**CONFIRMED MINUTES**

**OCTOBER 19-21, 2015**

**PITTSBURGH, PENNSYLVANIA, USA**

**These minutes are not final until confirmed by the Task Group in writing or by vote at a subsequent meeting. Information herein does not constitute a communication or recommendation from the Task Group and shall not be considered as such by any agency.**

**MONDAY, 19-OCT-2015 to WEDNESDAY, 21-OCT-2015**

# OPENING COMMENTS - OPEN

## Call to Order / Quorum Check

The Welding (WLD) Task Group was called to order at 8.00 a.m., Monday 19-OCT-2015 by Steve Tooley.

Introductions were made and the roster circulated for completion by attendees.

It was verified that only SUBSCRIBER MEMBERS were in attendance during the closed portion of the meeting.

A quorum was established with the following representatives in attendance:

***Subscriber Members/Participants Present (\* Indicates Voting Member)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | NAME |  | COMPANY NAME |  |
|  |  |  |  |  |
| \* | Robbie | Adams | Honeywell Aerospace |  |
|  | Michael | Bess | Defense Contract Management Agency |  |
| \* | Joakim | Carlsson | GKN Aerospace Sweden AB |  |
| \* | Saeed | Cheema | Cessna Aircraft Company (Textron Aviation) |  |
| \* | Craig | Clasper | Spirit AeroSystems |  |
|  | Cedric | Colas | SAFRAN Group |  |
| \* | Gary | Coleman | The Boeing Company |  |
|  | Karen | Dannis | BAE Systems |  |
| \* | David | Dvorsky | Rockwell Collins, Inc. |  |
| \* | Chris | English | GE Aviation | Secretary |
| \* | William | Fitzgerald | Northrop Grumman Corporation |  |
| \* | Bob | Fletcher | BAE Systems –Military Air & Information (MAI) |  |
|  | Robert | Gilbert | Lockheed Martin |  |
| \* | Larry | Hamanishi | The Boeing Company |  |
| \* | Rodney | Holt | Triumph Group |  |
| \* | Tommy | Howland | Spirit AeroSystems |  |
| \* | Jerry | Hulin | GKN Aerospace |  |
| \* | Michael | Irvin | The Boeing Company |  |
|  | Michel | Jacquaniello | Zodiac Aerospace |  |
|  | George | Kaniamos | Lockheed Martin |  |
| \* | Ralph | Kropp | MTU Aero Engines AG |  |
| \* | Holger | Krueger | Airbus Group | Vice Chairperson |
| \* | Mitsuharu | Kuya | Mitsubishi Heavy Industries (MHI) |  |
| \* | Peter | Lang | Pratt & Whitney |  |
| \* | Mario | Leclerc | Bombardier Inc. |  |
| \* | Scott | Maitland | UTC Aerospace (Goodrich) |  |
|  | Anthony | Marino | The Boeing Company |  |
|  | Frank | McManus | Lockheed Martin Corporation |  |
| \* | Joel | Mohnacky | UTC Aerospace (Hamilton Sundstrand) |  |
| \* | Lyle | Morris | Raytheon Company |  |
|  | Timothy | Nance | Rockwell Collins |  |
|  | Rick | Skebo | Parker Hannifin |  |
| \* | Paul | Slater | Rockwell Collins |  |
|  | Yuichi | Sugiyama | Mitsubishi Heavy Industries, Ltd |  |
| \* | Steve | Tooley | Rolls-Royce | Chairperson |
| \* | Andrew | Toth | Rolls-Royce Corporation. |  |
|  | Patricia | Wesemann | The Boeing Company |  |
|  | Hong | Xia | Rolls-Royce Singapore Pte. Ltd. |  |

***Other Members/Participants Present (\* Indicates Voting Member)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | NAME |  | COMPANY NAME |  |
|  |  |  |  |  |
| \* | James | Ahlemeyer | Ducommun AeroStructures New York, Inc. |
|  | Brian | Bellile | Miller Electric Mfg. Co. |
|  | Mark | Blevins | Fluid Conditioning Products, Inc. |
|  | Richard | Freeman | TWI Ltd. |
|  | Sara | Gertz | Magellan Aerospace |
|  | Andrew | Jackson | AMPP Services Ltd. |
|  | Grant | Lilley | Meyer Tool, Inc. |
|  | Giuseppe | Marzano | Magellan Aerospace, Haley |
| \* | Melinda | Mitton | Advance Welding |
| \* | Angelo | Monzo | Barnes Aerospace |
| \* | James | Olejarczyk | Alcoa Forged Products |
| \* | David | Osenar | Pako Inc. |
|  | Andrew | Pfaller | Miller Electric |
|  | Patricia | Ramirez | Curtiss Wright de Controls de Mexico |
|  | Chris | Reed | Ducommun AeroStructures |
| \* | Mike | Schleckman | VOSS INDUSTRIES, LLC |
| \* | Jackie | Sternot | Pako Inc. |
| \* | Gigi | Streeter | Barnes Aerospace |
| \* | Christopher | Webb | PCC Structurals Inc. |
|  | Jack | Winteringham | Alcoa Power & Propulsion |
|  | Donald | Woodward | Consolidated Precision Products |
|  | Bryan | Worley | GE Aviation Dayton - Unison Industries |

***PRI / SAE Staff Present***

|  |  |
| --- | --- |
| Gabriel | Kustra |
| Ian | Simpson |
| Martha | Tress |

## Safety Information

The participants were notified of the meeting safety requirements.

## Review Code of Ethics (Ref: Attendees’ Guide) and Meeting Conduct

The Code of Ethics and Meeting Conduct policies were reviewed.

## Present the Antitrust Video

The Antitrust policy video was shown.

## Review Agenda

Ian Simpson reviewed the agenda for the October 2015 Nadcap meeting. New business items were identified for inclusion in item 7.0 (in closed meeting) and item 22.0 (in open meeting).

## Approval of Previous Meeting Minutes– OPEN

Motion made by Mike Schleckman and seconded by Holger Krueger to accept the June 2015 Nadcap meeting minutes. Motion passed.

## Rolling Action Item List (RAIL) Review – OPEN

The RAIL was reviewed by Ian Simpson. All items with a due date of October 2015 or prior are either closed or are included in this meeting for discussion, except for item 205 (Issue an Auditor Advisory to require procedural locations to be defined in the audit) and item 218 (Logistics of Observing a new Auditor within the time frame required by OP 1117). Item 205 was deferred with agreement of the Chair. This item was subsequently discussed at this meeting and this action is not to be pursued at this time. No further information on item 218 was available at this time.

For specific details, please see the current WLD Rolling Action Item List posted at www.eAuditNet.com, under Public Documents.

* 1. Staff Engineer Communiqué

Ian Simpson presented a Nadcap Communiqué to the Task Group.

1. Procedure transition phase 2 has commenced. This is the complete review of Operating Procedures.
2. Status of Nadcap Management Council (NMC) Oversight audits.
3. Next Nadcap Task Group meeting will be in February 2016 in Madrid, Spain.

# AUDITOR CONFERENCE – CLOSED

The Auditor Conference was conducted at the weekend prior to this meeting, 17-18 October 2015. The Task Group analyzed the effectiveness of the Auditor Conference and the Task Group members who attended stated that it had been positive.

The Task Group agreed that the format of the Conference should remain the same for the 2016 Auditor Conference.

Based on the review, items identified by the auditors, previously identified training items and the review of Auditor Consistency per OP 1117, the following recommendations were made for next year’s Auditor Conference.

* Time allocation for 3 - 4 Subscribers to perform specific training on their requirements
* Smart checklist update
* Training items resulting from OP1117 analysis
* Weld failures. Escapes due to these
* Specification updates
* Visual weld inspector certification
* Supplier feedback
* ISO visual inspection of welds
* AWS D17.1 revisions
* Opportunity for feedback on checklists
* General question and answer
* NCR grouping
* Best practice on pre-audit preparation

There also needs to be provision to allow face-to-face discussions with auditors and for (NMC) Audit Effectiveness discussion should these be required.

These items will be reviewed again at the February 2016 Task Group meeting to ensure required training items have been captured.

# AUDITOR EFFECTIVENESS – CLOSED

1. Review of OP 1117

Ian Simpson informed the Task Group that the proposed revisions to OP 1117 have completed PRI Staff ballot and that some resolution of comments will be required prior to it being balloted to NMC. Hence the Task Group must remain compliant to the current revision. There are however some items that are likely to be revised and the Task Group is aware of how these revisions will affect the requirements.

The following items were discussed:

1. Annual Review of Auditors

As previously agreed all auditor annual reviews were completed by the Staff Engineer, reviewed, and agreed by the Task Group Chair, and then sent to all auditors in September 2015. Discussions, where necessary, were conducted with the Staff Engineer. All auditors were given the opportunity to have a face-to face-discussion with a member of the WLD Task Group. No requests for discussions were received.

All completed evaluations have been posted in the Task Group private forum in eAuditNet. Pending resolution of comments of the OP 1117 procedure it may be necessary to post these within each auditor’s specific file, however the WLD Task Group is compliant to the current procedure using this method.

The Task Group agreed that this methodology was still how they wished to proceed with annual auditor evaluations in subsequent years.

1. Standard Data Set

The standard data set charts were reviewed by the Task Group. The majority of the discussion centered on the previous Task Group items of procedural Non-Conformance Reports (NCRs) at established suppliers. See item 3.1.10. The Staff Engineer proposed that the base checklist AC7110 could be modified to mandate the completion of a self-audit by the supplier, which may help suppliers address procedural issues before the auditor arrives. Note that this item was further discussed in item 20.3.

1. Auditor Observation Plan

The observation plan was reviewed to establish if the Task Group is on track to meet their targeted oversight for 2015. It was noted that one of the high risk auditors had not yet had an observation scheduled and Task Group members were therefore requested to establish if they could observe the auditor in question. It was however noted that the auditor in question had performed an audit at a Subscriber’s facility on more than one occasion and although these are unofficial observations, the Task Group member did not note any significant issues that were reported in the auditor’s 2014 observation. In the absence of an official observation, this was offered as a method of mitigating risk until such time that an official observation can be performed.

ACTION ITEM: Jerry Hulin to summarize his informal auditor observation (not a formal observation documented in eAuditNet) to document his observations of an auditor (Due Date: 31-OCT-2015).

ACTION ITEM: Ian Simpson to note Jerry Hulin’s informal auditor observation in the notes of the relevant audit, copy letter to auditor’s file and the Auditor Observation plan (Due Date: 15-NOV-2015).

Per an action from the June 2015 Task Group meeting, Steve Tooley and Ian Simpson had updated the Observation prioritization scorecard. This was reviewed by the Task Group and minor modifications were made. Assuming there are no significant changes in the coming months, it appears that there will be 2 existing auditors who will need to be observed as well as some new auditors who the Task Group are in the process of hiring.

***ACTION ITEM: Ian Simpson to update the Observation plan to incorporate the prioritization scorecard information. (Due Date: 23-FEB-2016)***

1. Observation Reports

The Task Group reviewed 4 observations. None of the observations had any specific issues that the auditors who were observed need to address.

1. Supplier Feedback

Steve Tooley and Ian Simpson reviewed the Supplier feedback information and provided a summary to the Task Group. It was noted that auditor specific items and generic items that all auditors would benefit from had already been included in auditor annual evaluations and the Auditor Conference respectively.

One item was discussed further. A comment had been received that an auditor who had visited the facility previously had reviewed all of the supplier’s procedural items. The Task Group agreed that this was exactly how they require the auditors to audit.

The next supplier review data will be available shortly after 31-DEC-2015. Steve Tooley and Ian Simpson agreed to review and provide a summary at the February 2016 Task Group meeting.

***ACTION ITEM: Steve Tooley and Ian Simpson to review the supplier feedback data and present to the Task Group at the February 2016 meeting. (Due Date: 23-FEB-2016)***

1. Dashboard

The dashboard metrics as required in the current revision of OP 1117 were reviewed. It has already been noted that these dashboard metrics will be revised to ones that better match the requirements. As these are the metrics that are currently required though, the Task Group did review but again noted that in general they are not realistic to define the status of the Task Group’s control of this process. The one red metric (failure to meet observation plan) was addressed in item 3.1.3).

1. Identify Training Needs for Auditors

The review of data defined here and also from item 2.0 has resulted in a number of identified training items for the 2016 Auditor Conference.

1. OP 1117 Items Not Requiring Review at this Meeting

There are a number of items that OP 1117 requires the Task Group to review on a periodic basis. All of the items were reviewed at the March 2015 Task Group meeting; hence the following items were not reviewed at this meeting:

* Audit Report Reviewer feedback
* Communication plan
* Weld specific appendix to the Observer form
* Weld specific training
* Proficiency testing

1. Annual Report to the NMC

The Task Group compiled the Annual NMC review and actioned Steve Tooley to submit this to the NMC.

***ACTION ITEM: Steve Tooley to submit WLD’s annual Auditor Effectiveness report to the NMC. (Due Date: 15-NOV-2015)***

1. Deep dive analysis on procedural NCRs

At the June 2015 Task Group meeting a sub-team was created to try and establish the reasons for procedural NCRs being written at suppliers who have been audited many times before. The sub-team reported that the analysis of data was not as easy as anticipated and that they had made little progress on this item. At this meeting, the scope of work for the sub-team was defined to the following items:

* NCR Grouping - identify inconsistencies and what impact any change in grouping rules would have. Provide grouping guidelines
* Training recommendations for auditors who consistently have low average of NCRs
* How do other Task Groups group NCRs?
* Effectiveness of supplier’s pre-audit

Scott Maitland agreed to join the sub-team

***ACTION ITEM: Sub-team of Lyle Morris, Robbie Adams and Scott Maitland to continue to gather and analyze data on why procedural issues are found at Suppliers having merit. (Due Date: 23-FEB-2016)***

1. Analysis of Audit Effectiveness discussion at the Auditor Conference

The NMC addressed the auditors at the Auditor Conference to gain understanding in the auditor’s approach to auditing and whether there are any additional tools that the Task Group could create to help auditors. The information collected at the Auditor Conference was analyzed and feedback created for Steve Tooley to present to the Planning and Operations meeting.

A number of suggestions for helping the auditors were discussed but the Task Group decided to defer decision until feedback from the NMC had been received. The 2 main items that the Task Group believed would help were; having the supplier complete a pre-audit prior to the Nadcap audit, and re-structure of the checklist to remove checks of specific customer requirements in the procedural assessment section and replace these with more intensive job compliance questions that verify specific customer requirements are met.

***ACTION ITEM: Steve Tooley to present WLD analysis of Audit Effectiveness to the NMC at the Planning and Operations meeting. (Due Date: 20-OCT-2015)***

1. Auditor Status

The Staff Engineer gave an update of new auditor candidates and the status of process restriction removals for current auditors.

# SUPPLIER ADVISORIES – CLOSED

## Review of Advisories since June 2015 Nadcap Meeting.

Six Supplier Advisories have been issued by WLD since the June 2015 Task Group meeting, #2671, #2673, #2681, #2703, #2710 and #2719. These were reviewed. No additional actions were identified.

Two Supplier Advisories were issued by other commodities that could have an effect on WLD accreditations. These advisories, #2677, and #2683 were reviewed. No additional actions were identified.

## Review of Subscriber Advisories.

No Subscriber Advisories were brought up for discussion by the Task Group.

# STAFF ENGINEER DELEGATION – CLOSED

1. The Staff Engineer reviewed data for Audit Report Reviewers using delegation oversight form t-frm-07, including percentage oversight by Task Group, percentage NCRs concurred with by the Task Group and other items pertaining to audit completeness. All requirements of OP 1115 were met for the delegated Audit Report Reviewers and the following motions were made.

Motion made by Michael Irvin and seconded by Holger Krueger to maintain Ian Simpson’s delegation. Motion Passed.

Motion made by Michael Irvin and seconded by Holger Krueger to maintain Mike Gutridge’s delegation. Motion Passed.

Motion made by Michael Irvin and seconded by Holger Krueger to maintain Wayne Canary’s delegation. Motion Passed.

* 1. The Task Group reviewed non-delegated reviewer, Gabe Kustra’s concurrence data, and agreed that he was making good progress towards becoming delegated. The Task Group will review this again at future Task Group meetings with the intention to delegate him at the earliest opportunity.

# SUBSCRIBER DEVIATIONS – CLOSED

6.1 No Subscriber Deviations were requested for review.

# NEW BUSINESs – CLOSED

7.1 Auditor Candidate exam

The Task Group requires Auditor Candidates to take an exam as part of the hiring process. The exam was last reviewed in 2011. PRI is in the process of entering all commodity exams into the Learning Management System (LMS) which will allow significant data manipulation compared to the existing manual process. However, in order to fully utilize the LMS the questions must have answers that require no interpretation. The Task Group was therefore asked if they would review the exam to ensure it is current to the existing specifications and during this process make all questions have multiple choice answer options.

A sub-team of Michael Irvin, Holger Krueger and Bob Fletcher was formed to review and revise the exam. The Task Group delegated decisions on changes to this sub-team and changes do not need to be brought back to the entire Task Group for approval.

***ACTION ITEM: Sub-team of Michael Irvin, Holger Krueger and Bob Fletcher to review the auditor exam and make changes as necessary to make all questions have multiple choice answer options and ensure questions are based on current specification revisions. (Due Date: 23-FEB-2016)***

# Review Membership Status – OPEN

1. The following subscriber members were noted as attending their first WLD meeting.

* George Kaniamos – Lockheed Martin
* Robert Gilbert – Lockheed Martin
* Cedric Colas – SAFRAN
* Karen Dannis – BAE Systems

1. Mitsuhau Kuya of MHI attended his second meeting. The Task Group Chairperson agreed to the appointment of Mitsuhau Kuya as Alternate Subscriber Voting Member (ALT/UVM) for MHI and m-frm-01 was completed.

Craig Clasper of Spirit AeroSystems attended his second meeting. The Task Group Chairperson agreed to the appointment of Craig Clasper as ALT / UVM for Spirit AeroSystems and m-frm-01 was completed.

Andy Toth of Rolls-Royce attended his second meeting. The Task Group Chairperson agreed to the appointment of Andy Toth as ALT / UVM for Rolls-Royce and m-frm-01 was completed. Andy is replacing Guenther Jakobi, whose voting status is therefore to be removed.

1. Task Group meeting attendance and ballot participation was reviewed per Program Document PD 1100 requirements.

Earl Pruett has not voted on the last 2 letter ballots hence voting rights have been lost

***ACTION ITEM: Ian Simpson to add Mitsuhau Kuya as ALT/UVM for MHI. (Due Date: 30-NOV-2015)***

***ACTION ITEM: Ian Simpson to add Craig Clasper as ALT/UVM for Spirit AeroSystems. (Due Date: 30-NOV-2015)***

***ACTION ITEM: Ian Simpson to add Andy Toth as ALT/UVM for Rolls-Royce. (Due Date: 30-NOV-2015)***

***ACTION ITEM: Steve Tooley to notify Earl Pruett that he has missed 2 consecutive letter ballots and has therefore lost voting rights. (Due Date: 15-NOV-2015)***

***ACTION ITEM: Ian Simpson to remove Earl Pruett’s voting rights. (Due Date: 30-NOV-2015)***

***ACTION ITEM: Ian Simpson to remove Guenther Jakobi’s voting rights. (Due Date: 30-NOV-2015)***

1. At the June Task Group meeting, Saeed Cheema agreed to act as the AQS liaison. This information was passed to the AQS Task Group. Saeed confirmed that the AQS Task Group had accepted him as being the liaison between the 2 Task Groups.
2. Requests for Supplier Voting Member (SVM) status were received however the Task Group has its full allocation of SVM positions taken at this time. Those requesting SVM status were added to the Task Group’s waiting list.

Mike Schleckman requested the Task Group to review their limits on number of SVMs. Subsequent to this NMC confirmed that SVMs would not be limited, hence the WLD Task Group will revise OP 1114 Appendix WLD to comply with the higher level procedure once this revision is implemented.

# Supplier Support Committee (SSC) Report – OPEN

1. Mike Schleckman gave a presentation on SSC activities. This gave information on its role, current activities, the mentoring program and SSC initiatives and events. SSC provides an avenue for suppliers to have input and give feedback to the Nadcap system and provides answers and support for suppliers who have questions and problems. Current activities involve mentoring suppliers, metrics, supplier surveys, help desk at Nadcap meeting, and education.

The Task Group asked if data was available to demonstrate the effectiveness of the mentoring program. Mike Schleckman was unable to provide an answer at this time but did provide a clarification after the SSC meeting. See item 18.1.

# NMC Metrics - OPEN

1. Ian Simpson reviewed the NMC metrics, including:

Accreditations Issued/Lapsed, Eligible Merit, On-Time Certification, Staff Cycle Time Initial, Staff Cycle Time Reaccreditation, Task Group Cycle Time Initial, Task Group Cycle Time Reaccreditation, Supplier Cycle Time Initial, Supplier Cycle Time Reaccreditation. All metric charts were green, except Task Group Cycle Time Reaccreditation which was yellow. This non-green metric has been previously discussed and the Task Group chose to take no further action.

# Specification Changes – OPEN

## Gary Coleman provided a re-cap on the status of American Welding Society (AWS) specifications. It was however noted that there has been no AWS meeting since the Nadcap June 2015 Task Group meeting; hence the status of AWS remains unchanged from that provided at that meeting.

As a reminder the AWS D17.1, D17.2 and D17.3 Committees will meet in the week commencing 9-NOV-2015 at the FABTECH convention in Atlanta, GA.

Holger Krueger provided an update on the status of ISO specifications. The ISO Committee met the week prior to the Nadcap meeting and the following items were noted

* The Working Group has been upgraded to a Sub-Committee. This allows for an accelerated path to publication
* ISO/WD 19828 – Visual weld inspection requirements is a new document drafted by the Sub-Committee. Document is out for 3 month voting
* ISO 11745:2010 - Brazer and brazing operator qualification test. Published April 2015
* ISO/PWI 17927 - Fusion welding of metallic components in aerospace – draft is being split into process requirements and acceptance requirements. Development is delayed due to prioritization of other specifications
* ISO 16338 – Resistance spot and seam welding – published January 2013, but a clarification of “clear annulus” is being proposed. No progress in recent meeting
* ISO/DIS 17533 - Welding information in design documents – published August 2015
* ISO 24394 - Welder and welding operator qualification. Work has started on revision
* New topic is Additive Manufacturing – committee is monitoring ongoing standardization groups
* Electron Beam and Laser Beam Welding are potential new ISO projects

The ISO Committee will meet the week prior to the June 2016 Nadcap Meeting at the University of Coventry in the United Kingdom.

Holger Krueger gave permission for the ISO Committee update to be posted in eAuditNet. This will be added to the Public Documents section for Welding (Resources / Documents / Public Documents / Welding / Data Folder).

***ACTION ITEM: Ian Simpson to post the ISO Committee update presentations in eAuditNet. (Due Date: 15-NOV-2015)***

# Summary of Auditor Conference - OPEN

1. The Auditor Conference was held at the weekend preceding the Task Group meeting. The Staff Engineer presented a summary of the items / discussions that occurred, which included:

* Generic administrative items on travel, eAuditNet, Auditor Liaison, AQS, address by NMC on Audit effectiveness and a Question and Answer session
* Auditor Consistency including recap of OP 1117; Supplier feedback comments; Audit Observations, Job audit selection
* Smart checklists including current status and feedback from Auditors on how this is working in practice
* Task Group Administrative issues on Staff changes, new procedure structure, Auditor Advisories, Handbook revisions, scope verification, Export Control review process, Additive Manufacturing checklist development, possible revision to braze checklist to allow hydrogen generator
* Cessna (Textron) specific training
* How to stop Quality Managers interfering in discussions with Operators
* Update on specification revisions (AWS and ISO)
* NMC led discussion on Audit effectiveness
* Share of best practice
* NCR writing re-fresher
* Auditor consistency – why do we see NCRs for procedural items at established Suppliers
* Correct documentation of Welder Qualifications

# Hydrogen Generator – OPEN

13.1 Discussion on the use of Hydrogen Generator in the Braze Process

The sub-team presented a proposal for revision of AC7110/1 to allow the use of a hydrogen generator as an alternative heat source in torch brazing. This includes allowing not applicable (N/A) responses for some questions that cannot be fulfilled when this process is used as well as a new supplement to assess the controls required when this process is used. This was reviewed by the Task Group and a few revisions made.

This checklist is to be balloted to the Task Group.

ACTION ITEM: Ian Simpson to ballot AC7110/1 checklist. (Due Date: 30-NOV-2015)

# Review of OP 1114 Appendix WLD - OPEN

1. The Weld specific appendix to OP 1114 was balloted to the Weld Task Group after the June 2015 Task Group meeting. As no comments were required to be resolved it was subsequently balloted to NMC. One ballot comment was received and resolved between the Commenter and Staff Engineer. Once the comment was resolved, the procedure was issued. As none of the changes affect accreditation there was no requirement for a 90 day implementation period.

# Additive Manufacture – OPEN

## The Additive Manufacture sub-team has continued to develop the Additive Manufacturing draft checklist. The latest draft incorporates comments made at the June 2015 Task Group meeting, input from sub-team members and results from trialing the checklist at a supplier who is manufacturing production (non-aerospace) parts. The Task Group reviewed and noted some additional changes at this meeting.

The Task Group discussed the process for legalizing the checklist, i.e. to meet the checklist vision as defined in PD 1100. It was again noted that at this time there is no aerospace industry standard which the checklist can be based on; hence there is reliance on subscribers to confirm checklist items are defined in their specifications.

The Task Group also discussed methods of hiring auditors with specialized knowledge of the process and training existing auditors to be able to audit the process. The Task Group will also need to know which subscribers are likely to mandate and the number of suppliers who will need to be audited in order to create plans for auditor hiring.

ACTION ITEM: Sub-team to modify existing draft Additive Manufacturing checklist based on comments from the Task Group review. (Due Date: 24-FEB-2016)

ACTION ITEM: PRI to create spreadsheet with Additive Manufacturing checklist questions for the purpose of verifying checklist vision requirements are met (e.g. questions are linked to a subscriber requirement or industry specification requirement). (Due Date: 30-NOV-2015)

ACTION ITEM: Each subscriber to specify the requirements flow down for each Additive Manufacturing checklist question. (Due Date: 31-JAN-2016)

# Diffusion Welding – OPEN

A draft revision to the Diffusion Welding checklist was made by Marco Poletto and briefly discussed at the June 2015 Task Group meeting. At that time the Task Group deferred review and asked that Marco present his reasons for revision. Marco was not in attendance to present in person at this meeting, but he did provide his rational for the revisions and this was presented to the Task Group along with the draft checklist. The Task Group determined that the proposed revisions may not be suitable for the purpose Marco is intending. i.e. It appears that Marco is trying to create a checklist for Super Plastic Forming / Diffusion Bonding which is not the current scope of this checklist. The Task Group therefore deferred discussion until the February 2016 Task Group meeting when hopefully Marco will be able to present his case in person.

# Create NMC Feedback Chart –OPEN

1. The Task Group generated the feedback chart for presentation by Steve Tooley at the NMC meeting.

# NMC Meeting Report – OPEN

1. Steve Tooley gave a summary of key items that were discussed in the Planning and Operations meeting and NMC meeting. Key items were:

* The Risk Mitigation process is to be changed to make the Staff Engineer the lead of these teams.
* A formal requirement to make suppliers perform and submit a self-audit prior to the Nadcap meeting is being implemented.
* A dashboard for Audit Observations is being created. It is important that if Observers can’t attend an audit that they requested to observe that they cancel the observation accordingly, otherwise the report completion will show as delinquent.
* A new checklist ballot process is to be introduced.
* Mike Schleckman gave a brief update from the SSC meeting. No formal data from the mentoring program is available, but the team is working on it.

# Forum for Supplier Issues – OPEN

1. Several requests were made as indicated below. The Task Group commented to each item as defined:

* A question was raised about use of gas flowmeters at the recommended inlet pressure. The Task Group determined that while this is good practice, it is not a requirement. Since there is no requirement for calibration of flowmeters, a requirement for inlet pressure is not practical. However, this is good shop practice and the handbook will be updated to reflect this. The Task Group revised the AC7110/5 handbook wording.

ACTION ITEM: Ian Simpson to issue the revised AC7110/5 handbook to clarify that there are no mechanical flowmeter and inlet gas pressure calibration requirements. (Due Date: 15-DEC-2015)

* A question was raised about the AC7110 requirement for a “procedure precluding the use of visible dye penetrant” and handbook wording that states the preclusion must be flowed down to the weld/braze department. The Task Group determined that the handbook wording was not acceptable and needed to be changed. The proposed ‘Acceptable Objective Evidence’ wording was revised by the Task Group.

***ACTION ITEM: Ian Simpson to issue the revised AC7110 handbook to remove the statement that the preclusion of visible dye penetrant must be flowed down to the weld/braze department. (Due Date: 15-DEC-2015)***

* A question was raised about the AC7110/5 Cleaning Tool Control question. The AC7110/5 handbook gives an example of identifying tools based on AWS D17.1. It was recognized that some material groups could be considered to be the same material type with respect to cross contamination issues; however consensus on the full list of groups could not be achieved. At this time the Task Group chose the more conservative option and will revise again if data is presented that shows cobalt is not a risk on stainless steels and nickel alloys.

***ACTION ITEM: Ian Simpson to issue the revised AC7110/5 handbook to clarify that AWS D17.1 requires identification of wire brushes to the AWS D17.1 material groups and those working to AWS D17.1 must meet this requirement, and alleviation to allow stainless steel and nickel alloys to be grouped when AWS D17.1 is not a requirement. (Due Date: 15-DEC-15)***

***ACTION ITEM: Each subscriber to determine if additional requirements related to grouping of base materials are needed. These will be added in the AC7110/5S supplement checklist as needed. (Due Date: 24-FEB-2016)***

* The subscribers were asked about the use of Supplemental Checklists for flowing requirements. It was stated that the items defined in Supplemental Checklists are to enable the verification of subscriber requirements and were not used to mandate items not already defined in specifications.

# Auditor Advisories – OPEN

## Four Auditor Advisories have been issued since the June 2015 Nadcap Meeting. These were reviewed by the Staff Engineer.

The Task Group was reminded that these are posted in eAuditNet (Resources / Documents / Public Documents / Welding / Auditor Advisories).

# Checklist Items – OPEN

1. Handbook Revisions

The Staff Engineer has received the following requests for handbook revisions:

* Honeywell requested a revision to the AC7110/1 handbook to bring the verbiage for gas certification in-line with the AC7110/5 handbook. This was reviewed by the Task Group and agreed.

***ACTION ITEM: Ian Simpson to issue revised handbook for AC7110/1. (Due Date: 15-DEC-2015)***

* At the Auditor Conference, the auditor’s requested that any subscriber who has a public domain website to add this to the AC7110 handbook.

***ACTION ITEM: Each subscriber to provide Ian Simpson with the public website address, if available, so that it can be added to the AC7110 handbook. (Due Date: 30-NOV-2015)***

***ACTION ITEM: Ian Simpson to issue revised handbook for AC7110 to include each subscribers’ company website address. (Due Date: 15-DEC-2015)***

* At the Auditor Conference, the auditor’s requested that the Task Group clarify that AC7110/5 para 5.3 is for non-consumable electrode control.

***ACTION ITEM: Ian Simpson to issue revised handbook for AC7110/5 to clarify para 5.3 is specific to non-consumable electrodes. (Due Date: 15-DEC-2015)***

* Gabe Kustra requested the Task Group to confirm their expectations with respect to disposal of filler wire with reference to AC7110/5 para F.5.4 and F.5.4.1. The Task Group re-affirmed that they are concerned with inadvertent use of disposed stubs, and modified the handbook verbiage accordingly.

***ACTION ITEM: Ian Simpson to issue revised handbook for AC7110/5 to clarify para F.5.4 and F.5.4.1 for stub disposal, copy revised verbiage to other handbooks that utilize filler control and issue these additional handbooks. (Due Date: 15-DEC-2015)***

1. Checklists Revisions

The flash weld checklist (AC7110/2) completed NMC ballot without any comments, hence the planned review and disposition of comments that was planned for this meeting was not required. The Staff Engineer revised the associated handbook and requested the Task Group to review this in August 2015, in order to support the issue of the checklist. Subsequently the checklist was issued with an effectivity date of 03-JAN-2016.

The rotational friction / inertia weld checklist (AC7110/7) was revised to allow modified cycle audits and also incorporate items from the rolling list of checklist items. This was balloted to the Task Group. Formal notification was sent that resolution of comments would be addressed at this meeting. Each ballot comment was reviewed and addressed. Changes that were agreed are all editorial, hence the Staff Engineer is able to incorporate and ballot directly to the NMC without the requirement for a further ballot to the Task Group.

***ACTION ITEM: Ian Simpson to complete ballot resolution process for AC7110/7 and subsequently ballot to NMC. (Due Date: 30-NOV-2015)***

The welder / weld operator qualification checklist (AC7110/12) has been approved by NMC. There were extensive changes to this checklist and a sub-team was assigned to revise the associated handbook. In order for Suppliers to prepare adequately for audits, the checklist should not be issued until the handbook is ready and can be issued at the same time. The sub-group presented the handbook revisions for review. Minor modifications were made and the Task Group agreed that the checklist and handbook can now be issued.

***ACTION ITEM: Ian Simpson to issue AC7110/12 and associated handbook. (Due Date: 30-NOV-2015)***

The welder / welding operator qualification Supplemental checklist (AC7110/12S) has been revised to accommodate an addition for SAFRAN (U14). This is issued with an effectivity of 10-JAN-2016.

The resistance welding Supplemental checklist (AC7110/4S) has been revised to accommodate a change of GE Aviation (U10) requirements. This checklist has completed Task Group ballot with no comments and will therefore be sent to NMC ballot.

***ACTION ITEM: Ian Simpson to ballot AC7110/4S to NMC. (Due Date: 30-NOV-2015)***

The Task Group maintains a rolling list of items for requests on checklist revision. Since the last Task Group meeting in June 2015, 6 items have been requested to be added to the list. The Task Group dispositioned 5 of these items. The other was for an item that Chris English explained he had noted an issue on AC7110/4.This was with respect to the metallographic evaluation and how it relates to qualification tests and process control tests at captive labs. A sub-team of Chris English and Mike Schleckman agreed to review and provide a proposal at the February 2016 Task Group meeting.

***ACTION ITEM: Chris English and Mike Schleckman to propose changes to the AC7110/4 handbook for clarification on the use of metallographic test coupons for qualification and in-process control tests at captive labs. (Due Date: 24-FEB-2016)***

1. Smart Checklist

Ian Simpson noted that audits are now being submitted with checklists at modified status. Despite repeated training with auditors on this item, a number of audits where checklists were noted as modified were in fact completed as standard. While the Task Group noted that there was no risk associated with this as fully completed checklists were submitted, it certainly did not meet their expectations. Ian Simpson noted that several actions had occurred to prevent this occurring in the future: Auditor Advisory 15-WLD-007 was issued; auditors were re-trained at the Auditor Conference; an eAuditNet enhancement has been requested to more clearly highlight when the scope of a checklist is modified.

At this time, the majority of checklists have now been reviewed and revised to utilize smart checklist technology where this is appropriate. The remaining weld processes that still require revision are AC7110/8 and AC7110/9.

AC7110/9 has been revised to allow for modified cycle audits and incorporation of items from the rolling list of checklist items. The Staff Engineer was therefore actioned to ballot this checklist.

AC7110/8 is still in the process of being revised (see item 16.1).

AC7110/13 does not require any revision for modified cycles as all questions are required when this checklist is used.

AC7110 was discussed. The Task Group agreed that modified cycle is not required for this checklist. There are however a number of outstanding items on the rolling action item list for this checklist. Hence the Task Group agreed for these to be incorporated and the checklist balloted. It was noted that the NMC Standardization Committee have voted to require a self-audit to be provided to the auditor prior to the Nadcap audit, hence this item will also be included in the draft. Scott Maitland agreed to work with Ian Simpson to ensure the NMC requirements for self-audit are captured correctly.

***ACTION ITEM: Ian Simpson to ballot the AC7110/9 checklists to the Task Group. (Due Date: 30-NOV-2015)***

***ACTION ITEM: Scott Maitland and Ian Simpson to finalize wording of AC7110 baseline document. (Due Date: 30-NOV-2015)***

***ACTION ITEM: Ian Simpson to ballot the AC7110 checklists to the Task Group. (Due Date: 15-DEC-2015)***

# New Business Items – OPEN

1. The Task Group utilized the New Business item to solicit feedback from suppliers regarding why they believe NCRs on procedural items may occur at established suppliers. Some useful items were identified and noted by the sub-team looking into this item (ref 3.1.10).

# February 2016 Agenda – OPEN

No new items were requested for discussion; hence the agenda will include the majority of items as per this meeting. The Staff Engineer will incorporate any items that the Task Group review on an annual basis at the February 2016 meeting.

***ACTION ITEM: Ian Simpson to develop an agenda based on the items of this agenda and to include any items that the Task Group includes on an annual basis at the 2016 February meeting. (Due Date: 13-NOV-2015)***

# Review of Action Items – OPEN

1. All action items were reviewed for proper assignment and due date.

# Review of Meeting Effectiveness – OPEN

1. The meeting was considered to be effective in meeting its goals.

# Next Meeting – OPEN

1. As the format of the February 2016 Nadcap Meeting includes the NMC meeting on Thursday morning, the Task Group requests to meet Tuesday to Thursday. Hence the meeting will be 23-25-FEB-2016 in Madrid, Spain.

ADJOURNMENT – Wednesday 21-OCT 2015 – Meeting was adjourned at 4.25 p.m.

Minutes Prepared by: Chris English [chris.english@ge.com](mailto:chris.english@ge.com)

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| \*\*\*\*\* For PRI Staff use only: \*\*\*\*\*\*  Are procedural/form changes required based on changes/actions approved during this meeting? (select one)  YES\*  NO  \*If yes, the following information is required: | | |
| Documents requiring revision: | Who is responsible: | Due date: |
|  |  |  |
|  |  |  |