**IEEE PSCC S5 TF: <u>Extensions to Cyber Security requirements for substation P&C systems</u>**

**Chair: Steven Kunsman**
**Vice Chair: Chan Wong**
**Output: Task Force recommendation to proceed as a working group and submit PAR**
**Established: May 2016**

**<u>Summary Minutes for Subcommittee Report</u>**
The S5 TF meeting was held on Tuesday, May 9, 2017 with 22 attendees.

**<u>Purpose of S5 TF:</u>**
To review the gaps in IEEE C37.240 "**Cyber Security Requirements for Substation Automation, Protection and Control Systems**" and decide if a WG should be formed to amend or revise the existing standard.

Bring the industry experts together with power system domain knowledge and involved in the development of cyber security standardization and review the Jan 2015 published IEEE C37.240 standard related to areas not addressed:

- Cyber security requirements for communications outside the control house but inside the substation fence
- H22 Guide for Cyber Security for Protection Related Data Files
- Cyber security for protection systems outside of the substation (Feeder automation/Wide area systems)
- Cyber security requirements for wireless applications
- Application Whitelisting and usage of Digital Signatures
- Cloud based application
- C37.240 audit support documentation
- Reference appendix to map the standard into NERC CIP applications

Decision was made to proceed into a Working Group. The proposed PAR was discussed, revised and approved by the attendees. The new additions addressing the gaps were reviewed and assignments allocated to research the area and prepare a brief presentation for the September working group meeting (See actions below).

**<u>Request for Sept 2017</u>** S5 plans to meet as a Working Group in a single session for 50 people and a computer projector.

Meeting started with Taskforce Chair- Steve Kunsman introducing the purpose of the taskforce and follows up by introduction of attendees. As there were 70% first time attendees, it was important to base line the standards and its relevance to the industry in supporting a utility's cyber security compliance.

The group reviewed the proposed PAR and as the PSCCC scope is all utility communications, it was decided to change "Substation" to "Power System" as this allows the revision to include new application areas like Distribution Automation and wireless. The revised PAR proposal is below:

> **<u>*Title:* Cyber Security Requirements for Power System Automation, Protection and Control Systems</u>**
>
> **<u>*Scope*</u>** *Revision of IEEE C37.240 to included new technical requirements for power system cyber security. Based on sound engineering practices, requirements can be applied to achieve high levels of cyber security of automation, protection and control systems independent of voltage level or criticality of cyber assets.*
>
> **<u>*Need for the Project:*</u>** *Utilities and manufacturers need to revise the standard to define new cyber security requirements for power system automation, protection and control systems to improve the overall power system network security from threats and other security vulnerabilities.*
>
> *Modern power system automation, protection and control systems, while using technology advancements to achieve greater power system reliability, can be vulnerable to a multitude of cyber security threats. These vulnerabilities and threats can lead to overall power system integrity issues. With the increasing*

*dependency on communication technology and the growing pressure of a secure utility infrastructure, various standardization bodies are in the process of developing cyber security standards where very little effort has gone into the harmonization or rationalization of these standards to the substation applications. The extension to IEEE C37.240 standard builds on the other work to date to produce a specification for a technically feasible cyber security implementation.*

*Areas of applicability not addressed in the published IEEE C37.240 standard:*
- *Cyber security requirements for communications outside the control house but inside the substation fence*
- *H22 Guide for Cyber Security for Protection Related Data Files*
- *Cyber security for protection systems outside of the substation (Feeder automation/Wide area systems)*
- *Cyber security requirements for wireless applications*
- *Application Whitelisting and usage of Digital Signatures*
- *Cloud based application*
- *C37.240 audit support documentation*
- *Reference appendix to map the standard into NERC CIP applications*

*The work also includes a review the existing standard for necessary updates.*

PAR scope was reviewed and debated whether the new work activity output should be 1) Revision to the existing, 2) introduce a new standard, (e.g. C37.241) 3) introduce an extension (C37.240.1). It was decided to proceed with the revision as this option provides the opportunity to revise the base standard in addition to adding the identify gaps.

Working Group officers were discussed and no volunteers signed up to partake and lead this new activity.

In preparation for September's WG meeting, assignments were made to the gaps/additions to research the area and prepare a 5 minute presentation on each topic.

Assignee will be responsible to research and prepare a brief presentation on the gap in the Sept 2017 meeting:
Cyber security requirements for communications outside the control house but inside the substation fence – **Steve Kunsman**
H22 Guide for Cyber Security for Protection Related Data Files – **Tony Johnson**
Cyber security for protection systems outside of the substation (Feeder automation/Wide area systems) – **Peter Rietmann**
Cyber security requirements for wireless applications – **Craig Preuss**
Application Whitelisting – **Kevin Easley**
Applications of Digital Signatures – **Kevin Easley**
Cloud based application - **defer**
C37.240 audit support documentation – **Tony Johnson**
Reference appendix to map the standard into NERC CIP applications – **Tony Johnson**

**Note to those not in attendance**: if you wish to support any of the topics above and support the assignee, let me know and you will be put in contact with the section owner.

**Actions items**

1) Deliver the minutes and revised PAR proposal to task force and provide the opportunity for comments. Steve K by 5/10/2017
2) Submit PAR for new WG. Steve K by 5/30/2017
3) Prepare 5 minute presentation on each addition/gap to be addressed in the revision. Section owners above by 8/15/2017