



BUILDING GLOBAL COMMUNICATIONS

Approved by General Counsel

FO-4 Meeting Report

Date: 02/09/07

Location: Houston, TX

Approved: 03/08/07

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**Telecommunications Industries Association
Standards and Technology Department**

Closing Plenary Meeting Report

Organization: TIA FO-4 Engineering Committee on Fiber Optics
Chair: Bob Jensen – Fluke Networks (512) 514-7760
Date: Friday, February 9, 2007
Time: Convene at 8:00 AM; Adjourn approximately 11:00AM
Location: Hyatt Regency Houston

1 ADMINISTRATIVE

1.1 Call, to order

The Closing Plenary was called to order at 8:00AM with a warm welcome to the attendees by FO-4 chair, Bob Jensen. Bob noted that the Closing Plenary is intended to summarize Subcommittee meeting activities and resolve any issues arising throughout the week of meetings. The Chair 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)

A total of 24 attendees were present; quorum established. The attendees introduced themselves and an attendance roster was distributed for participants to sign.

Paul Kolesar	CommScope	pkolesar@systimax.com	972-792-3155
Jose Valenzuela	Condumex, Inc.	joseo@condumex.com.mx	+52-42389017
Kenneth Dunn	Corning, Incorporated	ken.dunn@corning.com	828-901-6936
Tom Hanson	Corning Incorporated.	hansonta@corning.com	607-974-4530
Steven Swanson	Corning, Incorporated	swansonse@corning.com	607-974-4252
David Leight	Defense Supply (DSCC-VAT)	David.leight@dla.mil	614-692-0521
Alan Whitebook	Diamond USA, Inc.	awhitebook@mindspring.com	661-702-9740
Ed Pivonka	EDP Consulting	pivonka@sa.rr.com	858-657-6838
Lorenz Cartellieri	Experior Photonics, Inc.	lcartellieri@experiorphotonics.com	805-499-3000
Halina Kosiorska Bodine	FiberSource Inc.	halina@fibersource.net	864-277-7200
Bob Jensen	Fluke Networks	robert.jensen@flukenetworks.com	512-514-7760
Eric Rosenast	Greenlee, a Textron Co	erosenast@tempo.textron.com	760-598-8900
Dan Morris	KITCO Fiber Optics	dmorris@kitcofo.com	757-518-8100
Glenn Sexton	Northwest Information	ges@nispdx.com	503-246-8585
Mike Kinard	OFS	mkinard@ofsoptics.com	770-838-5307
Greg Sandels	OFS	gsandels@ofsoptics.com	770-798-4978
Greg Kuffel	Panduit Corp.	glk@panduit.com	708-460-1800
Randy Manning	R.M. Manning Consulting	randy.manning@comcast.net	717-761-1421
Jean Baer	Superior Essex	jean.baer@spx.com	770-657-6838
Herb Congdon	Tyco Electronics	hvcongdon@tycoelectronics.com	828-464-2165
Dave Fisher	Tyco Electronics	David.fisher@tycoelectronics.com	717-986-5501
Mike Gurreri	Tyco Electronics	mgurreri@tycoelectronics.com	717-985-2185
Tim Drapela	US Dept Commerce	drapela@boulder.nist.gov	303-497-5858
Norm Lampert	Yazaki NA Inc, Y-Connect	lampert@y-connect.com	717-930-1348

FO-4 company attendance history at Closing Plenary

	mtgs	Houston	Niagara Falls	Las Vegas
Company	attended	Feb-07	Jun-06	Jan-06
3M Com. Mkts Div	1			1
CommScope	3	1	1	1
Corning Incorporated	3	1	1	1
Defense Supply Center (DSCC-VAT)	3	1	1	1
Diamond USA, Inc.	3	1	1	1
Experior Photonics, Inc.	3	1	1	1
Fiber Optic Association	2		1	1
Fiber Source	1	1		
Fluke Networks	2	1	1	
Greenlee Textron	3	1	1	1
National Technical Systems	2		1	1
OFS	3	1	1	1
Panduit Corp.	2	1		1
Sumitomo Electric	1			1
Telcordia Technologies	2		1	1
Tyco Electronics	3	1	1	1
USConec LTD	1			1
US Department of Commerce (NIST)	3	1	1	1
US Navy	2		1	1
Yazaki NA Inc., Y-Connect Oper.	3	1	1	1

Note: 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 quorum at meetings.

1.3 Agenda review and approval

The Closing Plenary agenda was reviewed, modified 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

Bob reminded all attendees to use cover sheets on all contributions to meetings during the week and at the FO-4 Closing Plenary. He also noted that attendees should sign the roster as it is used to record attendance. Chairs were also reminded to send their meeting reports to TIA within two weeks of this meeting and that meeting agendas should be send at least one month prior to meetings. Bob noted that he will follow-up with TIA on who are ftp site administrators and also who are reflector administrators.

Unfortunately, Jim Matthews had to stepped down as chair of FO-4.1. Although Jim was not at the meetings, Bob thanked Jim for his outstanding work on behalf of FO-4. Paul Kolesar, CommScope, agreed to Chair FO-4.1 and was so appointed to the position by FO-4.

Elections of odd numbered Subcommittees will be held at the June 2007 meeting.

FO-4 will co-locate with TR-42 in June as well as in October.

1.6 Distribution of documents and contributions

Bob noted that all contributions to FO-4 were available on the FTP site.

Document #	Contributor	Company	Title
FO-4/06-06-029	Bob Jensen	Fluke Networks	June 2006 Meeting Report
FO-4/07-02-001	Bob Jensen	Fluke Networks	Opening Plenary Agenda
FO-4/07-02-002	Bob Jensen	Fluke Networks	Closing Plenary Agenda
FO-4/07-02-003	Bob Jensen	Fluke Networks	Feb meeting schedule
FO-4/07-02-004	Tom Hanson	Corning	FO-4.2 Opening Plenary Report
FO-4/07-02-005	Greg Sandels	OFS	FO-4.3 Opening Plenary Report
FO-4/07-02-006	Lorenz Cartellieri	Experior Photonics	FO-4.5 Opening Plenary Report
FO-4/07-02-007	Paul Kolesar	CommScope	FO-4.1.2 Contributions
FO-4/07-02-008	Paul Kolesar	CommScope	FO-4.1 Opening Plenary Report
FO-4/07-02-009	Tom Hanson	Corning	FO-4.2 Closing Plenary Report
FO-4/07-02-010	Greg Sandels	OFS	FO-4.3 Closing Plenary Report
FO-4/07-02-011	Lorenz Cartellieri	Experior Photonics	FO-4.5 Closing Plenary Report
FO-4/07-02-012	Paul Kolesar	CommScope	FO-4.1 Closing Plenary Report

1.7 Meeting report review and approval

The June 2006 meeting report was unanimously approved.

2 OLD BUSINESS

There was no old business.

3 PLENARY REPORTS

3.1 Opening Plenary reports

Bob Jensen noted that the Opening Plenary reports are posted to the ftp site.

3.2 Closing Plenary reports

3.2.1 FO-4.1, Optical Fiber Systems, Paul Kolesar

Paul Kolesar chaired the meeting at the request of FO-4.1 Vice-chair Gair Brown. Gair Brown and Jim Matthews, chair of FO-4.1 were absent. Quorum was achieved with 10 of 11 quorum members in attendance. KITCO Fiber Optics and NIST were added to the quorum list.

FO-4.1.2 (Multimode Transmission Systems) received eight contributions and one liaison.

Paul Kolesar contributed two items:

- FO-412_0702-002 TSB172 PAR.pdf
- FO-412_0702-003 MM Transmission Tech_TSB172_D1_2changes.pdf

Agreement was reached to further the drafting of the TSB in preparation for first ballot via correspondence on the reflector.

Tom Hanson contributed two items:

- FO-412_0702-004 MM Launch Summary of Findings.pdf
- FO-412_0702-005 MM Source Boundary Experiment.pdf

These provided information on the development and validation of new launch conditions specifications for multimode measurements, an activity involving members of IEC 86 and ISO/IEC JTC1/SC25.

Bob Conte contributed two items:

- FO-412_0702-006 CPR_MPD_EF paper.pdf
- FO-412_0702-007 CPR_MPD_EF present.pdf

These provided analysis of a comparison between the present launch (based on MPD plus tight CPR adopted by IEC 86B and ISO) and the proposed new target based on Encircled Flux.

Jim Hayes contributed one item:

- FO-412_0702-008 MMTTesting.pdf

This material shows the variability in link loss measurements with various instruments, indicating the need for improvement in launch specification.

Casey Shaar contributed one item:

- FO-412_0702-009 FOTP 203 Analysis and Suggestions.pdf

This material suggests that improvements are needed in the EF measurement FOTP to allow higher precision for determining the validity of the proposed new launch condition.

Tom Hanson provided one liaison report:

- FO-412_0702-010 IEC61280-4-1ed2 86C-715-CD5b.pdf

This draft is in preparation for second CD ballot in IEC 86, and will be the basis for revision of OFSTP-14 regarding attenuation measurements of multimode cabling.

FO-4.1 contributions:

Steve Swanson contributed one item regarding acceleration of MM launch guidance in the form of a TSB to clarify the market situation being caused by ISO 14763-3.

Motions held within FO-4.1:

1. Reconfirm revision of OFSTP-14 with Kolesar as editor; approved without opposition.
2. Dissolve FO-4.1.2 working group; approved without opposition.
3. Form Task Group with objective to progress multimode issues (e.g. launch and measurement) corresponding by teleconference and over the FO-4.1.2 reflector, to be lead by Casey Shaar and coordinated by Paul Kolesar; approved without opposition.
4. Create new TSB to provide guidance on multimode cabling attenuation measurements, as bridge to customers during this time of confusion resulting from disparate requirements from various standards groups. Steve Swanson to be editor; approved without opposition.
5. Revise TIA 492-AAAA, 492-AAAB, 492-AAAC (detailed multimode fiber specifications). Steve Swanson to be editor; approved without opposition.

There were no actions items requested of FO-4 at this meeting.

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

There were 21 individuals present with 6 out of 8 quorum members present – quorum was declared.

Items approved in FO-4.2 included:

- Adoption ballot for ICEA “640”, "Standard for Optical Fiber Outside Plant Communications Cable"
- Confirmed revision ballot for FOTP-3
- Confirmed special ballot for revision of FOTP-12
- Revision of 492AAAA, 492AAAB, and 492AAAC
- New project on ribbon strip cleanliness (ITM-9)
- A new FOTP on Testing expressed tubes for loose tube cables in pedestals

Other items discussed in FO-4.2 included:

- Revision of FOTP-56, Fungus testing, is anticipated starting June, 2007

- Adoption of ICEA "717", Sewer cable, is anticipated in early 2008
- Progress of revisions to TIA-4720000, previously authorized.

FO-4.2 made a few requests of FO-4:

- Request that TIA unblock the FOTPs that have been barred from distribution
 - Fix the royalty issue(s)
- Allocate 1 four hour block for 4.2.5 and 4.2.6
 - Consider consolidating FO-4.2 (+WGs) & 86A into 2 days
- Consider preconnectorized cables as future work (how to do with 4.3?)
 - Also terminals, hubs, and pedestals

The last two items will be addressed when reviewing our next meeting schedule. Bob Jensen will pursue royalty issue with TIA.

3.2.3 FO-4.3, Passive Optical Devices and Components, Greg Sandels

Greg Sandels reported that there were 19 persons in attendance at the meeting and that quorum was established. The following was addressed in the Subcommittee meeting:

- WG Action Items were reviewed and discussed
- Requested documents for ballot and publication in 4.3.2 approved by committee
- 24 ANSI documents were approved for reaffirmation ballot
- 4 TIA documents were reaffirmed by committee
- The current expectation is to combine WG's FO-4.3.1 and FO-4.3.3 in future meetings with the current chairs to share the responsibility

FO-4.3.1, Passive Components – Helmut Knehr, Chair

- 7 persons were in attendance.
- A presentation regarding PON deployment, components and testing was offered by Andre Girard of EXFO. Resulting from the presentation was an expressed a concern regarding high input power (+23 dBm) on WDM couplers in PON applications for RF analog video transmission. Current test procedures for characterization do not address high input power. FO 4.3.1 suggests relevant FOTPs be modified accordingly, although no participants have volunteered to lead this effort.
- MM characterization of components were addressed. However, issues related to launch conditions should be decided after FO 4.1 reaches its conclusions and input can be provided for consistency

FO-4.3.2, Passive Components – Greg Sandels, Chair

- 19 persons were in attendance
- The following Ballots were reviewed
 - FOTP 1090-Connector Seal Under Load (PN-3-0228)
 - Requested SP ballot was granted
 - FOTP 219A MT Fiber Protrusion (PN-3-002-RV1)
 - Requested PN ballot was granted
 - FOTP 240 FO Cleaning System (PN-3-0149)
 - Requested SP ballot was granted
- The following Presentation were offered
 - Titanium Ferrule Technology – Whitebook
 - MultiFiber Connector Analysis – Gurreri/Hughes

FO-4.3.3, Passive Components Reliability – Osman Gebizlioglu, Chair

- 17 persons in attendance
- A revised draft on "Adhesives Application Guidelines" was reviewed
- No updates were made to a draft FOTP on Adhesion Strength Test Methods, but contributions are expected

- The issue regarding the effect of high optical power on component reliability was raised
 - This could be applicable with the high power in BPON networks with analog video at least until transitioned to digital is complete
 - The concern is still relevant for Raman amplification.

3.2.4 FO-4.5, Fiber Optic Metrology, Lorenz Cartellieri

Lorenz Cartellieri reported that quorum was established for the meeting.

The following documents have been revised by the IEC. FO-4.5 decided to send these to ANSI ballot to re-adopt the revised versions into the TIA:

- IEC-61715 as FOTP-231 Calibration of Fiber Optic Power Meters
- IEC-61344 as FOTP-224 Calibration of Fiber Optic Chromatic Dispersion Test Sets
- IEC-61746 as FOTP-226 Calibration of OTDRs

Reviewed activity in IEC TC86-WG-4 was reviewed including:

- Multimode OTDR Calibration document
- Development of endface inspection document including calibration of equipment used for endface inspection.

New agenda items:

- Calibration of Interferometers (emphasized need for apex offset calibration for measurement of angle polished connectors)

Discussion was held on the proper test method for reference quality jumpers. A presentation was given by TYCO Electronics summarizing the importance of utilizing reference quality components for producing reference quality cables and mating adapters. The presentation included a summary of current industry references to reference quality jumpers.

FO-4.5.1, WG on Round Robin Testing and Measurement Verification – Tim Drapela, chair

- Summary graphs and initial analysis of received measurement data regarding the Return Loss Round Robin were shown at the meeting.
- Tim Drapela gave an update on NIST optoelectronics efforts
- Ongoing discussions continue about multimode launch conditions indicate that there may ultimately be need for a physical artifact for calibrating launch and that core diameter may need to be calibrated within a very tight tolerance.
- Potential future round-robin needs were discussed for several areas. Multimode launch condition calibration artifact as well as interferometer calibration artifact for apex offset calibration (for angle polished connectors). No clear need or plan of action identified

4 NEW BUSINESS

Discussion was held regarding the joint meeting with TR-42. Comments were positive as we continue investigating a merger with TR-42.

4.1 Schedule review

A schedule for the next meeting was presented, discussed and altered. The schedule will be further developed with TR-42 between this meeting and the June 2007 meeting.

4.2 Future meetings

June 4-8, 2007

Hotel TDB (likely in Canada; Halifax being discussed)

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 February 9, 2007.

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

FO-4 Chair
Bob Jensen

AVAILABILITY OF MEETING DOCUMENTS:

All meeting attendees are instructed to download contributions and other meeting documents from the TIA FO-4 FTP site (<http://ftp.tiaonline.org/FO-4/>) before the meeting. For information on how to access the FTP site, contact TIA (Marianna Kramarikova: mkramarikova@tiaonline.org).

NEW CONTRIBUTIONS:

Contributions shall use the approved templates and specific wording provided by TIA. Contributions affecting a document are to include a TIA cover sheet, proposed text to be included in the document, and the rationale/substantiation for the contribution. File templates are available on the FO-4 FTP site for download. All contributions shall be submitted to the electronic document coordinator (EDC). All electronic files shall be provided in either Adobe Acrobat (*.PDF); Microsoft Word (*.DOC); Microsoft PowerPoint (*.PPT); or in Microsoft Excel (*.XLS). Compressed files shall be accessible using PKUNZIP or WINZIP (*.ZIP).

Early submittal and posting of contributions for consideration in meetings is highly encouraged. Contributions shall be submitted to the EDC as soon as possible and then posted to the FTP folders by the EDC as soon after receipt as possible, preferably within one business day. Notification of the posting shall be made to the group's email reflector list by the EDC within one working day of the posting. All contributions shall be posted to the appropriate location on the TIA FTP site no later than 12:00 noon EST on the Monday preceding the week of the meeting in which the contribution is to be considered (example: if the meeting will be held on Thursday the 20th, the contributions shall be posted by noon on Monday the 10th).

LATE CONTRIBUTIONS:

Contributions not posted as described in the timing above shall be classified as "late contributions." They may be considered in the meeting to which they are addressed provided that an appropriate motion receives 50% or greater of a vote.

All late contributions shall be provided to the EDC and to the committee members on a memory stick or CD-ROM along with sufficient paper copies for those members without a PC.

All late contributions shall be posted to the TIA FTP site no later than one week following the meeting in which they are considered. Notification of the posting shall be made to the group's email reflector list by the EDC.

DOCUMENT NUMBERS:

All contributions to FO-4 are assigned a document number. To obtain a document number before the meeting, provide your name, affiliation, contribution title and corresponding agenda item to the FO-4 EDC.

QUESTIONS AND COMMENTS SHOULD BE SUBMITTED TO:

Chair, EDC & Secretary:
Bob Jensen

Ph: 512-514-7760

bjensen@swbell.net
