IEEE Power System Communication & Cybersecurity Committee

CYBERSECURITY SUBCOMMITTEE – S0

Chair: Scott Mix

Vice Chair: Theo Laughner

S0 website: http://sites.ieee.org/pes-pscc/cybersecurity-subcommittee-s0/

AGENDA – January 11, 2023, Jacksonville, FL & Hybrid

1. Introductions

2. Count of S0 members for quorum
   (16 members Present – 14 of 26 required to conduct business, 18 Guests, 34 Total)

Members Present:

Full name	Affiliation	Role
Scott Mix	PNNL	S0 Chair
Theo Laughner	Lifescale Analytics	S0 Vice-chair
Jay Anderson	SEL	S0 Member
James Bougie	GPT	S0 Member
Eugenio Carvalheira	Omicron	S0 Member
TW Cease	Consultant	S0 Member
Ed Cenzon	SEL	S0 Member
Mike Dood	SEL	S0 Member
James Formea	Eaton	S0 Member
Colon Gordon	SEL	S0 Member
Shane Haveron	Ametek	S0 Member
Chris Huntley	SEL	S0 Member
Anthony Johnson	SCE	S0 Member
Ryan Newell	TRC	S0 Member
Jeff Pack	Power Engineers	S0 Member
Eric Thibodeau	Hydro Quebec	S0 Member

Note: Continued membership requires continued participation and contribution

3. Agenda

   1. Introduction
   2. Roll Call/Quorum
      i. We note the passing of member Dennis Holstein October 2022
      ii. Request for affiliation and name updates
   3. Approval of Agenda
   4. Approval of Previous Minutes
      i. September 2022 Meeting
   5. S0 SC Working Group/Study Group/Task Force Summary & Status
   6. Unfinished Business
   7. New Business
   8. Announcements
   9. Adjournment

4. Approval of September 2022 Minutes of Meeting (sent out following last meeting)

5. S SC Working Group/Study Group/Task Force Summary & Status

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WG S1: Revision of IEEE 1686 IED Cyber Security Capabilities

Chair Lacroix has received the final draft from IEEE SA professional editing for review. The standard is expected to be published on February 7, 2023. He thanks everyone who contributed to this work.

WG S2: P1711.1 Serial SCADA Protection Protocol (SSPP)

PAR Approval: 2017/03/23 **PAR Expires:** 2023/12/31 **Target Completion:** 2023/312/31 **Draft:** 8

PAR Approval: yyyy/mm/dd **PAR Expires:** yyyy/mm/dd **Target Completion:** yyyy/mm/dd **Draft:** xxxx

Chair: Ed Cenzon   **Vice-chair:** *Andrew Wright**   **Secretary:** Mike Dood

Scope: This standard defines the Serial SCADA Protection Protocol (SSPP), a cryptographic protocol to provide integrity, and optional confidentiality, for cyber security of substation serial links. It does not address specific applications or hardware implementations, and is independent of the underlying communications protocol.

Status:

- 6 in attendance locally and 4 online, with 6 members and 4 guests. Quorum was met.
- Meeting minutes amended and approved.
- MEC comments were discussed and WG updated the draft to address comments.

- Chair will ask for Ballot group formation help from IEEE - Tom Thompson.
- Meeting will be scheduled to continue working on the draft in about 2 weeks pending a doodle poll result.
- Meeting adjourned at 6:10pm.

Next Meeting Requirements: [Room Size=20] [Projector=Yes][Telecom=Yes][Conflicts=P2]

S3: P2030.102.1 Standard for Interoperability of IPSEC Utilized within Utility Control Systems

Inactive

S4: P1711.2 Standard for Secure SCADA Communications Protocol (SSCP)

Inactive

WG S5: Revision of IEEE C37.240 Cybersecurity Requirements for Power System Automation, Protection and Control Systems

PAR Approval: yyyy/mm/dd **PAR Expires:** yyyy/mm/dd **Target Completion:** yyyy/mm/dd **Draft:** xxxx

Chair: TW Cease   **Vice-chair:** --vacant--   **Secretary:**

Scope: 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.

Status:

- WG met without quorum.
- Discussed providing draft document to ISA99 WG14 and withdrawing PAR. Per discussions with Steve Kunsman at the Nashville meeting, Steve indicated that the draft could be useful to the ISA99 effort.
- Once the draft has been processed, the existing PAR can be withdrawn. If additional activity is warranted, a new PAR will be submitted.
- See new business

Next Meeting Requirements: [Room Size=40] [Projector=Yes][Telecom=Yes][Conflicts=]

S6: IoT for connected home - Communication and cybersecurity requirements

Inactive

WG S7: P2808 Function Designations used in Electrical Power Systems for Cyber Services and Cybersecurity

PAR Approval: yyyy/mm/dd **PAR Expires:** yyyy/mm/dd **Target Completion:** yyyy/mm/dd **Draft:** xxxx

Chair: Nathan Wallace   **Vice-chair:** Mike Dood   **Secretary:** Deepak Maragal

Scope: This standard defines and applies to function designations for cyber related services, and cybersecurity controls and measures used to detect, identify, protect from, respond to, and recover from, security threats to electric power systems. These designations apply to the

design, procurement, and operation of electric power systems. This standard also defines engineering and modeling documentation using these designations.

Status:

- Did not meet

Next Meeting Requirements: [Room Size=20] [Projector=Yes][Telecom=Yes][Conflicts=]

WG S8: P2658 Guide for Cybersecurity Testing in Electric Power Systems

PAR Approval: yyyy/mm/dd **PAR Expires:** yyyy/mm/dd **Target Completion:** yyyy/mm/dd **Draft:** xxxx

Chair: Nathan Wallace **Vice-chair:** Deepak Maragal **Secretary:**

Scope: This document provides test guidance for cybersecurity controls used in electric power systems. The guide encompasses testing and verification of cybersecurity services, applications, and controls, including end-to-end testing.

Status:

- Did not meet

Next Meeting Requirements: [Room Size=20] [Projector=Yes][Telecom=Yes][Conflicts=]

TF S9: Task Force on Utility IT-OT Cybersecurity challenges in roles and terminology

PAR Approval: N/A **PAR Expires:** N/A **Target Completion:** yyyy/mm/dd **Draft:** xxxx

Chair: Theo Laughner **Vice-chair::** Brian Smith **Secretary:**

Scope: Assess the IT-OT challenge in Utility Cybersecurity roles. Determine if a Task Force is required to create a report to assist in building organizational understanding and collaboration

Status:

Attendance:

- 4 of 6 Members attended. Quorum achieved.
- 9 attendees in person, 13 attended virtually for a total of 22 attendees

Minutes:

- Previous meeting minutes were approved (May/September)
- Bulk of the meeting was used to review S0 provided comments and editing the Utility IT and OT Cybersecurity and Terminology Draft 6 document

Next Steps:

- Theo to add kill-chain to dictionary
- Members to continue to address S0 comments
- Theo to schedule group meeting tentative March to finalize comments

Next Meeting Requirements: [Room Size=30] [Projector=Yes][Telecom=Yes][Conflicts=H40]

TF S10: Utility & Municipality Challenges on Analyzing and Implementing

Cybersecurity Standards and Best Practices

PAR Approval: N/A **PAR Expires:** N/A **Target Completion:** yyyy/mm/dd **Draft:** xxxx

Chair: Jeff Pack **Vice-chair:** --Vacant-- **Secretary:**

Scope: Assess the challenge in utilities & municipalities with limited resources on the applicability and relevance of the cybersecurity standards and create a report to assist summarizing the relevant cybersecurity standards.

Status:

- Meeting started on time at 2:24 P.M. EST with approximately 13 attendees based on the room attendance list and the WebEx participant list. A full attendee list will be included in the minutes once the WebEx attendance report is provided.
- Justin Turner is the new vice-chair for S10.
- Six members were in attendance, so quorum was achieved.
- May 2022 minutes were reviewed and approved.
- September 2022 minutes were reviewed and approved with corrected changes.
- Reviewed the assignment for S10.
- Reviewed the draft report and received areas to address based on our quick review. Discussed edits made to the governance section to avoid duplication of S9 content.
- Need to review some additional standards for the baseline, edit the applicability matrix to eliminate the abbreviations.
- The chair will schedule at least one working session to review and complete the draft document and prepare it for S0 review.
- The chair will upload the draft to iMeet Central and make sure that all contributors have access to review and comment.
- Meeting was adjourned at 3:32 P.M. EST.

Actions:
- Edit draft based on meeting comments and upload to iMeet Central.
- Schedule working session to review and update draft.

Next Meeting Requirements: [Room Size=40] [Projector=Yes][Telecom=No] [Conflicts=HTF55]

S11: Task Force on Roadmap Development of Cyber Security Services standard document

Inactive

S12: IED Virtualization

Inactive

WG S13: Review 1547.3 Guide for Cybersecurity of DERs Interface with Electric Power Systems

PAR Approval: 2019/09/05 **PAR Expires:** 2023/12/31 **Target Completion:** 2021/12 **Draft**: 3.07

Chair: Tony Johnson **Vice-chair:** R. Benjamin Kazimier **Secretary:**

Scope: To jointly develop 1547.3 with SCC21.

Status:

- Completed second re-ballot with 3 commentors and 33 comments needing to be addressed, many of which are not must resolve.
- No meeting expected for May

Next Meeting Requirements: [Room Size=25] [Projector=Yes][Telecom=Yes][Conflicts=P18]

TF S14: Task Force on using TLS in Power System Applications

PAR Approval: N/A **PAR Expires:** N/A **Target Completion:** yyyy/mm/dd **Draft:** xxxx

Chair: Colin Gordon **Vice-chair:** Shashi Sastry **Secretary:**

Scope: Develop a report on the implementation of TLS for usage in legacy (e.g., SCADA) and emerging (e.g., DER) power system applications

Status:

- Met with 6 attendees – 4 members, 2 guests
- We reviewed previous meeting minutes from May and September 2022 – we could not approve due to lack of members present.
- We reviewed the template change (the chair will post this to iMeet soon).
- Heard presentation on IEC 62351-9 Ed. 2 pertaining to asymmetric keys
- We need the S14 title updated on the PSCCC website and otherwise: "Task Force for the use of TLS for devices in Electric Power Systems" (removed "HTTPS") from the May 2022 meeting.
- Update chair / vice-chair on the PES website.

Next Meeting Requirements: [Room Size=30] [Projector=Yes][Telecom=Yes][Conflicts=]

WG S15: P2030.100.2 IEEE Guide for Securing Generic Object Oriented System Events (GOOSE) and Sampled Values (SV) Protocols of IEC 61850 using IEC 62351-6 and IEC 62351-9

PAR Approval: yyyy/mm/dd **PAR Expires:** yyyy/mm/dd **Target Completion:** yyyy/mm/dd **Draft:** xxxx

Chair: Jay Anderson **Vice-chair:** Shane Haveron **Secretary:** Dean Ouellette

Scope: This guide provides information for suppliers and implementors on applying security from the most recently published versions of IEC 62351-6 and IEC 62351-9 to GOOSE (IEC 61850-8-1), R-GOOSE (IEC 61850-8-1), SV (IEC 61869-9), or R-SV (IEC 61850-9-2) protocols.

Status:

- Met with Quorum; previous minutes approved
- Writing assignments discussed including use cases
- GE raised a potential patent issue that needs to be researched
- Herb Falk discussed upcoming changes to IEC 62351-6 and -9
- Herb will provide a presentation on GDOI before the next face-to-face meeting

Next Meeting Requirements: [Room Size=35] [Projector=Yes][Telecom=Yes][Conflicts= H50,

P1, H44, H47, C33, S2, H52].

TF S16: Task Force on Systems for Detecting and Preventing Network Intrusions in Electric Power Systems

PAR Approval: N/A   **PAR Expires:** N/A   **Target Completion:** yyyy/mm/dd **Draft:** xxxx

Chair: Eugenio Carvalheira   **Vice-chair:** Eric Thibodeau   **Secretary:**

Scope: This task force will be investigating the current state of the art for network Intrusion Detection Systems (IDS) and Intrusion Prevention Systems (IPS) used in Electric Power Systems (EPS). The report from the task force will have to document the different existing methods to perform detections. These include, but are not limited to, monitoring the associations between transmitters and receivers on the network, detailing the types of protocols used, recognizing signatures inside data packets, comparison to a baseline of existing traffic, etc. For prevention purposes, the task force should focus on active systems that can shut down a network intrusion under way. This excludes already well covered countermeasures like IED hardening, firewalls, network diodes, etc.

Status:

- S16 met on Tuesday January 10 at 8:00 AM EST. 5 members out of 7 were present at the meeting, quorum was met
- We discussed the outline and agreed to address new topics like the impact of confidentiality and encryption as well as the impact of virtualization on architectures and implementation
- Still looking for volunteers to write some sections. TF commissioners are reaching out to vendors to get support for sections 3 (types of systems) and 5(architectures for deployment)

Next Meeting Requirements: [Room Size=20] [Projector=Yes][Telecom=Yes][Conflicts=]

TF S17: Task Force on Use of SBOM in the Energy Sector

PAR Approval: N/A   **PAR Expires:** N/A   **Target Completion:** yyyy/mm/dd **Draft:** xxxx

Chair: Éric Thibodeau   **Vice-chair:** Marc Lacroix   **Secretary:**

Scope: Investigate Use cases for SBOM; Survey of SBOM initiatives; Survey of tools; Applicability of these initiatives to the energy sector; Recommendations

Status:

- S17 met on Tuesday at 1:00 PM EST.
- 4 members out of 7 attended, quorum was met.
- The task force drafted and voted on the following scope and purpose for our report
  - Scope: This report summarizes the current efforts by external entities for the use of SBOM in EPS. Further, it will attempt to identify gaps in current efforts in order to provide guidance for future work to the subcommittee. The report is targeting SBOM solely, excluding other types of BOM.
  - Purpose: Help the cybersecurity subcommittee members develop an awareness about existing industry activities and initiatives around SBOM in EPS. Provide a recommendation to the cybersecurity subcommittee about potential future work to complement the current

external activities around SBOM in EPS.
- An iMeetCentral workspace will be requested
- We should hold at least one workshop to start drafting the outline of report before the May meeting.

Next Meeting Requirements: [Room Size=15] [Projector=Yes][Telecom=Yes][Conflicts=I47]

6. Unfinished Business

    a. (none)

7. New Business

    a. Request volunteer to serve as S0 representative for the PSCCC Awards Task Force (A1)

    b. S2 requests to form ballot pool.

    c. Authorize S0 officers and PSCCC MC to work with IEEE SA to provide current copy of C37.240 (WG S5) draft document to ISA99 WG14 for their use

    d. Request approval to withdraw PAR for C37.240 once the draft is shared with ISA99 WG14.

    e.

8. Announcements:

    a. Roster Cleanup for non-participating members (notice must be provided to non-participating members well ahead of removing them).

    b. 123Signup Retirement and Replacement– hope to roll out

    c. Chairs must provide full meeting minutes within 2 weeks (by 01/27/2023).

    d. Meeting Minutes (draft .doc and approved .pdf) are to be uploaded to the **PSCC Committee** iMeet site in addition to individual SG/WG/TF sites.

    e. Meeting notice and WG/TF/SG agenda to be sent to sub-group members and S0 Chair two weeks prior to any meeting.

    f. Newly formed WG and TF (i.e., those migrated from SG) should issue a call for participation and establish a roster by the conclusion of their next meeting.

    g. All sub-groups are expected to have Vice Chairs. Secretaries are optional (Vice Chair assumes role of Secretary if none).

h. Working Group chairs (standards activity) are now **REQUIRED** to take IEEE SA training. Training must be completed by the end of the year.

    i. IEEE SA Standards Working Group Chair Fundamentals (multi-hour course)

    ii. Understanding IEEE SA's Antitrust, Competition, and Commercial Terms Policies

    iii. Data Privacy Awareness for IEEE SA Activities

i. New Participant Behavior slides to be shown at all WG meetings have been released by IEEE SA. PowerPoint versions are available on the PSRCC website - https://site.ieee.org/pes-pscc/files/2022/05/Participant-Behavior-Individual-method.ppt

j. Reminder: Task Forces also need to manage membership and have quorum to approve minutes, and at the completion of their task to approve the reports out of the TF to go to the subcommittee.

k. If anyone has published a paper in an IEEE Transactions journal, let the chair know so that it can be considered for an award.

l. New PES PowerPoint Template is available.

m. PES Technical Report template available on PSCCC website.

n. New Committee P&P and Working Group P&P

9. Adjourn