3 – Standard for Test Procedures for Electric Energy Storage Equipment and Systems for Electric Power Systems Applications – is intended to establish a standard for test procedures around verifying conformance of storage equipment and systems to storage-interconnection standards.

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