

Electronics Task Group Newsletter



May 2011

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From the Chair...

The Aerospace and Defense Market and its ever-expanding electronic technologies have made the increasingly sensitive manufacturing processes even more complex. Despite the increasing complexity, the demands on Engineering resources, the expansion of outsourcing strategies, and the continual pursuit of cost reductions, these technologies are still expected to play a significant role in the quality and reliability of Aerospace and Defense products and systems. With this in mind, many Nadcap Subscribers have joined and are supporting the Electronics Task Group (ETG) in order to collaborate on improving the methods and processes that establish that the reliability and quality of the products and systems have met all of the defined compliance requirements. This effort going forward will have a particular emphasis on reducing costs, testing the robustness of the Quality system, verifying internal/external process controls, verifying requirements capture and internal/external flow down, and maximizing auditor/audit consistencies and efficiencies. At the same time, it will foster a unified global vision for the auditing and control of all the related supply chain manufacturing processes that support the Aerospace and Defense Market.

The ETG is currently focusing its efforts on the following:

- Checklists
 - Printed Boards (PB) Checklist AC7119 Core Rev E is out for 45-day ballot and is due May 30, 2011.
 - PB Audit Handbook Rev E is in draft review for release with AC7119 Core.
 - Circuit Card Assembly (CCA) Checklist AC7120 Rev B is out for 45-day ballot and is due May 30, 2011.
 - Cable & Harness (C&H) Checklist AC7121 Rev A is out for 45-day ballot and is due May 30, 2011.

Checklists shall be updated accordingly as a result of audit and auditor assessment feedback. They are written and updated in accordance with NOP-002, and each are assigned to a chartered sub-team. The NMC has created a sub-team to evaluate "Checklist-on-Demand".

- Auditors
 - Auditor conferences are conducted yearly, typically in conjunction with the October meeting in Pittsburgh.
 - Subscribers are encouraged to observe an audit to assess an auditor per NOP-007.
 - PRI Staff Engineer (SE) may witness audits to assess the auditor and report accordingly.
 - PRI SE, ETG Chair and applicable ETG members review audit reports and NCRs.
 - Auditor assessment feedback shall be reviewed and used to pursue a continuous improvement approach to auditor consistency and standard audit preparation techniques. These findings will be added to the auditor conference material, where appropriate.
 - The NMC is executing a new process to look at audit failures and NCRs as well as a project reviewing auditor consistency.

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- Audits
 - Subscribers are encouraged to oversee an audit as a Prime Observer, per NOP-007.
 - Audit feedback shall be used to pursue a continuous improvement approach to updating checklists.
 - There were 66 audits completed in 2010.
 - There are 84 audits currently scheduled for 2011.
- Suppliers
 - A second successful Supplier Symposium was conducted February 28th in Barcelona.
 - All Nadcap accredited Suppliers or those considering acquiring Nadcap accreditation are encouraged to attend the third Supplier Symposium scheduled for June 22nd in London, as it will have a particular focus on Nadcap audit requirements and preparation.
 - Another Supplier has achieved voting rights in the ETG meetings, bringing the total to 6.
- New Business
 - Several Subscribers (Primes) have already mandated, or are in the process of mandating their Suppliers to become Nadcap accredited and also flow down this requirement to their Sub-contractors. The ETG is urging the rest of the Subscribers to issue their mandates.
 - The Chair and Vice-Chair of the ETG have authored and sent a letter to the Chair of the NMC requesting other PRI members to assign and support representation on the ETG.
 - New topics that the ETG will be addressing are as follows:
 - Embedded Passives
 - High Speed Frequency
 - Lead-free Assemblies
 - Counterfeit Parts
 - Standard Environmental Question format
 - Increased Subscriber ETG participation
 - Increased Supplier ETG participation

The ETG has made significant progress and the aforementioned developments offer proof that the willingness and capability exist to take advantage of all sources of feedback for use in checklist improvements, auditor consistency and in the continual development in all needed areas.

Dewey Whittaker – ETG Chair and Honeywell Aerospace Representative

Nadcap Meeting Schedule

2011	
June 20-24	London, England
October 17-21	Pittsburgh, Pennsylvania, USA
2012	
February 20 - 24	San Diego, California, USA

Supplier Symposium

The second of three Electronics Task Group (ETG) Supplier Symposia was held at the Barcelona Meeting and was a great success. A number of Supplier representatives were in attendance to listen to the various presentations, ranging from how the Nadcap process works, to a Supplier's Perspective, to preparing for an audit. A similar symposium is also planned for London. The symposium is designed for new Suppliers, who are in the process of obtaining Nadcap Electronics Accreditation. It is also aimed at any recently accredited Suppliers who would like a better understanding of the program. Topics of discussions include:

- The Nadcap Program as it pertains to Electronics
- Nonconformances / clarifications relating to the core checklists (AC7119, AC7120 & AC7121)
- A Supplier's perspective of the Nadcap Electronics Accreditation.
- Preparing for a Nadcap audit
- How to respond to Nonconformances
- eAuditNet
- Questions and Answer session

The ETG invites you to attend the next symposium, scheduled for June, as your customers (ETG Subscribers) will be participating and available to take your questions.

Please register as soon as possible by logging on at www.pri-network.org . Space is limited.

Interested in becoming a part of the Electronics Task Group?

Are you interested in becoming a part of the Electronics Task Group, but unsure how to go about it?

Read on to find out how to gain membership and what the key rights and responsibilities of Supplier Voting Members are according to the Nadcap Task Group Operating Procedure (NTGOP-001).

- It is the Task Group Voting Members who vote to approve Subscriber/Subscriber Alternate or Supplier/Supplier Alternate Voting Members.
- The vote can take place during a Supplier's second regular Nadcap Task Group meeting.
- To Maintain voting privileges:
 - Voting members: shall not be absent without alternate representation from three consecutive regular Nadcap Task Group meetings.
 - Voting Members, or approved Alternate representation, shall not miss a vote on two consecutive letter ballots.

So what does this mean for you as a Subscriber or Supplier?

If you are interested in becoming a Voting Member for the Electronics Task Group, you will need to attend two regular Nadcap Task Group meetings. You can register for a meeting at the PRI Website www.pri-network.org/Nadcap/ by selecting the Nadcap Meeting Information link. On the second meeting, a proposal can be made to the Task Group to become a Voting Member.

If you have any questions about this process please contact Rhonda Joseph (Contact details are listed at the end of the newsletter).

Philippe Pons – Airbus Representative



IPC Status of Standardization

This article is part of a new effort on the part of the Nadcap Electronic Task Group (ETG) to provide information to Nadcap Subscribers and Suppliers regarding the status of IPC Standards Development Committees and the related specifications. Future ETG Newsletters will continue to report on the status of standardization.

Currently, the Nadcap audit checklists cover Printed Boards (PB), Printed Board Assembly (PBA), and Cables and Harnesses (C&H). The following is a summary of the status of standardization for each of these three commodities.

PB:

- Newly Released:
 - IPC-1601 – Printed Board Handling and Storage Guidelines
 - Released August 2010
 - IPC-SM-840E – Qualification and Performance Specification for Permanent Solder Mask and Flexible Cover Materials
 - Released December 2010
- Final Draft for Industry Review:
 - IPC-2221B – Generic Standard on Printed Board Design
 - Ballot to be ready after IPC/APEX conference April 2011. Appendix A being added to / include A/B-R coupons.
- Currently in Work / Meeting:
 - IPC-A-600J – Acceptability of Printed Boards
 - IPC-6012D – Qualification and Performance Specification for Rigid Printed Boards
 - IPC-6013C – Qualification and Performance Specification for Flexible Printed Boards

PBA:

- Newly Released:
 - J-STD-001ES – Space Applications Electronic Hardware Addendum to J-STD-001E
 - Released December 2010
- Final Draft for Industry Review:
 - IPC-AJ-820A – Assembly and Joining Handbook
 - Update incorporates important information from IPC-HDBK-001, IPC-PE-740, IPC-HDBK-830, IPC-CM-770, and DRM-18.
 - IPC-CH-65B – Guidelines for Cleaning of Printed Boards and Assemblies
 - Goal is to have the document ready to go to publisher by IPC/APEX conference April 2011.
- Currently in Work / Meeting:
 - IPC-9202 - Material and Process Characterization/Qualification Test Protocol for Assessing Electrochemical Performance
 - IPC-CC-830C – Qualification and Performance of Electrical Insulating Compound for Printed Wiring Assemblies
 - IPC-HDBK-001E – J-STD-001 Handbook
 - IPC-HDBK-830A – Guidelines for Design, Selection and Application of Conformal Coatings
 - IPC-HDBK-850 – Guidelines for Design, Selection and Application of Potting and Encapsulation Materials Used for Electronics Printed Circuit Board Assembly
 - J-STD-033C – Handling, Packaging, Shipping and Use of Moisture/Reflow Sensitive Surface Mount Devices

C&H:

- Ready for Release:
 - IPC/WHMA-A-620AS – Space Applications Electronic Hardware Addendum to IPC/WHMA-A-620A
 - Ready for release pending training program update.
- Currently in Work / Meeting:
 - IPC/WHMA-A-620B – Requirements and Acceptance for Cable and Wire Harness Assemblies
 - Currently dispositioning comments for inclusion in Rev B.

- IPC-HDBK-620 – IPC/WHMA-A-620 Handbook
- Cable and Wire Harness Design Task Group
 - Initial meeting at IPC/APEX Conference April 2010 to develop an outline for a cable and wire harness design standard.

Other IPC committees are working on other standards. Here is a quick look at a few other committees that may be of interest to Nadcap ETG members.

- Final Draft for Industry Review:
 - IPC-T-50J – Terms and Definitions for Interconnecting and Packaging Electronic Circuits
 - Should be released at, or soon after, IPC/APEX Conference April 2011.
- Currently In Work / Meeting:
 - IPC-A-630 – Guidelines for Design, Selection and Application of Electronic Enclosures
 - New standard for Box Build. Currently accepting and reviewing material for the handbook.

Nadcap ETG members, including Subscribers and Suppliers, are strongly encouraged to participate on IPC Standards Development Committees. Participating in these committees will allow your voice to be heard in shaping the industry through requirements definition, development of acceptance criteria, and sharing guidance / best practices through handbook writing and establishment of training curriculum.

These committees meet at regular IPC events, such as IPC/APEX in the Spring, IPC Midwest in the Fall, and various other times throughout the year, as needed. There are no special requirements to attend. Simply show up and volunteer your time to make the industry better. Please visit www.ipc.org for more information.

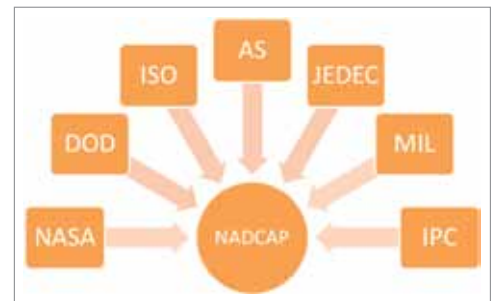
For the IPC committee home pages, please visit www.ipc.org/CommitteePage.aspx. Also, please visit www.ipc.org/status.aspx for information on the status of specific IPC Standards.

Richard Rumas – Honeywell Aerospace Representative

IEC Electronics Supports Nadcap ETG

IEC Electronics is pleased to become a new Supplier Voting Member of the Nadcap – Electronics Task Group (ETG). In accordance with NTGOP-001, IEC was voted in as a Supplier Voting Member (SVM) during the ETG meeting in October 2010 at Pittsburgh, PA.

IEC Electronics Corp, headquartered in Newark, NY has manufacturing operations in Newark, NY, Albuquerque, NM, Victor, NY and Rochester, NY. As a provider of advanced high reliability electronic manufacturing services to electronics technology companies, we are currently certified to AS9100B, ISO 9001:2008 and ISO 13485:2003 standards. IEC is a NSA-approved Supplier under the COMSEC standard. Specializing in custom manufacturing high reliability electronics where quality is paramount, IEC's full-range manufacturing services include printed circuit board and complex system level assembly, and cable and wire harness assembly. Our Newark, NY and Albuquerque, NM facilities are currently certified to Nadcap AC7120A.



While focused on meeting customers' requirements, IEC believes Nadcap continues to play a significant role in the quality and reliability of products. Nadcap is an industry-managed program that has been helping to improve the aerospace industry's quality through special process audits. Unlike other accrediting organizations, Nadcap provides special process audits for specific technical capabilities.

In the Nadcap process, Subscribers mandate the audit requirements of their Suppliers in order to improve technical oversight of special process Suppliers and ensure consistency through industry standards. By this method, accreditation is the same for every Supplier and is recognized by all participating Subscribers. Some Subscribers have unified their focus via the ETG to improve the quality and reliability of electronics manufacturing services.

The Nadcap approach to unification of several industry specifications (i.e., IPC, MIL, ISO, etc.), via ETG umbrella is a big challenge. But, with support from Suppliers, industry, and contract manufacturers, others will join and the task will become attainable.

In summary, we at IEC Electronics Corporation carry on our efforts in becoming a preferred EMS Supplier through Nadcap accreditation and support ETG group in their task to improve, all along the supply chain, the control of "Electronics Supplier/ Electronics Manufacturing Process".

Mark Northrup – Director of Advanced Technical Operations at IEC Electronics

Ishwar Mathur – Quality Systems Manager at IEC Electronics & Nadcap ETG SVM

ETG Voting Members

ETG SUBSCRIBER COMPANY LIST

Subscriber	Representative	Status	E-mail contact
Airbus	Philippe Pons	Subscriber Voting Member	philippe.pons@airbus.com
Airbus	Nathalie LeTran	Alternate Subscriber Voting Member	nathalie.lettran@airbus.com
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Goodrich Corp.	Scott Meyer	Vice Chair / Subscriber Voting Member	scott.meyer@goodrich.com
Goodrich Corp.	Edward Lewis	Alternate Subscriber Voting Member	eddie.lewis@goodrich.com
Goodrich Corp.	Mark Whalley	Secretary / Subscriber Voting Member	mark.whalley@goodrich.com
Hamilton Sundstrand	David Soong	Subscriber Voting Member	david.soong@hs.utc.com
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ETG SUPPLIER COMPANY LIST

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Graphic Plc	Paul Comer	Supplier Voting Member	pcomer@graphic.plc.uk
IEC Electronics Corp.	Ishwar Mathur	Supplier Voting Member	imathur@iec-electronics.com
Meggitt SA	Stephan Gehrke	Supplier Voting Member	stephan.gehrke@ch.meggitt.com
Somacis SpA	Cristiano Bazzi	Supplier Voting Member	c.bazzi@somacis.com

What has happened recently with the ETG?

The ETG met in Barcelona and, while writing this article, preparation is well under way for the Task Group meeting being held in June. Some of the key topics that were discussed at the meeting in Barcelona include:

Electronics Task Group Recap Summary – March 2011

Major Decisions/Actions This Meeting:

- Supplier Symposium
- Addressed ballot comments for AC7119
- All three checklists ready for ballot
- Maintain current failure criteria
- ETG will not use Chat Rooms as recommended by HT

Concerns/Comments:

- TG expressed appreciation with the ongoing transition and go forward plan – GOOD JOB BILL
- Dewey Whittaker takes the Chair
- Safety – Supplier Voting Member

For details relating to the Nadcap Task Group Meetings, including minutes and the upcoming Supplier Symposium, please visit the Nadcap website at www.pri-network.org/Nadcap.

PRI Staff Contact Details

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