

P1815

Submitter Email: ron@enernex.com

Type of Project: Modify Existing Approved PAR

PAR Request Date: 12-Dec-2011

PAR Approval Date: 06-Feb-2012

PAR Expiration Date: 31-Dec-2015

Status: Modification to a Previously Approved PAR for the Revision of a Standard

Root PAR: P1815 **Approved on:** 02-Feb-2011

Root Project: 1815-2010

1.1 Project Number: P1815

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Title: Standard for Electric Power Systems Communications - Distributed Network Protocol (DNP3)

3.1 Working Group: Standard for Electric Power Systems Communications Distributed Network Protocol (DNP3) Working group (PE/T&D/Dist-1815_WG)

Contact Information for Working Group Chair

Name: H Smith

Email Address: hleesmith@ieee.org

Phone: 925 735 8262

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)

Contact Information for Sponsor Chair

Name: Satish Ranade

Email Address: sranade@nmsu.edu

Phone: 5756463704

Contact Information for Standards Representative

Name: Karl Mortensen

Email Address: kmortens@charter.net

Phone: 763-241-2365

3.3 Joint Sponsor: IEEE Power and Energy Society/Substations (PE/SUB)

Contact Information for Sponsor Chair

Name: John Randolph

Email Address: jdr9@pge.com

Phone: 510-874-2680

Contact Information for Standards Representative

Name: Anne-Ma Sahazizian

Email Address: amsahazizian@bell.net

Phone: 416-345-6657

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 03/2012

4.3 Projected Completion Date for Submittal to RevCom: 08/2012

5.1 Approximate number of people expected to be actively involved in the development of this project: 20

5.2 Scope: This document specifies the DNP3 protocol structure, functions, and interoperable application options (subset levels). The specified subset level defines the functionality implemented in each device. The simplest level is intended for basic devices. More advanced levels support increasing functionality. The protocol is suitable for operation on a variety of communication media consistent with the makeup of most electric power communication systems.

Changes in scope: This document specifies the DNP3 protocol structure, functions, and **interoperable** application ~~alternatives~~**options** ~~in~~(subset **addition**levels). ~~to~~The ~~defining~~**specified** the subset structure level and defines ~~operation of DNP3, the standard~~**functionality** ~~defines~~**implemented** ~~three~~**in** application ~~each~~ levels that are ~~interoperable~~**device**. The simplest application level is ~~for~~**intended** ~~low-cost distribution feeder devices, and the most~~ complex is for full featured **basic** master stations ~~devices~~. The ~~intermediate~~**More** application ~~advanced~~ level levels is ~~support~~ ~~for~~**increasing** ~~substation and other intermediate~~ ~~devices~~**functionality**. The protocol is suitable for operation on a variety of communication media consistent with the makeup of

most electric power communication systems. ~~The standard consists of several clauses each related to an application or function.~~

5.3 Is the completion of this standard dependent upon the completion of another standard: No

5.4 Purpose: The purpose of this standard is to document and make available the specifications for the DNP3 protocol. While a primary focus of this protocol is the Electric Utility Industry, other industries that deliver Energy and Water are also using DNP3. The intent of this DNP3 standard is to meet the goal established by the National Institute of Standards and Technology (NIST) for a Smart Grid protocol:

- Provides a protocol standard from a recognized standard institution
- Provides interoperability with hundreds of operational systems and thousands of devices
- Provides cyber security based on IEC/TS 62351-5
- Provides Device data profiles in a format that can be mapped to IEC 61850 Object Models

Vendors may use this standard to implement and test the protocol in their products and be assured of interoperability. Users may use the document to specify the features they wish to apply. System Integrators may use this standard to assist in system integration and testing.

5.5 Need for the Project: To provide a Standard of the DNP3 Protocol for use in the Smart Grid Applications,

5.6 Stakeholders for the Standard: Electric Utilities and other End Users, Manufacturers and Vendors

Intellectual Property

6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: Yes

If yes please explain: IEC permission has been obtained.

6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

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

8.1 Additional Explanatory Notes (Item Number and Explanation): Document is being revised to update the security information and other related enhancements