

PSCC Subcommittee WebEx Virtual Meeting Minutes - DRAFT

Designation: PSCCC-F0	Name: IEEE Fiber Optics Subcommittee
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Meeting Location: WebEx	Meeting Time: 10 AM-1:00 PM-EDT	Meeting Date: 2021/09/29-30	Minutes Revised:	Minutes Approved: 2021/12/09
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Presiding Officer: Chair: Delavar Khomarlou, Vice Chair: Corrine Dimnik, Secretary: John Jones	Recorded by: John Jones, D. Khomarlou, Corrine Dimnik
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Attendance: Total attendees = 17/25 + 6 Guests (M: Member, CM: Corresponding Member, G: Guest, I: IEEE)

Name	Affiliation	Attending via Phone (P) / Web (W) or Local (L)/ Absent (A)	M/CM/ G/I
Austin Farmer	AFL	A	M
Jaclyn Whitehead	AFL	A	M
Mark Naylor	AFL	A	M
Robert (Bob) Kluge	ATC - Retired	W	M
Mike Warntjes	ATC	A	M
Corrine Dimnik	Kinectrics	W (host)	M
John Jones	PLP	W	M
Josep Martin Regalado	Prysmian	W	M
Jim Ryan	Prysmian	W	M
Felix Chen	ZTT China	W	M
Jack Roughan	ZTT China	W	M
Linda Cai	ZTT China	W	M
Lemon Lu	ZTT China	W	M
Rabih Ghossein	HPS	A	M
Gabriel Okafor	HPS	W	M
Tewfik Schehade	Independent Consultant	W	M
Delavar Khomarlou	Hydro One Networks	W	M
Brett Boles	Southern Company	W	M
Greg Bennett	Southern Company	A	M
Christopher E. Royer	AEP	A	M
Henson Toland	OFS Optics	W	M
Mike Riddle	Incab	W	M
Monty Tuominen	Bonneville Power - Retired	W	M
Mike Kipness/Erin Spiewak	IEEE (liaison)	A	I
Denise Frey	Fiber Planners	W	M
Chitrand Bhatnagar	DuPont	A	M
Paul Baird	Prysmian	W	M/G
Guests (New and Old)			
Peyton Campbell	AFL	W	G
Marie Henshaw	AFL	W	G-->M
Dan Baggett	AFL	W	G

Jacob Palmer	PLP	W	G
Peter Weiman	OFS	A	G?
Neal Murray	EPRI	A	G
Dimitry Gilbert	Incab	A	G (?)
Andrew Cresswell	Hubbell	W	G

Note:

Paul Baird – Prysmian will replace Jim Ryan – Prysmian when he retires in December 2021, hence M/G. He has been counted as Guest in the tally.

G→M : Guest is eligible to become member if requested.

Item no.	Notes	Action by
CALL TO ORDER	September 29 , 2021 10:00 AM	D. Khomarlou
INTRODUCTIONS AND QUORUM	Quorum With 17 members on WebEx, no IEEE representative in this meeting.	
CHAIR'S REMARKS	<p>WebEx Meeting Welcome, COVID-19 situation, the need to have virtual meetings in place of the face-to-face meeting given the situation. Possibility of having face-to-face meeting in March 2022 in Charlotte, depending on COVID-19. Will decide in December 2021 conference call.</p> <p>IEEE SA Copyright policy for WG/subcommittee members was presented briefly. The Copyright presentation will be attached to these minutes for future reference. There was a question with regards to copyright of presentations made by members. UPDATE AND CLARIFICATION: The member holds the copyright, but grants IEEE automatic license to use the copyrighted material. Further clarification is sought through IEEE SA.</p> <p>Members need to confirm iMeetCentral IEEE copyright policy or their iMeetCentral access may get suspended.</p> <p>Chair presentation has been placed in this document for your reference.</p> <p>123Signup process has been discontinued by IEEE, so no need to use it going forward. New system is being RFPed.</p> <p>Need members to step up to help the subcommittee officers. Need one person to represent PSCCC-F0 in awards committee. Need one person to help Corrine, chair and secretary (John Jones) and use this experience to take one of the officers' positions in the near future. [update Oct 4: Following A0 meeting on Oct 1, chair to assign the awards committee membership]</p> <p>Corrine, John Jones and I will maintain mailing list for all members and can send documents/info. For privacy, group emails will be sent as Blind Carbon Copy (BCC). Discussion on sharing names/emails via two sign-in sheets (one for those who consent and one for those who don't consent) at face-to-face meeting. Technically no issue, but A0 warned of potential conflict when you forward emails.</p>	D. Khomarlou
AGENDA APPROVAL	Agenda for the September 29-30, 2021 virtual meeting was sent to all members prior to the call. The agenda was approved by members on the call.	D. Khomarlou
APPROVAL OF PREVIOUS MINUTES	<p>Draft Minutes of March 23, 2021 virtual meeting have been sent to all members. Draft minutes are posted on iMeetCentral. Minutes were approved in this meeting as comments by Jim Ryan on Sheave size were addressed. Jack Roughan motioned to approve. Denise second the motion.</p> <p>Draft Minutes of June 2021 virtual meeting have been sent to all members. Minutes were approved in this meeting. Denise Frey – Motioned to approve meeting minutes J. Jones second the motion.</p> <p>These minutes will be posted in the IEEE PSCCC website for public access.</p>	D. Khomarlou
IEEE 1138 News	<p>IEEE 1138 is up for publication. The process of publication by IEEE takes 14 weeks, so expect Q1 2022.</p> <p>Update (July 7): TIA-455-30 was superseded by TIA-455-204. There are references to this TIA in IEEE 1138 and IEEE 1594 which need to be updated.</p> <p>The new 1138 doesn't reference TIA-455-30, so we are good.</p>	Corrine Dimnik/ IEEE 1138 WG

Item no.	Notes	Action by
IEEE 1591.3 and 1594 Wrap Cable	Not Discussed in this meeting. Retirement of TIA-455-30 and replacement with TIA-455-204 applies to these two standards as well.	Mark Naylor
IEEE 1595 Standard – 1595D6 OPPC	IEEE 1595D6 was provided to members prior. IEEE 1595D6 balloting opened on September 29, 2021 for a 30 day ballot. PSCCC-F0 Members are encouraged to vote on IEEE 1595D6. This is a Individual Ballot. BALLOT OPENS: 29 Sep 2021 BALLOT CLOSES: 29 Oct 2021, 23:59 UTC - 12. Should you have any questions, please contact Erin Morales (e.spiewak@ieee.org) Require the P1595 working group to meet before our December meeting to look at comment resolution file and resolve as much as possible so that we can discuss remainder in the December meeting. PAR deadline is Dec. 2021. May need an extension if we can't manage.	Josep Martin Linda Cai/ Jack Roughan
OPPC Hardware 1591.4	1591.4 OPPC Hardware draft was discussed by Jack Roughan. New Comments from June Meeting regarding section 4.2.2.1 and 4.2.2.2 and 4.2.23 incorporated in the new draft. Review 5.2.1 – optical monitoring reference to ADSS instead of OPGW. Will review with sub group. Phase conductor – emergency current, working current (design current). Fault current. IEC – 61284 – repair rods. Can IEC 61284 Clause 14 be use for DC resistance testing? John Jones to see the information for 1591.1 and if it can be harmonized.	L. Cai/ J. Roughan/ Alex L.
IEEE 524 liaison	Jack Roughan provided an update on the IEEE 524 meeting on July 26, 2021 he attended. 104 attendees Table: Comparison IEEE 524 and IEC 61328 Grounding discussion. Will try to distribute to members if permitted Jack Roughan and Bob Kluge will jointly work as liaison PSCCC-F0 to IEEE 524. In the last meeting, there was a presentation	NA
IEEE 1591.x Task Force Group	Jack Roughan will lead the group. The purpose of the group is to try to harmonize all 1591.x hardware standards for different types of cables. Group is still open to accepting new members – a number of people in the meeting expressed interest. Jack Roughan /Linda Cai provided a very useful presentation/excel sheet (to be attached) comparing various sections in 1591.1, 1591.2, 1591.3 and 1591.4 and how they line-up or sometimes don't. This could be a good starting point for discussions in the group meeting – to be arranged by Jack Roughan. There was discussion on combining all 1591.x standards into one large standard, but no consensus reached. Jim Ryan mentioned that 1591.2 ADSS Attachment hardware standard should not be combined with others as material/cable is different than the other three. To be discussed further in group meeting. Current membership is: Jack Roughan, Linda Cai, Lemon Lu, Josep Martin Regalado, Tewfik Schehade, John Jones, Mark Naylor, Del Khomarlou, Corrine Dimink, Denise Frey, Dan Baggett, Peyton Campbell.	

Item no.	Notes	Action by
IEEE 525 and PSCCC E0 Liaison	<p>Chair attended IEEE 525 June meeting. A revised version of the Comment form will be circulated within F0 for additional comments.</p> <p>On Page 211 of IEEE 525, the values for fiber types in Table Q.1 were reviewed and revised by Henson Toland (and Tyler Wales) and OFS team. Thank you. These were further reviewed and revised in the meeting to include bend insensitive fiber ITU G.657 information. The new table Q has been passed on to IEEE 525 group and is attached her for reference.</p> <p>PSCCC-E0 Wireline subcommittee works mostly with Copper pairs and issue with Copper (e.g. Telephone loop characteristics, Ground Potential Rise). E0 concerns on fiber optic were addressed before, thus not much to report. If any member is interested in acting as liaison to this group please let the chair know. Currently chair is liaison.</p>	NA
IEC Liaison ITU Liaison	<p>Josep provided a presentation on some of the new IEC standards and activities. Josep presentation is attached here. New IEC virtual meeting is in October, so new updates will be passed along to PSCCC-F0 members.</p> <p>Note that IEC has published IEC 60794-4-10 OPPC.</p>	NA
IEEE 1222	No New item for IEEE 1222.	J. Ryan
1591.1 OPGW hardware	<p>There are a number of comments that were addressed and a couple of others that require more work by John Jones. The follow up will be adding the Repair Device.</p> <p>This standard will be discussed in the newly formed 1591.x meetings.</p> <p>John Jones went through the document and the changes he had made. There was discussion on some of the items and comments from members.</p> <p>Changed the Repair Device from Fault Current to DC Resistance. Shift to Hardware characteristics section.</p> <p>Inclusion of some of the temporary grounding devices (ground clamp) and other installation tools into the standard under a separate section was discussed. Different manufacturers have different policies on temporary grounding clamps from not allowing it to allowing its use.</p> <p>This may be a working tool – IEEE 524 is the use of tools, but a standard could be created for testing individual tools used in our standard. Discussion to be sent to our 1591.x group.</p> <p>1591.1 PAR is valid until Dec. 2022.</p>	J. Jones/ B. Kluge
Sheave Size Recommendation/ IEEE 524	<p>Denise Frey provided recommendation and lead the discussion in the meeting.</p> <p>There was good discussion on the current table and after several iterations, a final version was produced by Denise (latest version is placed here).</p> <p>It was decided to make the table a “Guide” when passing on to IEEE 525 rather than a “Recommendation”.</p> <p>The new – revised - table stays consistent throughout with Metric units (Imperial units).</p> <p>Manufacturers to provide one final additional comments on or before December 2021 meeting on this Guide. Once approved by PSCCC-F0, it will be sent out to IEEE 524 for inclusion in their standard.</p> <p>Jack Roughan to let IEEE 524 group know of the new schedule.</p>	

Item no.	Notes	Action by
Presentation	Mike Riddle – Incab, provided a very good presentation on using fiber for sensing application and DTS/DAS/DPS/DTSS (also known as DSTS). Note: Presentation is not included here or be placed in iMeetCentral for copyright reasons.	
New /Other Business	Will have presentations from members on areas that are interesting and educational. We most likely concentrate in the next meeting on IEEE 1595 comment resolution, so next presentation will be in March 2022 meeting. Some of the ideas for new guide/standard/items to consider <ul style="list-style-type: none"> • Navigational Marker Balls – potential added section for OPGW applications. • Anti-Galloping devices • Connectivity for OPGW – Splice Boxes • Isolated OPGW – • Live-line installation • OPPC/OPGW/ADSS/Skywrap End of Life Determination Tests PSCCC-F0 members are encouraged to please provide ideas on what standards/guides they want to see out of this subcommittee. Please email.	
ITEMS REPORTED OUT OF EXECUTIVE SESSION	NA	
CLOSING	iMeetCentral PSCCC-F0 site has been restructured to reflect our sub groups and standards that we work in. Members are encouraged to look at the site and add/verify files/standards in each area.	
TIME OF FINAL ADJOURNMENT	Meeting was adjourned on September 30, 2021 at 12:30 EDT.	
NEXT MEETINGS	Next Meeting will be a virtual meeting using WebEx: December 9, 2021: 10 -12:30 EDT	
MATERIAL TO BE PLACED IN iMeetCentral And Attached	<ol style="list-style-type: none"> 1. IEEE Copyright statement (included in this document) 2. IEEE Patent and duty to inform clause (included in this document) 3. IEC Liaison Presentation 4. Sheave size for ADSS/OPGW/OPPC proposed recommendation–(included in this document) 	

Presentations

PSCCC-Fo Membership Guidelines

1. Subcommittee (SC) members must be IEEE members.
2. Need to attend meetings in order to maintain subcommittee membership. If you have a reason to miss a meeting please let one of the officers know.
3. **Corporate membership (i.e. having one person from a corporation attend and update others within the roster from that company) is not supported, but there is flexibility to allow to some extent. It is allowed at the discretion of the Subcommittee officers.**
4. Members who are not attending meetings (without legitimate reason) or have lost interest or moved on to other positions could ask / have their membership changed to corresponding members or become "Past-Member". If SC officers' initiate the change, they will try to contact the member and give ample time.
5. Members can be re-instated if they wish.
6. Guests are allowed. Need to attend 2 consecutive meetings and ask on third meeting (with no more than one consecutive "unexcused" missed meeting) before eligible for membership.

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PSCCC-Fo Membership SA Guidelines

1. Standards Association (SA) membership preferred, but not mandatory.
2. If a member is not an SA member, they can't participate in ballot (except as in 5 below).
3. A non SA member can vote on standard within the Fo.
4. An IEEE Member who is not an SA member can vote on standards ala carte if they pay a per-ballot fee.

PSCCC-Fo 2021 Goals /Update (1/2)

Publication of IEEE 1138 - October / November 2021.

Completion of the standard: IEEE 1595 OPPC standard for publication in 2021. Balloting to start in October for 30-45 days and then comment resolution. Expect comments.

OPPC attachment hardware standard: 1591.4 PAR is valid until 2023.

Harmonization of all 1591.x standards in 1591.x adhoc working group/task force.

IEEE 1591.1 OPGW hardware PAR expires in Dec 2022, so we need to move to get it to publication.

Agree upon new business/standards to tackle.

PSCCC-Fo Report From Parent Subcommittee (Ao)

Awards Committee - Still Need representative.

P&P manual: Being revised and updated by Ao officers. Draft is ready.

PSCCC Website - Updated to have PSCCC-Fo and Minutes. Work in progress.

iMeetCentral - Changed the areas to match our structure. Please populate.

IEEE National Standard Adoption - IEEE is pushing for this. We successfully argued that it is not applicable to our standards due to requirements for type testing.

China Satellite committees - Was approved in Ao, details haven't been worked out.

IEEE standards integration effort taken up by Ao - No new update: Started as an effort to identify all the standards that have points of overlap with PSCCC-Fo work. Mostly in IEEE PES ICC subcommittee D. Also PSCCC-Fo will be working closely with IEEE D2 525.

PSCCC-Fo 2021 Goals /Update (2/2)

Liaison more closely with PSCCC-Eo Wireline subcommittee and IEEE D2 525: Cables in Power stations

Provide a recommendation to T&D IEEE 524 group on sheave and bull wheel sizes for installation of aerial fiber optic cables (OPGW, ADSS, helically Wrapped and OPPC). Final product must be acceptable to manufacturers as well as end users and installation service providers. **Denise final recommendation to discuss.**

Liaison with IEEE 524 on their cable installation practices for overhead fiber cables.

Find new business/standards and have regular presentations to educate ourselves. **IEEE copyright issues for presentation to take into account.**

Josep Martin Regaldo Presentation on IEC Documents.**IEC TC 86/SC 86A/WG 3 Liaison report March 2021**

- IEC Optical subcommittee meeting was held on Mar 30th-31st 2021 by Zoom. 51 participants from 16 member countries attended

RELEVANT TOPICS TO IEEE PES PSCCC-F0

- Liaison with ITU-T SG15 → keeping watch on the ITU-T activities (including hybrid, splicing equipment and performance of OSP closures). Report in next meeting
- IEC 60794-1-219 Material compatibility test (F19). CDV not approved. Under discussion.
- IEC 60794-1-220 Salt spray Corrosion test (F20). CD approved. Issued as CDV for final approval
- IEC 60794-1-401 SCT OPGW/OPPC/OPAC (H1) → Sent for publication
- IEC 60794-1-402 Lightning OPGW/OPPC/OPAC (H2) → Sent for publication
- IEC 60794-1-404 Current-temperature (F19). CD approved. Issued as CDV for final approval
- IEC 60794-4-10 OPGW. Stability date 2022
- IEC 60794-4-20 ADSS. Stability date 2022. Am1 required to accommodate the IEEE creep test
- IEC 60794-4-10 OPPC. Published

Next meetings: UAE Cancelled due to COVID restrictions. Virtual on Oct 15th-18th, 2021

Committee draft for comments (CD) / Committee draft for vote (CDV) / Final draft international standard (FDIS)

September 30, 2021

Proposed IEEE Sheave Guidelines

Cable type	Spatial Angle*	Span Distance	Maximum Pulling/Stringing/Sagging Tension	Minimum Sheave size (BOG)**
ADSS	≤ 20°	≤ 91 m (300 ft)	≤ 2667 N (600 lb)	Cable OD x 30
ADSS	> 20°	any span	≤ manufacturer's specification	Cable OD x 40
OPGW & OPPC	≤ 20°	≤ 91 m (300 ft)		56 cm (22 in)
OPGW & OPPC	>20°	any span		Cable OD x 40

*Spatial angle includes vertical elevation, line angle, horizontal angle, or a combination.

**For ADSS and OPGW, the Bottom of the Groove (BOG), otherwise also known as the Root Diameter, of a sheave should be 40 times the cable diameter or larger. Smaller sheaves may be permitted with written notification from the cable manufacturer. Considerations of cable design, cable diameter, installation tension, number of angles in a segment, and size of angles will determine if permission is granted by the manufacturer.

Clarifications:

Sheaves can be lined or unlined. Lined sheaves can be neoprene (yellow) or urethane (black). Unlined is preferred if in good condition and clean.

The tension shall be lowest during the pulling/stringing process, then increased to achieve the sagging tension.

Question for the Committee:

For future consideration from the cable manufacturers:

ADSS ≤ 10° ≤ 300 ft ≤ 600 lb Greater of either 10" or Cable OD x 20

MAINTENANCE SCHEDULE FOR STANDARDS UNDER PSCCC-F0

PRIORITY	DUE DATE	STANDARD NUMBER	STANDARD TITLE	LAST PUBLISHED DATE	ACTION (DEV / REVISION / COMMENTS ONLY)	COMMENTS
2	New PAR submitted June 2024	IEEE-1138-2009	IEEE Standard for Testing and Performance for Optical Ground Wire (OPGW) for Use on Electric Utility Power Lines	2009	Publish Schedule: Q1 2022.	PAR had expired in December 2019. New PAR with publication date in 2024 is approved In Publication with IEEE SA
	Active PAR	IEEE 1222-2011	IEEE Standard for Testing and Performance for All-Dielectric Self-Supporting (ADSS) Fiber Optic Cable for Use on Electric Utility Power Lines	2011 New Version 2020	Published 2020	Published 2020
	Active PAR Exp. Dec 2021	IEEE 1594-2008	IEEE Standard for Helically Applied Fiber Optic Cable Systems (Wrap Cable) for Use on Overhead Utility Lines	2020		2020: Published
1	Active PAR Exp. Dec. 2021	IEEE 1595-DRAFT D6	Draft Standard for Testing and Performance for Optical Phase Conductor (OPPC) for Use on Electrical Utility Power Lines			Standard is voted out of the committee, Ballotting
3	Active PAR Exp. Dec. 2022	IEEE 1591.1-2012	IEEE Standard for Testing and Performance of Hardware for Optical Ground Wire (OPGW)	2012		
	Active PAR Exp. Dec. 2021	IEEE 1591.3-2011	IEEE Standard for Qualifying Hardware for Helically-Applied Fiber Optic Cable Systems (WRAP Cable)	2020		2020: Published
4	PAR Approval May 2019 Exp. Dec. 2023	IEEE 1591.4-DRAFT	Standard for Testing and Performance of Hardware for Optical Fiber Composite Overhead Phase Conductor (OPPC)			Standard under development. Target end of 2021.
		IEEE 1591.2-2017	IEEE Standard for Testing and Performance of Hardware for All-Dielectric Self-Supporting (ADSS) Fiber Optic Cable			No PAR yet
	T&D 524 Published Date: 2017	IEEE 524-2016	IEEE Guide for the Installation of Overhead Transmission Line Conductors		For comment only	Liaison Report

PRIORITY	DUE DATE	STANDARD NUMBER	STANDARD TITLE	LAST PUBLISHED DATE	ACTION (DEV / REVISION / COMMENTS ONLY)	COMMENTS
		IEEE 525-2016	IEEE Guide for the Design and Installation of Cable Systems in Substations		For comment only	Liaison Report

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Participants, Patents, and Duty to Inform

All participants in this meeting have certain obligations under the IEEE-SA Patent Policy.

- Participants [**Note: Quoted text excerpted from IEEE-SA Standards Board Bylaws subclause 6.2**]:
 - “Shall inform the IEEE (or cause the IEEE to be informed)” of the identity of each “holder of any potential Essential Patent Claims of which they are personally aware” if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents
 - “Should inform the IEEE (or cause the IEEE to be informed)” of the identity of “any other holders of potential Essential Patent Claims” (that is, third parties that are not affiliated with the participant, with the participant’s employer, or with anyone else that the participant is from or otherwise represents)
- The above does not apply if the patent claim is already the subject of an Accepted Letter of Assurance that applies to the proposed standard(s) under consideration by this group
- Early identification of holders of potential Essential Patent Claims is strongly encouraged
- No duty to perform a patent search

Patent Related Links

All participants should be familiar with their obligations under the IEEE-SA Policies & Procedures for standards development. Patent Policy is stated in these sources:

- IEEE-SA Standards Boards Bylaws (Clause 6) <http://standards.ieee.org/develop/policies/bylaws/sect6-7.html>
- IEEE-SA Standards Board Operations Manual (Clause 6.3) <http://standards.ieee.org/develop/policies/opman/sect6.html>
- Material about the patent policy is available at <http://standards.ieee.org/about/sasb/patcom/materials.html>

If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at patcom@ieee.org or visit" <http://standards.ieee.org/about/sasb/patcom/index.html>

This patent information (slide set) is available at: <https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.ppt>

Call for Potentially Essential Patents

If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance (LOA): • Either speak up now, or

Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible, or Cause an LOA to be submitted

Don't discuss the interpretation, validity, or essentiality of patents/patent claims.

Don't discuss specific license rates, terms, or conditions. • Relative costs, including licensing costs of essential patent claims, of different technical approaches may be discussed in standards development meetings. • Technical considerations remain primary focus

Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.

Don't discuss the status or substance of ongoing or threatened litigation.

Don't be silent if inappropriate topics are discussed ... do formally object.

Other Guidelines for IEEE Meetings

All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.

See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and "Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy" for more details.