

# P1815

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**Submitter Email:** hleesmith@ieee.org  
**Type of Project:** New IEEE Standard  
**PAR Request Date:** 19-Oct-2009  
**PAR Approval Date:** 09-Dec-2009  
**PAR Expiration Date:** 31-Dec-2013  
**Status:** PAR for a New IEEE Standard  
**Project Record:** 1815

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**1.1 Project Number:** P1815  
**1.2 Type of Document:** Standard  
**1.3 Life Cycle:** Full Use

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

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

**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

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**3.2 Sponsoring Society and Committee:** IEEE Power & Energy Society/Transmission and Distribution (PE/T&D)

**Contact Information for Sponsor Chair**

**Name:** Thomas Grebe  
**Email Address:** tgrebe@ieee.org  
**Phone:** 865-470-9222

**Contact Information for Standards Representative**

**Name:** Karl Mortensen  
**Email Address:** kmortens@charter.net  
**Phone:** 763-241-2365

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

**Contact Information for Sponsor Chair**

**Name:** Hermann Koch  
**Email Address:** hermann.koch@siemens.com  
**Phone:** +49 9131 733 862

**Contact Information for Standards Representative**

**Name:** Anne-Marie Sahazizian  
**Email Address:** am.sahazizian@hydroone.com  
**Phone:** 416-345-6657

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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:** 07/2010

**4.3 Projected Completion Date for Submittal to RevCom:** 12/2010

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**5.1 Approximate number of people expected to be actively involved in the development of this project:** 30

**5.2 Scope:** This document specifies the Distributed Network Protocol version 3 (DNP3) protocol structure, functions and application alternatives and the corresponding conformance test procedures. In addition to defining the structure and operation of DNP3, the standard defines three application levels that are interoperable. The simplest application is for low cost distribution feeder devices and the most complex is for full featured master stations. The intermediate application level is for substation and other intermediate devices.. 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 sections 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 NIST for a Smart Grid protocol:

Provides a protocol standard from a recognized standard institution

Provides interoperability with 100s of operational systems and 1000s of devices

Provides cyber security based on IEC 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 can use the documents 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

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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 International Activities

### a. Adoption

**Is there potential for this standard (in part or in whole) to be adopted by another national, regional or international organization?:** No

### b. Joint Development

**Is it the intent to develop this document jointly with another organization?:** No

### c. Harmonization

**Are you aware of another organization that may be interested in portions of this document in their standardization development efforts?:** No

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**8.1 Additional Explanatory Notes (Item Number and Explanation):** We expect to fast track this document.

NIST - National Institute of Standards and Technology

IEC 60870-5-SER {Ed.1.0} Telecontrol equipment and systems - Part 5: Transmission protocols - ALL PARTS

IEC 61850 - Communication networks and systems in substations