



BUILDING GLOBAL COMMUNICATIONS

Approved by General Counsel

FO-4 Meeting Report

Date: 01/23-26/06

Location: Las Vegas, Nevada

Approved: 11/06/06

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**Telecommunications Industries Association
Standards and Technology Department**

Engineering Committee FO-4, Committee on Fiber Optics

Meeting Report

FO-4 Chair: Steve Swanson
Secretary and EDC: Bob Jensen

Las Vegas, Nevada
January 23-26, 2006

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1 ADMINISTRATIVE

1.1 Call, to order

FO-4 Chair, Steve Swanson, called the Opening Plenary meeting to order on January 24, 2006 at 8:00 AM. The Chair noted that the Opening Plenary is intended to update members of committee meeting expectations, and to inform them of administrative essentials. He also noted that quorum is not called at the Opening Plenary and that attendance at the closing plenary constitutes the FO-4 membership and quorum.

FO-4 Chair, Steve Swanson, called the Closing Plenary meeting to order at 8:00 AM January 26, 2006. The Closing Plenary session is intended to summarize Subcommittee meeting activities and resolve any issues arising throughout the week of meetings. The Chair again reminded those attending that attendance at the Closing Plenary constitutes the FO-4 membership and quorum. He also noted that continuity of membership is important in order to establish quorum and to take part in the FO-4 leadership decisions.

1.2 Attendance (quorum, introductions and roster)

Attendance at the Closing Plenary constitutes the FO-4 membership and quorum. A total of 34 attendees were present at the Closing Plenary including 18 of 28 members, thereby establishing quorum for the Engineering Committee meeting. The attendees introduced themselves and an attendance roster was distributed for participants to sign.

				Plenary	
				Opening	Closing
Chair:					
Steven Swanson	Corning, Incorporated	swansonse@corning.com	607-974-4252	√	√

Voting members companies present:

Tom Hanson	Corning Incorporated.	hansonta@corning.com	607-974-4530	√	√
Alan Whitebook	Diamond USA, Inc.	awhitebook@mindspring.com	661-702-9740	√	√
Gene Ebert	Defense Supply Ctr.	eugene.ebert@dia.mil	614-692-0729	√	√
Pieter Matthyse	Draka Comtea	piet.matthyse@draka.com	31-402-958-627	√	
Andre Girard	EXFO	andre.girard@exfo.com	418-683-0211	√	√
Lorenz Cartellieri	Experior Photonics, Inc.	lcartellieri@experiorphotonics.com	805-499-3000	√	√
Jim Hayes	Fiber Optic Assoc.	jeh@jimhayes.com	760-451-3655	√	√
Eric Rosenast	Greenlee, a Textron Co	erosenast@tempo.textron.com	760-598-8900	√	√
Dan Morris	KITCO Fiber Optics	dmorris@kitcofo.com	757-518-8100	√	√
Helmut Knehr	National Technical Sys.	helmut.knehr@ntscorp.com	714-879-6110	√	√
Andy Punch	Nexans dba Berk-Tek,		919-552-2061	√	
Iwano Shin'ichi	NTT Advanced Tech.	s.iwano@neo.ntt-at.co.jp	650-617-0320	√	
Mike Kinard	OFS	mkinard@ofs optics.com	770-838-5307	√	√
Greg Kuffel	Panduit Corp.	glk@panduit.com	708-460-1800	√	√
Patrick Vanvickle	Sumitomo Electric	pvanvickle@sumitomoelectric.com	919-541-8153	√	√
Paul Kolesar	SYSTIMAX Solutions	pkolesar@systemax.com	972-792-3155	√	√
Osman Gebizlioglu	Telcordia Technologies	ogebizli@telcordia.com	732-699-3378	√	√
Gair Brown	US Navy	browngd@nswc.navy.mil	540-653-1579	√	√
Dave Fisher	Tyco Electronics	David.fisher@tycoelectronics.com	717-986-5501	√	√
Matt Brown	US Conec	mattbrown@usconec.com	828-267-6327	√	√
Bill Irwin	Yazaki NA Inc.	birwin@y-connect.com	717-930-1332	√	√

Voting members companies absent:

Dave Roland	Alcatel USA	dave.roland@cable.alcatel.com	828-459-8775		
Pin Su	DiCon Fiberoptics Inc.	psu_std@yahoo.com	510-620-5315		
Halina Kosiorska Bodine	FiberSource Inc.	Halina@fibersource.net	864-277-7200		
Bob Jensen	Fluke Networks	robert.jensen@flukenetworks.com	512-514-7760		
Michael Itano	Leviton Voice & Data	mitano@levitonvoicedata.com	425-415-7239		
Adam Murano	Ortronics	amurano@ortronics.com	860-450-2804		
Dave Kritler	Photon Kinetics Inc.	dave.kritel@pkinetics.com	503-526-4655		

Other participants

Sidney Berglund	3M	sjberglund@mmm.com	512-984-3757	√	√
Tom Robinson	Draka Comteq				
Myron Bezdicek	DSM Desotech Inc.				
Kenneth Dunn	Corning, Inc.	ken.dunn@corning.com	828-901-6936	√	√
Masayoki Murakami	NTT	m.murakami@ntt-at.co.jp	81-422-47-7701		
Andrew Oliviero	OFS	aoliviero@ofsoptics.com	770-798-2212	√	√
Greg Sandels	OFS	gsandels@ofsoptics.com	770-798-4978	√	√
Alan McCurdy	OFS	mccurdy@ofsoptics.com	770-798-2475	√	√
Stephanie Montgomery	TIA	smontgomery@tiaonline.org	703-907-7735	√	√
Mike Gurreri	Tyco Electronics	mgurreri@tycoelectronics.com	717-985-2185		
Tim Drapela	US Dept Commerce	drapela@boulder.nist.gov	303-497-5858	√	√
Lance Doddridge	US Navy	lance.doddridge@navy.mil	951-273-5741	√	

FO-4 company attendance history at Closing Plenary

Company	Last 3 meetings	January 2006	June 2005	January 2005
3M	2	1	1	
Alcatel	1			
Corning, Inc.	3	1	1	1
Diamond USA	3	1	1	1
DiCon Fiberoptics Inc.	1			1
Draka Fibre Tech.	3	1	1	
DSCC-VAT	3	1	1	1
EXFO	3	1	1	1
Experior Photonics	3	1	1	1
FiberSource	1		1	
Fluke Networks	2		1	1
Greenlee, a Textron Co	2	1	1	
KITCO Fiber Optics	2	1	1	1
Leviton	0			
Nexans	2	1		1
NIST	3	1	1	1
NTT	2	1		1
OFS	3	1	1	1
Ortronics	1			
Panduit	2	1		1
Photon Kinetics	1			
Sumitomo	3	1	1	1
SYSTIMAX Solutions	3	1	1	
Telcordia Technologies	3	1	1	1
Tyco Electronics	2	1		1
US CONEC	2			1
US Navy	1	1		
Yazaki NA, Inc	2	1		1

Note: Member companies absent from three consecutive closing plenary meetings will be removed from the voting member list and placed on the non-voting member list. The attendance roster is the sole basis for deriving meeting attendance, so it is important that you sign-in at the closing plenary meeting. The Chair will notify a company of their failure to meet minimum participation requirements and request their attendance at future meetings; enforcement of the membership continuation rules is necessary in order to maintain our ability to raise quorum at meetings.

1.3 Agenda review and approval

The Opening Plenary agenda was reviewed and approved.

The Closing Plenary agenda was reviewed, amended and approved.

1.4 Intellectual Property Rights statement

The chair brought to the attention of the membership the TIA policy regarding patents, the use of which may be essential to standards being considered. The full statement is contained in the fourth edition of the TIA Engineering Manual.

1.5 Chair's report; general items; recognition

Steve noted that the Opening Plenary session is intended to update members of committee meeting expectations, and to inform them of administrative essentials. The liaison reports received will be posted to the ftp site. Steve reviewed the structure and leadership of the committee, having five Subcommittees. He reminded the FO-4 leadership to use the agenda template which includes the necessary "Notice of Participation" and to cover the IPR statement at their meetings while reminding participants of the need for the boilerplate cover sheet on all contributions. He also reviewed the electronic tools that are available and encouraged all members to utilize those tools to facilitate the progress of work between meetings. Steve also noted that the Closing Plenary session is the assembly of the FO-4 formulating group and is intended to summarize Subcommittee meeting activities and resolve issues arising throughout the week of meetings. Attendance at the Closing Plenary constitutes the FO-4 membership and quorum.

Steve Swanson reported on the key outcomes of the Leadership meeting held early in the week for standards planning and administration purposes. Key discussions included:

- Document maintenance and another request to implement forward pointers in documents that have combined multiple standards. There was also agreement to bundle reaffirmation ballots where possible as well as conduct reaffirmations in Committee, where possible. Subcommittee Chairs were reminded that in order to reaffirm in Committee, all documents must be listed in the agenda for action.
- It was agreed that the revision of FOTP-3 would be handled by FO-4.2 but that the ballot would be circulated to FO-4.3 for review and comment.
- We had a brief discussion of multimode launch conditions for attenuation and we agreed that surveys of the following people would be useful in determining a course of action
 - Field test equipment manufacturers
 - Manufacturing test equipment suppliers
 - Installers
- Brief report on MM OTDRs
- Stephanie Montgomery noted that TIA was reorganizing the Standards Department and will go from one secretariat to 3 committee administrators effective February 6th. She also noted that there would be a new administrative assistant
- Tim Drapela provided a brief review of the plan for the Tuesday night Roundtable on measurement needs
- Steve Swanson was recognized for his work as FO-4 Chair by Stephanie Montgomery on behalf of the Committee.

1.6 TIA staff report

Stephanie provided an update to the Committee from the TIA staff including:

- A report on the restructuring of the TIA staff as noted above
- For the 2005 edition of STAR, only an electronic version will be produced. There will be no hard copy of the STAR 2005. The format will be generally the same as in past years.
- A redesign in the TIA web site (<http://www.tiaonline.org>). This redesign went live recently and, as with most transitions of this nature, glitches have been identified and taken care of.
- TIA will be issuing a quarterly newsletter/digest
- Stephanie reminded the Committee of Globalcomm in June

1.7 Numbering of contributions

Steve noted that all contributions to FO-4 were available on the FTP site. Additionally, a USB drive was made available at the meeting with all contributions for the attendees.

Document #	Contributor	Company	Title
FO-4/06-01-001	Steve Swanson	Corning	Opening Plenary
FO-4/06-01-002	Steve Swanson	Corning	Closing Plenary
FO-4/06-01-002	Steve Swanson	Corning	Closing Plenary (Rev)
FO-4/06-01-003	Tim Drapela	NIST	USMS
FO-4/06-01-004	Tim Drapela	NIST	NIST worksheet for USMS
FO-4/06-01-005	Bob Jensen	Fluke Networks	Cover Sheet Template WORD
FO-4/06-01-006	Bob Jensen	Fluke Networks	Cover Sheet Template PowerPoint
FO-4/06-01-007	Bob Jensen	Fluke Networks	Cover Sheet Template EXCEL
FO-4/06-01-008	Tim Drapela	NIST	USMS Wrap-up
FO-4/06-01-009	Jim Matthews	Corning	FO-4.1 Summary Report
FO-4/06-01-010	Tom Hanson	Corning	FO-4.2 Summary Report
FO-4/06-01-011	Andre Girard	Exfo	FO-4.3 Summary Report
FO-4/06-01-012	Lorenz Cartellieri	Experior	FO-4.5 Summary Report
FO-4/06-01-013	Bob Jensen	Fluke Networks	January 2006 Meeting Report

1.8 Meeting report review and approval

The June 2005 meeting report was reviewed at the closing plenary and unanimously approved.

2 OLD BUSINESS

2.1 Action item review from last meeting

Action item review	Action:	Resp:	Status:
2004-06-001	FO-4.1 asked if a process can be developed retiring OFSTP numbers, possibly by using a dual number that includes the old OFSTP number and the new FOTP number for some period of time.	TIA Staff	On-going
2002-06-009	Place document database on the WEB for all projects so that it can be updated and maintained.	TIA Staff	On-going
2003-06-012	Develop national adaptation procedure	TIA Staff	On-going
2005-01-001	Investigate implementation of forward pointers in FO-4 standards.	TIA Staff	On-going
2005-01-001	Investigate options for taking non-electronic versions of standards to become electronic versions.	TIA Staff	On-going
2005-01-001	Develop a list of incompatible references that should not be used in TIA standards.	TIA Staff	On-going

3 PLENARY REPORTS

3.1 Opening Plenary reports

Steve noted that any reports received will be posted to the ftp site for review.

3.2 Closing Plenary reports

3.2.1 FO-4.1, Optical Fiber Systems, Jim Matthews

FO-4.1 met Tuesday afternoon; a quorum was achieved. The Chair will seek clarification from Nexans/BerkTek, Optek, Ortronics and Perkin Elmer on intent to participate going forward.

There were no decisions requiring action on the part of FO-4.

FO-4.1 agreed to approve for publication SP-3-0142, (Draft TR-1027), "IEC 61282-6 - Fibre Optic Communication System Design Guides - Part 6: Skew Design in Parallel Optical Interconnection Systems" as its negative ballot which had been resolved

FO-4.1.2 agreed to ballot a TSB on potential solutions to higher speed transmission on multimode fiber that will include parallel and CWDM transmission techniques as well as a mock specification for a wider wavelength 50 μm detail specification. Paul Kolesar will be project leader.

FO-4.1.2 will start a revision of OFSTP-14 to include modification of the source launch characteristics. Paul Kolesar will be project leader and will be in correspondence with FO-4.1.2 reflector.

The committee determined the following specific dispositions on the documents requiring action:

- Agreed to reaffirm (preferably in a single ballot) 12 documents as TIA standards
- Agreed to reaffirm 2 documents as ANSI standards
- Agree to revise FOTP-203 Launched Power Distribution Measurement Procedure for Graded-Index Multimode Fiber Transmitters to add RPD; T. Hanson Project Leader
- Agreed to rescind OFSTP-27 Procedure for System-Level Temperature Cycle Endurance Test
- Agreed to cancel 13 Projects Shown OPEN on TIA's list; mainly old, non-active and duplicates to completed projects
- Agreed to nationally adopt IEC 60793-1-41, Measurement of Bandwidth on Multimode Fiber as FOTP-204
- Agreed to nationally adopt revised IEC 61290-1-1 (Includes 61290-2-1): Optical Fibre Amplifiers - Basic Specification Part 1-1: Test Methods for Gain Parameters - Optical Spectrum Analyzer as FOTP-206
- Agreed to nationally adopt revised IEC 61290-1-2 (Includes 61290-2-2): Optical Fibre Amplifiers - Basic Specification Part 1-2: Test Methods for Gain Parameters - Electrical Spectrum Analyzer as FOTP-207
- Agreed to nationally adopt revised IEC 61290-1-3 (Includes 61290-2-3): Optical Fibre Amplifiers - Basic Specification Part 1-3: Test Methods for Gain Parameters - Optical Power Meter as FOTP-208
- Agreed to nationally adopt revised IEC 61291-1: Optical Fibre Amplifiers – Part 1: Generic Specification as FOTP-214
- Agreed to nationally adopt IEC 61280-2-2, Optical Eye Pattern Measurement Procedure as OFSTP-4A
- Agreed to nationally adopt IEC 61280-2-9, Optical Signal-to-Noise Ratio Measurement Procedures for Dense Wavelength-Division Multiplexed Systems as OFSTP-19
- Draft 526-8 , Accelerated Measurement of Low BERs in Digital Fiber Optic Systems is currently inactive and it was agreed to cancel this project. FO-4.1 agreed to nationally adopt IEC 61280-2-8 as FOTP-#

3.2.2 FO-4.2, Optical Fibers and Cables, Tom Hanson

A quorum was declared with 5 of 9 members present. Two quorum members were dropped due to lack of attendance. One new quorum member is to be added. An election of the Chair and Vice-Chair was

conducted. Mr. T. Hanson and Mr. M. Kinard were elected by acclamation to these positions respectively. A total of 17 persons participated.

Accomplishments and plans

FOTPs 3 and 12, on temperature cycling and fluid immersion were agreed to be revised.

The situations with respect to IEC developments in cable specifications and test methods were reviewed and taken into account by WGs FO-4.2.5 and FO-4.2.6 respectively.

The situation with ICEA documents was reviewed. The documents submitted for TIA adoption have, to date, been finally processed. Some questions remain for "640", outside plant cables, as TIA 472D000. It is the desire of FO-4.2 to have this document adopted by TIA without delay.

The situations with regard to fire requirements were reviewed. "Limited combustible" has lost some traction for the moment and traditional plenum cables remain as a solution.

The revised PMD fiber and cable test document, 60793-1-48, is approaching publication. At the June, 2006 meeting FO-4.2 anticipates initiating adoption proceedings to place this into a revised FOTP-122. Following that this is successful, we plan to initiate withdrawal of FOTPs 113 and 124.

FO-4.2 plans to reactivate the project to re-create ITM-9, on ribbon stripping cleanliness, because this is referred to by other general industry documents and does not actually exist.

FO-4.2 has decided not to adopt the IEC specifications 60793-2-10 and 60793-2-50 in favor of keeping to the general format of the TIA 492 series in this regard. The upcoming TIA documents needing revision will be aligned with the international Standards, but the flexibility of the TIA system remains to be of value.

In addition to the backlog of already agreed maintenance items that were agreed at past meetings, FO-4.2 agreed more reaffirmations:

Four by ANSI ballot

Four by TIA ballot

One adoption of IEC document 60793-1-48 on PMD measurement.

Three reaffirmations of TIA Standards by administrative means

FO-4 decisions needed

Confirm the transfer of FOTP-12, on fluid immersion testing, to FO-4.2. This has been completed.

Encourage TIA staff to carry out the document maintenance items that have been approved at this and past meetings of FO-4.2. These decisions have been documented in the meeting reports and amount to at least two dozen overdue document actions – some over one year overdue. We do not understand why they cannot be completed. FO-4 Chair to draft letter summarizing decisions.

Request that TIA stop the hostage action involved with the copyright issues regarding the sources of IEC vs TIA documents and the withholding of TIA document release to persons who could be our customers. TIA members were the immediate authors of many of the documents in TIA and outside TIA. These documents were prepared by TIA members with an intention that they would be used both domestically and in international Standards. The current situation is untenable and seems to breach a certain agreement between TIA contributors and the TIA management with regard to public access and our strategy to export our views to the international Standards venues. The FO-4 Chair was asked to draft a letter to TIA Staff.

3.2.3 FO-4.3, Interconnecting Devices and Passive Components, Andre Girard

The following documents were advanced for SP Ballot:

TIA 1089
TIA 1031
FOTP-219

The following documents were advanced for TIA Publication Process:

FOTP-239

The following documents were advanced for TIA/ANSI Publication Process:

None

The following New Projects were approved for PN Ballot:

FOCIS-5D

The following Projects were cancelled:

None

The following Standards were approved for Rescission Ballot:

None

The following ANSI Standards were reaffirmed:

None

The following TIA Standards were reaffirmed:

455-194
455-197

Other Business:

FO-4.3 agreed to transfer the FOTP-12 responsibility to FO-4.2 but requested that FO-4.2 keep FO-4.3 in the document distribution and ballot voting together with FO-4.2.

FO-4.3 will request a formal Category D liaison to IEC SC86B for the following WG equivalence

IEC SC	TIA SC
SC86B	FO-4.3
IEC WG	TIA WG
WG4	-
WG5	FO-4.3.3
WG6	FO-4.3.2
WG7	FO-4.3.1

The next TC86 Annual Meeting is in Quebec City, 11-20 October 2006. FO-4.3 members were invited to express their interest in:

- Sponsoring the event under the sponsorship program with privileges available - information available from FO-4.3 Chair.
- Participating to the event as observers (if not already members of the US NC - TAG) by requesting such privilege to the targeted WG Convenor - information available from FO-4.3 Chair or the TAG Technical Advisor, Steve Swenson

3.2.4 FO-4.5, Fiber Optic Metrology, Lorenz Cartellieri

Document status:

- TSB-141; PDL Meters: Measurement and Application Issues, Published
- TSB-142; Optical Return Loss Meters: Measurement and Application Issues, Published

Document maintenance:

- Voted to withdraw: 5430000; Generic Specification Field Portable Electronic Instruments for Optical Fiber System Measurements
- Reaffirmed FOTP-179; Inspection of Cleaved Fiber End Faces by Interferometry

A liaison with TC86 WG4 was approved – a meeting report was shared with FO-4.5

New Business:

- MM OTDR Calibration
- Calibration of Visual Inspection Equipment
- Discussion on standardized method of verifying performance of “reference quality jumpers”
- FOTP Proposal: Measurements of Short Length Patch Cords using an OTDR

FO-4.5.1 provided an update on the Return Loss round robin.

4 NEW BUSINESS

Tim Drapela presented a summary from the NIST round table that took place on Tuesday evening.

FO-4 Chair nominations; two motions were considered by the Committee:

- Motion #1: Motion to elect Tom Robinson of Draka Comteq as the next chair of TIA FO-4 contingent on the receipt of a letter of support from Draka Comteq indicating their support of Tom in that position for a period of at least 2 years

Y 16 N 0 A 1 Motion passes

- Motion #2: Motion to appoint Steve Swanson as acting chair of FO-4 until June 30, 2006 or sooner if a replacement is confirmed

Y 18 N 0 A 0 Motion passes

FO-4 Chair and TIA staff to investigate potential merger opportunities and co-location of meetings with TIA TR-42; we agreed to consider co-locating the January 2007 meeting with TR-42.

4.1 Schedule review

A schedule for the next meeting was discussed and will be developed further between this meeting and the June 2006 meeting.

4.2 Future meetings

June 19-22, 2006

Sheraton on the Falls
5685 Falls Avenue
Niagara Falls, ON, CA L2E 6W7
Ph: 905-374-4444
Guest Fax: 905-371-0157

RESERVATIONS:

Rate: \$170 Cdn + 15%

Ph: 800-519-991 - request "special conventions rate for FO-4"

E-mail: reserve@niagarafallshotels.com

On-line: www.niagarafallshotels.com - group code/password TBD

CUTOFF: MAY 19, 2006

5 ADJOURNMENT

The Chair thanked all the participants for their contributions during the week and the TIA Staff for their support.

The closing plenary meeting adjourned at 11 AM on January 26, 2006.

This meeting was conducted in accordance with the TIA Legal Guide and the TIA Engineering Manual.

Steve Swanson, FO-4 Chair

Bob Jensen, FO-4 Secretary