P2030.7

Submitter Email: geza.joos@mcgill.ca
Type of Project: New IEEE Standard
PAR Request Date: 08-Apr-2014
PAR Approval Date: 12-Jun-2014
PAR Expiration Date: 31-Dec-2018
Status: PAR for a New IEEE Standard

1.1 Project Number: P2030.7
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Title: Standard for the Specification of Microgrid Controllers

3.1 Working Group: Distribution Resources Integration WG/Microgrid Controllers TF (PE/T&D/DRI/2030.7)
Contact Information for Working Group Chair
Name: Geza Joos
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Contact Information for Working Group Vice-Chair
None

3.2 Sponsoring Society and Committee: IEEE Power and Energy Society/Transmission and Distribution (PE/T&D)
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4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 12/2016
4.3 Projected Completion Date for Submittal to RevCom: 08/2017

5.1 Approximate number of people expected to be actively involved in the development of this project: 10
5.2 Scope: A key element of microgrid operation is the Microgrid Energy Management System (MEMS). It includes the control functions that define the microgrid as a system that can manage itself, and operate autonomously or grid connected, and seamlessly connect to and disconnect from the main distribution grid for the exchange of power and the supply of ancillary services. The scope of this standard is to address the technical issues and challenges associated with the proper operation of the MEMS that are common to all microgrids, regardless of topology, configuration or jurisdiction, and to present the control approaches required from the distribution system operator and the microgrid operator. Testing procedures are addressed.

5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: The reason for establishing a standard for the Microgrid Energy Management System (MEMS) is to enable interoperability of the different controllers and components needed to operate the MEMS through cohesive and platform-independent interfaces. This approach will allow for flexibility and customization of components and control algorithms to be deployed without sacrificing "plug-and-play" or limiting potential functionality. Microgrid components and operational solutions exist in different configurations with different implementations. Regardless of whether equipment and software are commercial or custom, components should be interoperable and with interfaces that comply with functional standards defined by the microgrid energy management system. The standardization focuses on defining functions and interface configurations that allow modularity and interoperability. It deals with the Microgrid Controller operation, and defines those aspects that need to be standardized and those can remain proprietary, while enabling the interoperability with various Distributed Energy Resources (DER) interfaces and facilitating the wide adoption by vendors and utilities. The standard is functionality-driven and focuses on a modular approach that enables potential future expansion and features.

5.5 Need for the Project: The standard will assist vendors and users (utilities, independent microgrid operators) to specify and configure

microgrid controllers.

5.6 Stakeholders for the Standard: Vendors and manufacturers, transmission and distribution system operators, independent system operators, independent microgrid operators (industrial and community microgrids) and all entities participating in the capacity, energy, power and ancillary services markets

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Intellectual Property
6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No
6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

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7.1 Are there other standards or projects with a similar scope?: No
7.2 Joint Development
Is it the intent to develop this document jointly with another organization?: No

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8.1 Additional Explanatory Notes (Item Number and Explanation): #3.1 - This PAR project will be led by Geza Joos (geza.joos@mcgill.ca) and chaired by him as a subgroup under the DRI working group.
#7.1 - The proposed standard does not overlap with IEEE Std 1547.4-2011, which deals specifically with Distributed Resources (DR) islanded systems, and specifically with the issues associated with the interconnection the DR systems and the Electric Power System (EPS). The referred standard does not provide operational procedures for establishing and operating a planned island nor the required control and energy management systems at the microgrid level and at the level of individual DR units. As with all standards in the IEEE 1547 family, this IEEE Std 1547.4-2011 focuses on the interconnection requirements, and specifically excludes the planning, operational, metering, control and other factors to be addressed in this project.