

# Preliminary Agenda 27 February 2009

## Minutes of the CE-2.1 Subcommittee on Test Procedures 28 – 29 April 2009 New Orleans, LA

Subcommittee Chair Carl Fritz welcomed everyone, and said that the meeting would be conducted following the published agenda.

### 1. Approval of the 6 – 7 October 2008 minutes

### 2. TEST PROCEDURE PROJECTS (BY PROJECT NUMBER)

**"If any SP listed below receives insufficient votes for approval, the committee may approve the document for EDEC ballot at this meeting. It is the responsibility of the member to submit comments in writing prior to the meeting".**

#### A. PN-4943, TP-65, MFG (Max Peel)

Carl Fritz reported, for the record, that a Letter ballot was issued 10 July 2003. Confirmation with ECA indicated the project number is still good and can be used for the SP ballot. Carl Fritz presented a revised draft of the subject standard to the committee.

The committee reviewed the revised draft prepared by Max Peel. Frank Ruffino indicated that he had several other comments to be considered for clarification. He will provide those comment to Max Peel. It was also discussed to consider replacing the existing cleaning process with a specific ASTM procedure. The project leader will consider incorporating comments provided by Frank Ruffino as well as considering the ASTM cleaning process.

It was moved by John Healey and seconded by Don Chambers to send the standard to EIA for a SP ballot. The motion was unanimously approved. It was also unanimously moved and approved that if there are sufficient ballots and no rejections received that the standard be sent to EIA for EDEC ballot and publication as an EIA Standard. In addition the standard should also be submitted to ANSI for publication as an American National Standard.

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B. SP-5083, TP- 5, 7, 8, 24, 25, 27, 37, 40, 44, 79, 85, 87, 88, 93, 94, 97, 98 (J. Toran)\*\*

Carl reported that he sent a letter to Max Peel (mpeel26) on behalf of Jeff Toran on 11 August 2006 acknowledging his comments, and sent a letter to EIA for EDEC ballot (mccwil267) on 11 August 2006 to reaffirm all listed standards, except TP-7, 25 and 87. TP-25 should be reaffirmed as well. At the time the letter was sent to reaffirm the standards TP-25 was under review for revision. Since then the project leader has officially withdrawn any recommended changes and the project is cancelled at the April 2007 meeting.

The standards still have not been reaffirmed.

Carl reported that he notified EIA that there was no need to reaffirm TP-07 since it has been revised and published 19 July 2007.

This project remains open.

Notified EIA on 9 November 2008 that there was no need to reaffirm TP-87 since it is being revised under SP-5181.

C. SP-5107, EIA-364-1002, Test Methodology for Assessing the Performance of Compliant Contact Terminations Used as Free Standing Contacts or in Electrical Connectors and Sockets (Max Peel)

Standard was published on 8 October 2008 and received by US Mail on 10 November 2008.

D. SP-5108, TP- ~~2, 3, 9, 13, 14, 26, 28, 35, 38, 42, 50, 54, 95, 99, 100, 102 and 103~~ (C. Fritz)\*\*

Carl Fritz reported that he sent a letter (mccwil231) to EIA for EDEC ballot to reaffirm all listed standards on 13 January 2006.

TP-13 published as **revised** (see SP-5157) 2 July 2007. No need to reaffirm. Received US Mail 23 July 2007.

The open standards remain to be reaffirmed.

After checking on the web I see that TP-14B was reaffirmed Mar 27, 2006 and TP-28E was revised August 2006. This should close out SP-5108.

E. SP-5143-1, EIA-364-1000, Environmental Test Methodology for Assessing the Performance of Electrical Connectors and Sockets Used in Controlled Environment Applications (John Healey)

Standard was published October 2008 as an EIA Standard only and received by US Mail on 10 November 2008.

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F. SP-5150, TP-31C, Humidity Test Procedure for Electrical Connectors and Sockets (Carl Fritz)

Sent the standard and cover memo (mccwil356) to EIA for EDEC ballot on 6 November 2008. Sent letters acknowledging the favorable ballots from Dave Bouzek [for Eric Shelpler (SAE) mbouzel3], Ralph Antonelli (mantone Ili), and Max Peel (mpeel31) and the committee's actions.

Standard was published November 2008 and received by US Mail on 15 December 2008.

G. SP-5164-1, TP-111, Ionic contamination (John Healey)

*Confirmation with EIA following the meeting confirmed that there were 7 approved ballots received by the ballot expiration date.*

Sent the standard and cover memo (mccwil357) to EIA for EDEC ballot on 6 November 2008.

Standard was published 11 December 2008 and received by US Mail on 31 December 2008.

H. SP-5174-1 (previous designation PN-3787), EIA-364-1004, Environmental Test Methodology for Verifying the Current Rating of Free-Standing Power Contacts or Electrical Connectors and Sockets (Max Peel)

*Confirmation with EIA following the meeting confirmed that there were 6 approved ballots and 3 rejections received by the ballot expiration date. The rejections were received from John Healey, Frank Ruffino and Vince Pascucci.*

I. SP-5175, EIA-364-75, Lightning Strike Test Procedures for Electrical Connectors (Don Chambers)

*Confirmation with EIA following the meeting confirmed that there were 6 approved ballots and 1 abstains received by the ballot expiration date.*

Sent standard and cover memo (mccwil366) to EIA for EDEC ballot on 10 December 2008 on behalf of Don Chambers.

Standard was published on 13 January 2009 and received by US Mail on 26 January 2009.

J. SP-5176, Standards Due for 5-Year Review, SP-XXXX, EIA-364, TP-04, 16, 30, 33, 69, and 78 (C. Fritz)

*Confirmation with EIA following the meeting confirmed that there were 9 approved ballots received by the ballot expiration date.*

Sent letter (mccwil358) to EIA for EDEC ballot to reaffirm all listed standards on 7 November 2008.

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K. SP-5177, TP-03A, Altitude Immersion Test Procedure for Electrical Connectors (C. Fritz)

Sent standard and cover memo (mccwil361) to EIA for EDEC ballot on 11 November 2008. Sent letters acknowledging the unofficial comments that were received from Dave Bouzek for [Ronnie Peterson (SAE) mbouzek4] and [Eric Shelpler (SAE) mbouzek5].

L. SP- 5179, TP-112, Effective Resistance of Parallel Circuits Test Procedure for Electrical Connectors and Sockets (Frank Ruffino)

Under development.

M. SP-5181, TP-87A, Nanosecond Event Detection (Max Peel)

Sent standard, cover memo (mccwil360), and Background Data Sheet to EIA for a SP ballot on 9 November 2008 on behalf of Max Peel.

Ballot issued 14 November 2008 with a ballot expiration date of 15 January 2009.

*Confirmation with EIA following the meeting confirmed that there were 5 approved ballots, 1 abstains and 1 approved ballot with comments from Don Chambers received by the ballot expiration date.*

Sent the standard and cover memo (mccwil371) to EIA for EDEC ballot on 20 February 2009. Sent letter accepting the favorable ballot with editorial comments from Don Chambers (mchambers) on behalf of Max Peel

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N. SP-5183, EIA-364-1000.01, Environmental Test Methodology for Assessing the Performance of Electrical Connectors and Sockets Used in Controlled Environment Applications (John Healey)

Supersede standard by EIA-364-1000.

Sent cover memo (mccwil359) and PINS form to EIA requesting a project number on 9 November 2008 on behalf of John Healey.

Received project number PN-5183 on 11 November 2008.

Sent the standard, cover memo (mccwil362), Background Data Sheet, and draft ballot to EIA for SP ballot on 13 November 2008 on behalf of John Healey.

Ballot issued 13 November 2008 with a ballot expiration date of 13 January 2009.

*Confirmation with EIA following the meeting confirmed that there were 8 approved ballots received by the ballot expiration date.*

Sent standard and cover memo (mccwil370) to EIA for EDEC ballot on 19 February 2009 on behalf of H. John Healey.

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O. SP-5184, TP-37C, Contact Engaging and Separating Force (Carl Fritz)

Sent cover memo (mccwil363) and PINS form to EIA requesting a project number on 13 November 2008.

Received project number PN-5184 on 20 November 2008.

Sent the standard, cover memo (mccwil364), Background Data Sheet, and draft ballot to EIA for SP ballot on 25 November 2008.

Ballot issued 9 December 2008 with a ballot expiration date of 9 February 2009.

- Received the following e-mail from Dave Bouzek on 15 December 2008:

Karl,

Here is a comment from SAE, Glenair, regarding EIA-364-37. We can discuss at our next meeting and I'll send any more should they come in.

Dave

The following is the contents of the attached letter:

Date: 15-Dec-08

To: EIA Committee

From: Alan Miklos / Pat Oakes - Glenair, Inc.

Subject: Review of EIA-364-37 Rev B, Contact engagement and separation force

Reference: Comments / Change Recommendations

The following changes and supporting rationale statements are intended to communicate recommendations for consideration and incorporation into the subject specification to help minimize any potential industry issues with respect to the requirements stated within the body of this document. The specific recommended wording or technical changes to be addressed are shown in blue font for ease of identification.

## **EIA test methods A, B, and C:**

**1). Technical:** The different test methods in this procedure, paragraph 4.1, Method A, paragraph 4.2, Method B, and paragraph 4.3, Method C, do not align with the procedures in MIL-STD-1344, test method 2014. 2014 identifies the different methods as procedure I and procedure II. Many tier component specifications including AS39029 either call out the basic 2014 method or procedure I or procedure II, which leaves no traceable path between the EIA methods and the 1344 procedures.

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Current Wording: Paragraph 4.1, Method A, gauges-Paragraph 4.1, Method B, approved mating component-Paragraph 4.3, Method C, gauge force.

Recommended Wording: The following cross reference table should be added to the document.

| MIL-STD-1344 2014 Test method | EIA 364-37 Test method |
|-------------------------------|------------------------|
| Procedure I                   | Method A               |
| Procedure II                  | Method B               |
|                               | Method C               |

Rationale: The additional cross reference table will link the previous 1344 procedures to the appropriate EIA methods.

- My reply to Dave Bouzek on 16 December 2008:

Dave, I just checked and the comment submitted by Alan Miklos is correct. I did not notice a mismatch in procedure/method designations in this standard. We should be able to add the table as an annex in the standard like we have done in others at the next meeting. The addition of the annex is non-technical and would be added for clarification and not require a new ballot. Regards and happy holidays, Carl

*Confirmation with EIA following the meeting confirmed that there were 8 approved ballots received by the ballot expiration date. In addition there was 1 unofficial comment received from Dave Bouzek on behalf of SAE. To be discussed at the April 2009 meeting.*

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P. SP-5185, TP-52B, Test Procedure for Solderability of Contact Terminations Use in Connectors / Sockets (Max Peel)

Sent cover memo (mccwil367) and PINS form to EIA requesting a project number on 15 December 2008 on behalf of Max Peel.

Received project number PN-5185 on 16 December 2008.

Sent the standard, cover memo (mccwil368) and Background Data Sheet to EIA for SP ballot on 5 January 2009.

Ballot issued 9 January 2009 with a ballot expiration date of 9 March 2009.

Q. SP-5180, TP-41E, Cable Flexing (Max Peel)

Carl Fritz reported that he sent a marked up copy to Max to review on 31 October 2007.

Carl reported that he sent a reminder to the members and copy sent to all those present at the last meeting and Bob Druckenmiller and Vince Pascucci on 9 May 2008.

Second reminder sent 15 September 2008.

Sent cover memo (mccwil354) and PINS form to EIA requesting a project number on 26 September 2008.

Received Project Number 5180 on 29 September 2008.

The draft revision prepared by Max Peel was reviewed at the meeting. Don Chambers agreed to provide additional input to the standard. It was moved by Frank Ruffino and seconded by Ralph Antonelli to send the standard to EIA for a SP ballot. The motion was unanimously approved. It was also unanimously moved and approved that if there are sufficient ballots and no rejections received that the standard be sent to EIA for EDEC ballot and publication as an EIA Standard. In addition the standard should also be submitted to ANSI for publication as an American National Standard.

Sent Max marked copy of draft form Don Chambers to review on 22 February 2009.

\*\* Past due for 5-year review

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## 3. TEST PROCEDURES AWAITING PROJECT NUMBERS (BY TP NUMBER)

A. EIA-364-31D, Humidity Test Procedure for Electrical Connectors and Sockets (Max Peel)

Sent Max Peel draft working copies that split this standard into 2 standards on 11 December 2008.

## 4. OTHER BUSINESS

A. TP-79, Insert Bond Strength (Don Chambers)

Don Chambers has agreed to take on this project to clarify issues raised by Lisa Hoffer. It was moved by Don Chambers and seconded by Dave Bouzek to obtain a project number and send to EIA for a SP ballot. The motion was unanimously approved. It was also unanimously moved and approved that if there are sufficient ballots and no rejections received that the standard be sent to EIA for EDEC ballot and publication as an EIA Standard. In addition the standard should also be submitted to ANSI for publication as an American National Standard.

B. Hot Plugging

Under consideration

C. Current overload

Under consideration

D. Check 38999 that are not covered by a test procedure. 26482? See what tests are not unique to a specific specification. Consider developing a TP only if it has multiple applications.

To be considered for future work item.

E. Consider adding a vibration sweep method to the vibration TP-28. This is for residence surge. Spelled out in 38999 clause 4.5.23.2.3.

Under consideration

F. Electrolytic erosion, Spelled out in 38999 clause 4.5.35.

Under consideration

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## G. TP-66, Shielding Effectiveness (Ralph Antonelli)

Ralph Antonelli has agreed to serve a project leader for this one. He will compare the minutes of the harmonization meetings with what is currently in the TP to see if issue had already been addressed. He agreed to have something to report at the next meeting.

(See Attachment No. 6 for harmonization report)

- Received comments from Deutsch via Don Chambers that were presented at the SAE meeting in October 2008, see TP-66 comments from Deutsch.

## H. TP-23, Low Level Contact Resistance (Carl Fritz)

Consider moving the last sentence in paragraph 4 and the options that follow to an informative annex. These options are not considered part of the test procedure. Carl Fritz will see if there is any opposition to this.

*The following comment was received from Frank Ruffino following the meeting as a result of reviewing the draft minutes.*

*The options for correcting for thermal EMF's are a requirement and are not meant to be informative. The test lab must use one of the options. The sentence in 4.0 states "One of the following options shall be used to correct for thermal EMF's." We do not want to change that. Thermal EMF's need to be corrected when making the LLCR measurement.*

## 5. NEW BUSINESS

### A. Standards Due for 5-Year Review, SP-XXXX, EIA-364, TP-51, 58, 80, 96 and 109

### 5 Standards Due for 5 Year review

| Test  | EIA-364 TP | Rev | Date of last issue | 5 Year due date | Years past due | Comments         |
|---|------------|-----|--------------------|-----------------|----------------|------------------|
| Ice resistance of mated connectors  | 51         | A   | November-02        | October-07      | 1              | Published Nov 02 |
| Temperature life (with mechanical loading for connectors with removable contacts) | 58         | A   | July-03            | June-08         | 1              | Published Jul 03 |
| Low frequency shield strength   | 80         |     | November-02        | October-07      | 1              | Published Nov 02 |
| Plating through hole integrity  | 96         |     | October-02         | October-07      | 1              | Published Nov 02 |
| Loop Inductance (1 nH - 10 nH)  | 109        |     | May-03             | April-08        | 1              | Published May 03 |

NOTE: Document format up to date on all of the above listed standards for 5-year review.

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## B. EIA-364-45A Firewall Flame Test

The following is as a result of an inquiry to Bob Willis on 13 January 2009 from:

Chris Kieser  
Special Projects Engineer

Environ Laboratories LLC  
9725 Girard Avenue South  
Bloomington, MN 55431-2621  
www.environlab.com  
Direct Line: 952-567-2308  
Phone: 952-888-7795  
Toll Free: 1-800-826-3710  
Fax: 952-888-6345

The inquiry was as follows:

I would like to speak with someone on this stands committee (CE -2.0 National Connector Standards Committee) to get clarification of some test equipment required (specifically the burner required and where they may be acquired).

The following response was provided by Kevin Rickard on 26 January 2009 that I forwarded to Chris Kieser:

We use a Maxon Premix (Muncie, Indiana) Turistick TITE #928 with a Matheson Regulator model 8L350. I believe both companies are still in business but the model numbers are old and may require contact with the appropriate companies for their replacement model numbers. We use a large cylinder of Methane for the fuel. I hope this helps. The real trick of this test is getting just the right placement of the thermal couple. Also do not expect a steady state flame temperature. Shoot for the average.

May wish to consider adding this information to the test standard for clarification.

## C. EIA-364-10E, Fluid Immersion

Received an e-mail from Trevor William (UK) via Don Chambers on 15 December 2008 regarding the addition of a new test fluid.

## D. J-STD-075

Discuss the merits of developing a TS standard to outline tests necessary to evaluate connectors and determine the PSL Level in J-STD-075.

J-STD-075 has PSL levels for Wave and Reflow compatible connectors, however there is no evaluation method or criteria specifically for connectors.

Respectfully submitted,  
Carl Fritz, Chairman CE-2.1