

**TIME:** Tuesday, 5/11/21, 11-12pm CST

**PLACE:** Zoom (669-900-6833 or 408-638-0968), 272 780 335, <https://zoom.us/j/272780335>

**MINUTES:** [https://www.pdma.com/technical-forums/reliability/meeting\\_minutes](https://www.pdma.com/technical-forums/reliability/meeting_minutes)

**ATTENDEES:**

PRESENT?	COMMITTEE MEMBER
X	Brian Zahnstecher, PowerRox – Co-Chair
X	Joe Horzepa, PSMA – PSMA Representation
	Lisa Horzepa, PSMA – PSMA Representation
X	John Horzepa, PSMA – PSMA Representation
X	Ada Cheng, AdaClock – Member
	Rick Fishbune, IBM – Member
X	Patrick Le Fèvre, Powerbox – Member
	Tim McDonald, Infineon – Member
	Steve Miller, SL Power ( <i>RETIRED</i> ) – Member
	Kevin Parmenter, Taiwan Semi – Member
	Shane Callanan, AEI – Member
	Greg Miller, Silanna – Member
	Mike Seeman, Eta One Power – Member
X	Ed Massey, Ed Massey Consulting – Member
	Eric Swenson, IBM – Member
X	Bill Mallory, SL Power – Member
	Shobhana Punjabi, Cisco – Member
	Hamish Laird, ELMG Digital Power – Member
	Francesco Carobolante, IoTissimo – Member
X	Nitish Agarwal, SL Power – Member
	Manish Bhardwaj, TI – Member
	Denis Downey, Cisco – Member

\* Attending APEC

GREEN = NEW MEMBER, 1<sup>st</sup> MEETING (i.e. – introduce yourself)

RED = REMOVING MEMBER, NO ATTENDANCE AND/OR RESPONSE FOR LONG TIME, PURGING ACTIONS (w/OWNER) HIGHLIGHTED BELOW

ACTION COMPLETED

**AGENDA:**

**IF ANYONE IS INTERESTED IN CO-CHAIR ROLE, THEN PLEASE REACH OUT TO BZ RIGHT AWAY.**

- **New Comm Introductions / Membership**

- Elevator pitch intros, roundtable.
  - NEW MEMBERS =
- New Member Recruiting
  - Enough on plate for this year, **WILL DEFER SURVEY TO END-'21 / EARLY '22.**

- **Comm Website / Purpose Statement**

- Comm website up and running on PSMA.com ADA REPORTS FULL PSMA WEBSITE REVAMP UP BY END-JAN

- COMM = IF HAVE ANY GOOD RESOURCES, LINKS, PAPERS, ETC. TO POST ON WEBSITE (REMINDER, OPEN TO PUBLIC), THEN PLEASE SEND TO BZ FOR POSTING VIA LISA.

### - Initiatives

- Revisit Committee Priorities
  - **BZ WILL DISTRIBUTE THE ANNUAL SURVEY AND PREPARE RESULTS SUMMARY FOR NEXT MTG.** Comm will have 1 wk to review initiative list and suggest any additions/deletions. Following that, there will 2 wk voting period in order to have final results prepared for next month's call.
    - Review results (8.5/19 responses total). **BZ WILL SHARE FINAL RESULTS WITH MTG MINS**
      - #1 = Power Supply SW/FW Spec/Test/Standardization Phase II
        - Pursue deeper-dive follow-on to Phase I, perhaps consider a proposed standard.
      - #2 = Power Supply Security
        - A more comprehensive effort to identify weaknesses and propose solutions for enhancing PS SW/FW security. e.g. need for back-up image during Firmware update.
- Power Supply Communication Bus Reliability (**BRIAN SPEARHEADS**)
  - Actions
    - **WE NEED TO TALK ABOUT THIS!!!** ☹ After an extensive amount of review, effort, negotiation, and leeway, it seems our team's needs/goals are too far apart to successfully deliver on the mission and deliverables in the way our Comm envisions. FOR THESE REASONS, BZ/ED/JOE ARE RECOMMENDING TO COMM THAT WE CANCEL EXISTING CONTRACT AND SEEK A NEW RESOURCE...Comm in full alignment. **BZ WILL WORK WITH JOE OFFLINE ON NECESSARY LOGISTICS, INFORMING BOB AND UPDATING BoD.**
      - Also as result of contract cancellation, just Bob's APEC '21 IS has been cancelled as it can no longer be justified.
      - As compromise to retain Bob's excellent SME, proposing offer as Professional Tech Advisor (e.g. – paid, but a lesser amount on the order of ~\$3 k +/- 1k), but not an Editor.
        1. Comm Feedback (**BZ TO SEEK ADD'L FEEDBACK OFFLINE FROM THOSE UNABLE TO ATTEND TODAY'S CALL**)
          - given history, low likelihood of ability to follow outline and even lower likelihood of accepting/incorporating feedback
          - can understand Bob's perspective of Comm being overbearing on initial feedback and change requests, even if product was low-quality
          - cannot hurt to see what Bob is offering on the off-chance we will be very surprised/impressed with what is received
          - Review response to Exec Comm. **BZ TO PROVIDE RESPONSE TO EXEC COMM ON RELIAB COMM'S BEHALF.**
- PTR Webinars (**NEED NEW CHAMPION SPEARHEADS**):
  - Topics? Speakers? Schedule? **FOR ANY WEBINAR, DECIDE IF PROPOSE TO PTR OR IF RELIAB COMM INDEPENDENT EVENT.**
    - **COMM ACTION: WEBINAR TOPICS, PERHAPS FROM WITHIN COMM.**

- Mine speakers from APEC IS post-event.
- Doug Kirkpatrick, CEO, Eridan Communications
  - “System Reliability for Small Cells Enable 5G”
  - **Consider for PTR webinar? BZ TO REACH OUT. GIVING COMP TIME TO WORK OUT LOGISTICAL ISSUES FIRST, REVISIT IN LATER JUN.**
- **APEC '21 INDUSTRY SESSION (ED SPEARHEADS): IS21 (Rm. 4 if F2F NOW FULLY VIRTUAL), 6/14-17/21.** Ed now Co-chair for APEC session, thanks Ed!!! ALL TALKS MUST BE PRERECORDED AND DONE ONLY THROUGH APEC'S TOOL (Social27 platform)!!! **ED/BRIAN TO PROVIDE DETAILED INSTRUCTIONS.** **Ada notes there is a chat tool to enable speaker dialogue offline from single, interactive Q&A.**
  - Speaker List –
    1. Eric Swenson, IBM.
      - “IPC-9592B - What is it? What isn't it?”
      - ABSTRACT: *The IPC-9592 standard, "Requirements for Power Conversion Devices for the Computer and Telecommunications Industries," was first released in September 2008. This document defined design, test, and manufacturing requirements for various types of power assemblies from AC/DC converters to battery packs. This standard covers requirements for each of these topics in varying degrees of detail. Specifics on qualification testing are especially well covered. However, this standard has several omissions that need to be addressed. The development and testing of firmware is one important topic not addressed in this standard. Another area where the standard could be strengthened is better defining manufacturing process requirements for each product class. This presentation will summarize the strengths and weaknesses of the current IPC-9592B standard and discuss various options to strengthen it.*
    2. Crystal Yannarella, L3Harris Maritime Power Systems Division
      - “**Reliability of Electrical High Power Conversion and Distribution Equipment for Maritime Applications**”
      - ABSTRACT: In today's presentation I will touch upon a few major areas that contribute to some of the Maritime industry's problems and challenges that plague large scale power delivery system reliability. These areas consisting of environmental conditions like moisture, corrosion, confined space limitations and how these conditions can affect the lifetime reliability of the system. I will also discuss system uptime reliability and the importance of thermal maintenance, and fault detection in relation to prolonging system health and longevity. I will also cover the important role that operational optimization and self-contained modular programmable construction plays in decreasing field maintenance time.
    3. Mike Schnecker, Rohde & Schwarz
      - “**Wide Bandgap EMI Pre-Compliance for Reliability and Optimization**”
      - ABSTRACT: Demonstrating that SiC isn't noisy compared to silicon is a barrier to entry. SiC device and module manufacturers have surveyed their customer base and over 40% consider noise related to EMI issues to be a primary concern for adoption. This presentation will focus on the challenges associated with noise

and the impacts on reliability when migrating a design from Si to SiC with discussion topics including test tools, test methodology, and mitigation and optimization techniques.

4. Julie Silk, Keysight (on behalf of iNEMI)
  - ***“Recommended Best Practices for Protecting the Reliability and Integrity of Electronic Products and Assemblies when Disinfecting for SARSCoV- 2 (COVID-19)”*** from
  - ABSTRACT: The disinfecting procedures developed in response to the COVID-19 crisis could potentially have a detrimental impact on electronic equipment and assemblies. Many commonly recommended disinfection substances and/or application methods could potentially cause failures in electronic equipment if the internal electronics were inadvertently exposed to them. This is an obvious concern for electronics manufacturers who want to ensure the safety of their employees, supply chain partners and customers, while protecting the reliability and integrity of their products. A team of experts from across iNEMI member organizations reviewed key industry, government and technical sources and assembled a best practices document. The team assessed chemicals and common application methods, identifying those substances that minimize the risk of negative impact on electronic equipment when applied in an appropriate manner.

#### - General

- Any other revenue-generating thoughts for PSMA?
  - Input into IPC-9592B standard update. Consider SW/FW input? **Rick former colleague of IPC CTO (Matt Kelly), will work with IPC/PSMA efforts to cultivate opportunity here. BZ to facilitate email discussion with Mike Hayes as part of overall PSMA/IPC collaboration efforts.** SW/FW report currently with IPC for review/feedback/suggestions. Eric also notes deep experience with this and interest in efforts. IPC currently reviewing with their committees to determine best course of action. **ERIC/RICK CURRENTLY TRYING TO ARRANGE MEETING WITH IPC-9592 COMM TO DISCUSS COLLABORATIVE OPPORTUNITIES.** Kickoff discussion held 4/29/21, next (monthly) scheduled for 5/27. **Facilitating how to best establish new standard effort between PSMA & IPC.**
  - Offer supporting resources to enable utilization of PS SW/FW Reliability Report. **COMM ACTION TO SUGGEST OTHER POTENTIAL RESOURCES/TOOLS TO CREATE TO SUPPORT THIS.**
    - Ada reports there is a PSMA Automotive Electronics Webinar/Workshop that may be a good opportunity to highlight our PS SW/FW Reliability Report. Event will occur no earlier than Aug. '21 (may push out) and even event logistics still TBD so continue to monitor.
    - Established SubComm for PS SW/FW Reliability Report Value-Add Items
    - **Some proposed resources/tools that are not currently in the report: (COMM PRIORITIES) BZ WILL PREPARE PROPOSAL FOR ADDRESSING BY NEXT MTG.** Ada suggests once have enough of these tangible tools, introduce to industry via webinar and package tools (delivery mechanism for monetization TBD, **ONCE TOOLS IN HAND, CAN REACH OUT TO MKG COMM FOR ADVICE**). Manish/Ada/Nitish held meeting 4/8/21. Now using tracker to facilitate mini project, **TARGETING MONTHLY CALLS. PROPOSE WED, 5/5/21, 9 AM PST.** Held 5/5/21, next (monthly) scheduled for 6/1/21, 11 am CST. Now have tracker to help determine deliverables and how to

apply, BZ WILL SHARE LATEST WITH MTG MINS. TARGETING DRAFT FLOW  
DIAGRAM FOR COMM REVIEW FOLLOWING NEXT MEETING.

- **Next Meeting**

- Tue 6/8/21, 11 am CST.
- Regular Schedule = 2<sup>nd</sup> Tue (NOW, MOVING FWD) of each month, 11 am – 12 pm CST