

P2030.102.1

Submitter Email: brian@enernex.com

Type of Project: Modify Existing Approved PAR

PAR Request Date: 18-Dec-2014

PAR Approval Date: 16-Feb-2015

PAR Expiration Date: 31-Dec-2017

Status: Modification to a Previously Approved PAR

Root PAR: P2030.102.1 **Approved on:** 10-May-2013

1.1 Project Number: P2030.102.1

1.2 Type of Document: Standard

1.3 Life Cycle: Full Use

2.1 Title: Standard for Interoperability of Internet Protocol Security (IPsec) Utilized within Utility Control Systems

3.1 Working Group: Interoperability of Secure IP Protocols Utilized within Utility Control Systems (PE/SUB/C16)

Contact Information for Working Group Chair

Name: John McGuire

Email Address: jmcguire@newpowersec.com

Phone: 6144017092

Contact Information for Working Group Vice-Chair

None

3.2 Sponsoring Society and Committee: IEEE Power and Energy Society/Substations (PE/SUB)

Contact Information for Sponsor Chair

Name: Michael Dood

Email Address: mdood@ieee.org

Phone: 509-336-7133

Contact Information for Standards Representative

Name: Hamid Sharifnia

Email Address: hamids@ieee.org

Phone: 503-813-6935

4.1 Type of Ballot: Individual

4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 05/2015

4.3 Projected Completion Date for Submittal to RevCom: 11/2015

5.1 Approximate number of people expected to be actively involved in the development of this project: 10

5.2 Scope: This standard specifies requirements for interoperability of devices utilized within utility control systems which implement the Internet Protocol Security (IPsec) protocol suite.

Changes in scope: This standard provides ~~guidelines~~ **requirements** for interoperability of devices utilized within utility control systems which ~~support~~ **implement** ~~critical~~ **the** ~~cyber~~ **Internet security Protocol Security** Interoperable Configuration Profiles (ICPs **IPsec**) to describe a specific instantiation of a particular security-related protocol are described. This description of the ICPs will make it easier for utilities to procure and implement secure systems, provide adequate cyber security controls no matter the vendor selected, provide backward compatibility, and minimize the effort of configuring and maintaining devices supporting cyber security functions over their lifetime ~~suite~~.

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

5.4 Purpose: The purpose of this document is to define specific configuration profiles of the Internet Protocol Security (IPsec) protocol suite suitable for use within a utility control system. The primary goal in developing this standard is to promote interoperability between products developed by different vendors. It focuses on those configuration parameters needed to support the establishment and sustained operation of an IPsec Virtual Private Network (VPN) tunnel

Changes in purpose: Targeted ~~The at~~ **purpose** security of products ~~this~~ **utilized** ~~document~~ **within** ~~is~~ control systems deployed throughout the electric utility sector, the approach taken to ~~create~~ **define** ~~the~~ **specific** Interoperable configuration profiles Profiles of covers four basic steps: 1. Define functional requirements based on asset owner needs 2. Select open source specification to meet the identified ~~Internet~~ **functional Protocol requirements Security** 3. ~~(IPsec) Develop~~ **protocol**

between two devices which have implemented IPsec conforming to this standard. A secondary goal of this standard is to minimize configuration errors involving IPsec implementations within utility control systems.

interoperable suite configuration suitable profiles for these use specifications within tailored a for utility the energy sector control system environment. 4. Test The and primary validate goal their interoperable developing configuration this profiles standard. Multiple is ICPs create a modular approach which allows users to require promote and interoperability vendors between to products support developed any by combination different of the Interoperable Configuration Profiles. What it means to end users and vendors is that as more Interoperable Configuration Profiles are created, they will have more choices. This It modularity focuses allows on for those the configuration appropriate parameters set needed of functionality to be support applied on a case-by-case basis at the device establishment level and based sustained on operation the of device's an role IPsec in Virtual the Private overall Network system. (VPN) Host tunnel device between or two network devices node, which Interoperable have Configuration implemented Profiles IPsec can conforming assist to end this users standard. in A communicating secondary device goal requirements of and this vendors standard in is communicating to device minimize functionality configuration for errors any involving networked IPsec device implementations which within must utility support control a core security functional requirements systems.

5.5 Need for the Project: The manner in which the control systems are being designed and operated in the energy sector is undergoing some of the most significant changes in history due to the evolution of technology and the increasing number of interconnections to other systems. With these changes however, come two significant challenges that the energy sector must face; 1) Cyber security is more important than ever before, and 2) Cyber security is more complicated than ever before. A key requirement in helping utilities and vendors alike in meeting these challenges is interoperability. While interoperability has been present in much of the discussions relating to technology utilized within the energy sector and especially the Smart Grid, we have found a lot of interest among the vendor and utility community to improve interoperability in the context of cyber security.

5.6 Stakeholders for the Standard: Energy, Utilities, Vendors to those industries

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

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): Scope and Purpose within the PAR is being modified for clarity to align with the final Scope and Purpose of the draft standard. Expected dates within Section 4 are also being updated to reflect current WG schedule.