PSCC Subcommittee Meeting Minutes

Designation: P0	Name: PROTOCOLS AND COMMUNICATION ARCHITECTURE SUBCOMMITTEE				
Meeting Location: Reno, NV – In-person and virtual		Meeting Time: 4:00 pm PST	Meeting Date: 2022/05/11	Minutes Revised: 2022/05/17	Minutes Approved: 2022/09/14
Presiding Officer(s): Benton Vandiver - Chair; Tom Dahlin - Vice Chair			Recorded by: Tom Dahlin	Draft Number: 1.1	

Attendance: 27 of 39 members; 16 guests

Name	Affiliation	Phone (P) / Web (W) / Local (L)	M/CM/G
Anthony Johnson	SCE	W	M
Benton Vandiver – Chair	Hitachi ABB Power Grids	L	M
Brittany Chapman	CAI Engineering	W	M
Chris Huntley	SEL	W	M
Craig Palmer	PowerComm Solutions	L	M
Craig Preuss	Black & Veatch	L	M
Dan Nordell	Xcel Energy	W	M
Dave McGuire	Hubbell-RFL	W	M
Eric Thibodeau	Hydro Quebec	W	M
Galina Antonova	Hitachi ABB Power Grids	W	M
James Bougie	Albireo Energy	L	M
James Formea	EATON	L	M
Jay Anderson	SEL	W	M
Ken Fodero	SEL	W	M
Ken Martin	EPG	W	M
Marc Benou	Iniven	L	M
Mike Dood	SEL	W	M
Nicholas Kraemer	NuGrid Power	W	M
Ron Farquharson	Mount Victoria Consulting Ltd	W	M
Ryan Newell	TRC	W	M
Scott Mix	PNNL	W	M
Shane Haveron	Ametek	L	M
TW Cease	Consultant	L	M
Tom Dahlin – Vice Chair	SEL	W	M
Vasudev Gharpure	Quanta Technology	W	M
Yi Hu	Quanta Technology	L	M
Bharat Nalla	SEL	W	G
Byungtae Jang	KEPCO	W	G
Colin Gordon	SEL	W	G
Deryk Yuill	iS5 Communications	W	G
Don Burkart	Con Edison	W	G
Erin Jessup	SEL	W	G
Erin Morales	IEEE	W	G
Gayle Nelms	SEL	W	G
Harsh Vardhan	GE	W	M
James Michaelis	Commonwealth Associates	W	G
Jason Lombardo	S&C Electric	W	G
Jeff Dagle	PNNL	L	G
Jeffrey Myers	Commonwealth Associates	W	G
Jeff Pack	Power Engineers	L	G
Jesse Silva	SCE	W	G

Michael Cunningham	Qualus	W	G
~~Nicholas Kraemer~~	~~NuGrid Power~~	~~W~~	~~G~~
Sakis Meliopoulos	Georgia Tech	W	G
M:Member CM: Corresponding Member			

Item no.	Notes	Action by
CALL TO ORDER		BV
INTRODUCTIONS AND QUORUM	Member roll call taken. A quorum was met. There were 26 of 39 members present.	BV
AGENDA APPROVAL	The motion was passed. Motion – Craig Preuss. Second – Eric Thibodeau Approved -Yes (26).	BV
APPROVAL OF PREVIOUS MINUTES	The motion was passed. Motion – Craig Preuss. Second – James Bougie Approved -Yes (26).	BV
CHAIR'S REMARKS	Announcements RevCom submission by 08/11/2022 NesCom submission by 08/11/2022 Membership: Welcome: Jay Anderson WG minutes, PLEASE, get them in to Tom within 1 week after your meeting. If not, we cannot complete our SC report to the MC.	BV
REPORTS	Please include what you need for the next meeting (room size, sessions) and revision of the document (draft #); Requirements for Next Session (RNS).	

Item no.	Notes	Action by
P1WG	Standard Profile for Use of IEEE 1588 Precision Time Protocol in Power System Applications. Amendment 1: Adding a TLV to indicate the latest IERS-specified UTC Leap Second Event Chair: Chris Huntley Group continued reviewing the Ballot Comments (PC37.238a_disposition_001c.xlsx, dated 5/4/22) beginning at I-47. At the beginning of the review, the group had an extended discussion on the format of the format of Column U (Disposition Detail). Column U will be edited for style/language prior to submission. I-47 – extended discussion on format of comments. Rejected I-46 & I-45: rejected I-44: Changed to Revised. Column U Revision to be developed. I-43 – I41: accepted I-41 – Changed to Revised. Column U Revision to be developed. I-40 – Changed to Revised. Column U Revision to be developed. I-39: accepted I-38: rejected I-37: rejected. Column U Revision to be developed. I-36 – I-35: accepted I-34: Change to revised. Column U Revision to be developed. Per a request from the Chair, several Members (Galina, Ya-Shian, & Nicholas to review columns T (Disposition Status) and U (Disposition Detail) before the next meeting. RNS: 20 people, 1 session, HDMI projector, WiFi, teleconferencing Conflicts: P12, P14, H41 and H49	Chris Huntley
P2WG	Electric Power Systems Communications – Distributed Network Protocol (DNP3) Chair: Ron Farquharson P2 is focused on 1815 (DNP3) – and collaborating with the DNP Technical Committee to develop the next release of 1815. The last release was 1815-2012. Met in a double session. o Current PAR expires in December 2022. Chair has applied for a three-year extension of the PAR which should give them one full year of (necessary) buffer. o Great progress with the work of updating the 1815 standard involving years of work by the DNP-UG Tech Committee. Some sections have been completely written- especially Clause 7 (Cyber Security) and Clause 13 (Networking). o A key driver for the current draft review schedule is Clause 7 (Cyber Security) which has been delayed due to the loss of funding at a critical time in the development and the longer-than-expected coordination with the IEC TF drafting IEC 62351-5. RNS: 20 people, 1 session, HDMI projector, WiFi, teleconferencing Conflicts: S5 – C37.240	Ron Farquharson
P3SG	Exchanging Information Between Networks Implementing IEC 61850 and IEEE Std. 1815.1 (DNP3) Chair: Ron Farquharson DID NOT MEET. P2WG took up this time slot. Completed a Report focused on IEEE 1815.1 for mapping between IEEE 1815 (DNP) and IEC 61850.	Ron Farquharson

P5WG	Recommended Practice for Network Communications in Substations (Revision of IEEE P1615) Chair: James Bougie We reviewed some updates that Jim Bougie had made to the document. We spent a lot of time on the section that talks about serial to Ethernet converters and specifically section 4.4.1. Jim agreed to look at that section further. Open questions were defining 'gateway'. Should we be saying terminal server or port server. Chair asked the members to volunteer to review sections of the standard and provide comments for revision. RNS: 20 people, 1 session, HDMI projector, WiFi Conflicts:	James Bougie
P9WG	Revision of C37.118.2 Chair: Vasudev Gharpure Working on joint revision of C37.118.2 standard, (with C40 – C37.247) PAR extension to December 2022. Had hoped to get the WG to agree to the document by this week, but I don't think it is going to happen. It will probably be mid-June. Will have to wait until September to get P0 approval for ballot group formation RNS: 20 people, 1 session, HDMI Projector Conflicts: C40, C23, C28, C41, P10	Vasudev Gharpure
P10WG	IEEE Standard for Streaming Telemetry Transport Protocol Chair: Ken Martin Draft 2.85 The Chair (Ken) reviewed the current project status. We will not apply to the PSCC P0 subcommittee to go to ballot, we hope to be ready by September. Ken has not applied for the PAR extension but plans to do so before the next meeting. The current draft, 2.85, is fairly complete but needs a number of updates and small improvements to be ready for ballot. Ritchie and Scott made several edits since the last meeting, and these were the focus of this meeting. Clause 6 has been updated to the new writeup as decided at the last meeting. A couple paragraphs exploring the use of 'data diodes' was set to deletion. It will be deleted at the next meeting unless someone finds reason to restore it. The Cyber Security Clause 7 still needs promised additions from Scott. The WG will address it at the next meeting. RNS: 20 people, 1 session, HDMI projector Conflicts: P9, C23, C46, C41, H50, PSRC-SC-C, PSCC SC-P	Ken Martin
P12TF	Analog Leased Line End of Life and Migration Report Chair: Marc Benou Sections 1, 2, 4.1, 4.3, and 5 had new submissions. The group reviewed the new work and changes, including the elimination of the word history in section 2. Changes to the document were made as we progressed. An addition to section 4.3 about FastNet was discussed. There is still some uncertainty if it belongs in the document. That, and section 5 still need to be reviewed and final comments made. RNS: 20 people, 1 session, HDMI Projector Conflicts: H32, P14, HTF49	Marc Benou

P13TF	Beginners guide to IEC61850 Chair: Eugenio Carvalheira Members re-affirmed their commitments to previously assigned writing assignments. A few details were added to the draft outline, but no major changes were requested. We discussed how best to talk about how 61850 relates to other standards in a beginner appropriate way. Volunteers were recruited for a few additional writing assignments. An assignment completed by Craig Preuss on interfacing with non 61850 devices was shown. RNS: 30+ people, 1 session, HDMI projector, WiFi Conflicts: H45, H27, H31, H30, H6, H44, TFH47,	Eugenio Carvalheira
P14WG	Review of C37.236, IEEE Guide for Power System Protective Relay Applications Over Digital Communication Channels Chair: Tom Dahlin Section 6.7 was reviewed - wireless communications. Lots of discussion on content and formatting. Should we remove information not relevant to protective relaying? Do we stay at Layer 1 or Layer 2 for the guide? There was a good discussion regarding GOOSE Messaging over wireless and whether we should move it into the Ethernet section or remove much of the details of GOOSE since it is just a protocol. We will remove 6.7.3 and include items from 6.7.3 in 6.7.2 We will leave 6.7.4 as-is except revise figure 3 to remove DS3 and DS1 As packet networks are more common over microwave, now will revise/improve figure 6 as well. We will combine cellular and private cellular sections. In general, we need to determine how detailed and in-depth we want the guide to be. RNS: 30 people, 1 session, HDMI projector Conflicts: P12, H42, H41,H49	Tom Dahlin
P15WG	Standard Profile for Communications with Distributed Energy Resources (DERs) using IEEE Std 1815 [Distributed Network Protocol (DNP3)] Chair: Eric Thibodeau We now have a first full draft of the standard. WG has teleconferences every two weeks to review the draft. We have a few pending reviews to receive. Members who committed to do reviews will be contacted next week and asked to submit their reviews by June 30. It is a slow process, but we are making progress. RNS: 25 people, 1 session, HDMI projector, WiFi Conflicts: S1, P2, P3, K25	Eric Thibodeau

P16WG	P1854 Review by PSCC for Communications and Cybersecurity Requirements Chair: Jason Lombardo Joint work w/T&D and PSRC H53. Xiangyu Ding leads the joint work. • Reviewed the updates to P1854 – Recommend we change "Master Station" to "Controlling Station" in the guide. • Discussed posting the latest version of the document to iMeet, so everyone has access to it going forward. • Discussed getting the document back to SDWG by end of May with the goal of getting this updated by end of the year. • Will ask for some help with editorial/grammar within the guide once the final changes are done RNS: 20 people, 1 session, HDMI projector, WiFi, Conflicts: I31, H46	Jason Lombardo
P18SG	Guide for Smart Grid Interoperability of Energy Technology and Information Technology Operation with the Electric Power System (EPS), End-Use Applications, and Loads Chair: Anthony Johnson P18 DID NOT MEET. RNS: 25 people, 1 session, HDMI projector, Conflicts: S1	Anthony Johnson
P19SG	Study Group on Universal Utility Data Exchange (UUDEX) Chair: Scott Mix P19 SG - PAR approved as P2030.103 Motion approved to migrate P19 from SG to WG. The chair reviewed the current state of the PNNL development on this standard protocol. • PNNL has finalized the initial draft standard document and Scott Mix migrated it into the IEEE template. • PNNL has made some minor revisions to the published reference code which is on a public GitHub repository. o This code is for reference and not part of the standard. RNS: 20 people, 1 session, HDMI projector, Conflicts: P20	Scott Mix

P20SG	Joint Revision of IEC 61850-9-3 Chair: Benton Vandiver Review of 9-3 draft v3.1a from the last DLMT mtg. Topics in discussion •　　Review of Mark Adamiak's Time Accuracy analysis of 1588-2019 as a possible solution for C37.118 time inaccuracy requirements. •　　Review of the member's poll results of the 9-3 scope issues that have the DLMT progress mostly stalled. However, only 40% of members have responded. This prevents identifying the issues to drive a consensus. •　　From the previous DLMT meeting - Bruce M. had proposed using a Class hierarchy in the profile similar to IEC 61439 to bridge the requirements. This was put to the P20 membership for discussion with pros and cons weighed. •　　For a Class hierarchy to work in the profile there are two requirements: A.) the Classes must be a superset of the underlying Class(es). (e.g. Class 2 is superset of Class 1) and B.) all items within a Class are mandatory. •　　After lengthy debate a motion was made for P20 to recommend using the Class hierarchy to the DLMT and resolve the industry's power profile requirements into one standard. The motion passed unanimously. The goal is to resolve: device local time issues, C37.118 needs, holdover requirements and recovery, IEC 61850 performance Class mappings now and future, security, & others. •　　A restructured version of the proposed 9-3 draft v3.1a supporting the Class profile approach will be made for the next DLMT meeting and presented for consideration to the DLMT members. RNS: 30 people, 1 session, HDMI Projector Conflicts: H50	Benton Vandiver
P21SG	System architectures supporting the virtualization of substation protection and control applications Chair: Craig Preuss As the P21 chair, I can report to you that this work has been going on for about a year and is supposed to be wrapping up on Monday. I anticipate that the P21 will vote on Monday to approve establishing a joint task force with the PSRC to develop a PES technical report based upon the output of the P21 SG and the CIGRE B5.60 technical brochure that proposes a roadmap for developing new standards or updating existing IEEE standards such as 1613, C37.90 series, C37.2, C37.115, 1686, C37.240, and C37.231 to address the impacts of CPC-based systems and CPC systems as described in PC37.300. The P21 SG has identified this list of standards through our work over the past year and believe all of these standards will be impacted in some way, could be minor, could be significant. The idea is that the new TF would figure out what that is and propose a solution that is documented in the report that would be the basis for new PARs to be written and approved by the responsible Standards Committee (PRSC or PSCCC). After the P21 SG vote to approve, then the P0 subcommittee would need to vote to approve on late Wednesday, followed by the PSCCC Main Committee meeting on Thursday. See new business below:	Craig Preuss

Item no.	Notes	Action by
OLD BUSINESS	Status of joint sponsorship with PSRC D47 WG of C37.243 - IEEE Guide for Application of Digital Line Current Differential Relays Using Digital Communication – Instead of forming a new working group, P0 SC voted to appoint Galina Antonova as a Liaison to D47 P19 SG - PAR approved as P2030.103 Motion approved to migrate P19 from SG to WG. Motion – Scott Mix. Second – Craig Preuss	BV
NEW BUSINESS	P2 (1815 DNP3) has submitted a 3-year PAR extension request. P0 SC voted to appoint Tom Dahlin as a liaison to H41 WG to add a test section to Std 1646 as a joint effort. P21 presented a motion to transition the P21 Study Group to a Task Force that will develop a PES technical report based upon the output of the P21 SG and the CIGRE B5.60 technical brochure that recommends a roadmap for developing new or updating existing IEEE standards (e.g., P1613, PC37.90 series, PC37.2, P1646, C37.115, P1686, PC37.240, PC37.231, and P2808) to address the impacts of CPC-based systems and CPC systems as described in PC37.300. With this scope, the P21 TF must be joint with the PSRC Committee. There was lots of discussion on this topic and unfortunately the meeting ran long, and we lost too many members to achieve quorum for a vote.	BV
TIME OF FINAL ADJOURNMENT	5:25pm PST. Motion – Marc Benou. Second – Jay Anderson	TD
NEXT FACE TO FACE MEETINGS	September 2022 in Nashville, TN. In person / virtual meeting	BV
FUTURE MEETING ROOM REQUIREMENTS	For the next meeting we will need to meet for 1 session in a room for 50 people. We do not want to meet at the same time as the PSRC H SC or the PSCCC S SC.	