



# Nadcap Asia Symposium 2011

*October - November, 2011*



# Today's Presenter

**MARCEL CUPERMAN**

Senior Staff Engineer  
Heat Treating



# Agenda

- **Nadcap Heat Treating (HT) Task Group**
- *Nadcap Audit Preparation*
- *The Nadcap Audit*
- *Checklist Review*
- *Top NCRs and NCR response*
- *Web Tools & Additional Information*



# The Nadcap Heat Treating (HT) Task Group

HT Task Group

Chairperson

Vice Chair

Secretary

HT Task Group Representatives  
(Subscribers and Suppliers)

HT-STSTG  
Suppliers' Technical Sub Task Group

# PRI Heat Treating Staff

PRI Headquarters – Warrendale, PA, USA

Senior Staff Engineer – Marcel Cuperman - [cuperman@sae.org](mailto:cuperman@sae.org)  
+1 724 772 8678

Staff Engineer – Robert Hoeth - [rhoeth@sae.org](mailto:rhoeth@sae.org)  
+1 724 772 8657

CSR – Brittany McSorley - [bmcsorley@sae.org](mailto:bmcsorley@sae.org)  
+1 724 772 7574



# PRI Heat Treating Staff (cont.)

## PRI Europe Offices – Derby & London, UK

Senior Staff Engineer – Jerry Aston – HT Team Lead

[jerry.aston@pri-europe.org.uk](mailto:jerry.aston@pri-europe.org.uk)

+44 1332 869273

CSR – Amanda Bonar

[Amanda.Bonar@pri-europe.org.uk](mailto:Amanda.Bonar@pri-europe.org.uk)

+44 207 034 1249

# Key HT Task Group Representatives

Chairman – Douglas Matson – [doug.m.matson@boeing.com](mailto:doug.m.matson@boeing.com)  
+1 316 393 5440

Vice Chair – Mitch Nelson – [manelson@cessna.textron.com](mailto:manelson@cessna.textron.com)  
+1 316 517 2795

Secretary – Tom Murphy – [tmurphy@sikorsky.com](mailto:tmurphy@sikorsky.com)  
+1 203 386 4757

# HT Task Group

HT Task Group is currently made up of 42 Subscribers and approximate over 1,100 Suppliers that participate in the Task Group meetings





# HT Task Group

Task Group Member List:

[www.eauditnet.com](http://www.eauditnet.com)



# Nadcap Task Group Meetings

The HT Task Group schedules three 'face to face' meetings during the year.



- Address issues relating to Nadcap HT
  - Checklists & Procedures, Consistency, Auditors, Metrics, Special Projects
- Location varies (refer to [www.pri-network.com/nadcap](http://www.pri-network.com/nadcap) for details on meeting locations)
  - US – Pittsburgh – Auditor Training
  - Europe
  - Asia



# Nadcap – Accreditation

- The Nadcap HT Task Group (established 1992) is responsible for the operation of the Heat Treating accreditation program and currently utilize the following Nadcap HT checklists:



# Nadcap Checklists

- AC7102 – Heat Treating - Core
- AC7102/1 – Brazing
- AC7102/2 – Aluminum
- AC7102/3 – Carburizing
- AC7102/4 – Nitriding
- AC7102/5 – Hardness Testing
- AC7102/6 – Hot Isostatic Pressing
- AC7101/3 – Tensile Testing
- AC7101/4 – Metallography and Microhardness Testing
- AC7110/1 – Torch and Induction Brazing



# Nadcap – Accreditation (cont.)

- The previous mentioned checklists contain “Compliance Assessment Guidance” where clarification is necessary to confirm the requirement of the Task Group
- In addition to these checklists, the supplier is also audited to Subscribing User requirements as addressed in the “Supplemental Checklist AC7102/S”

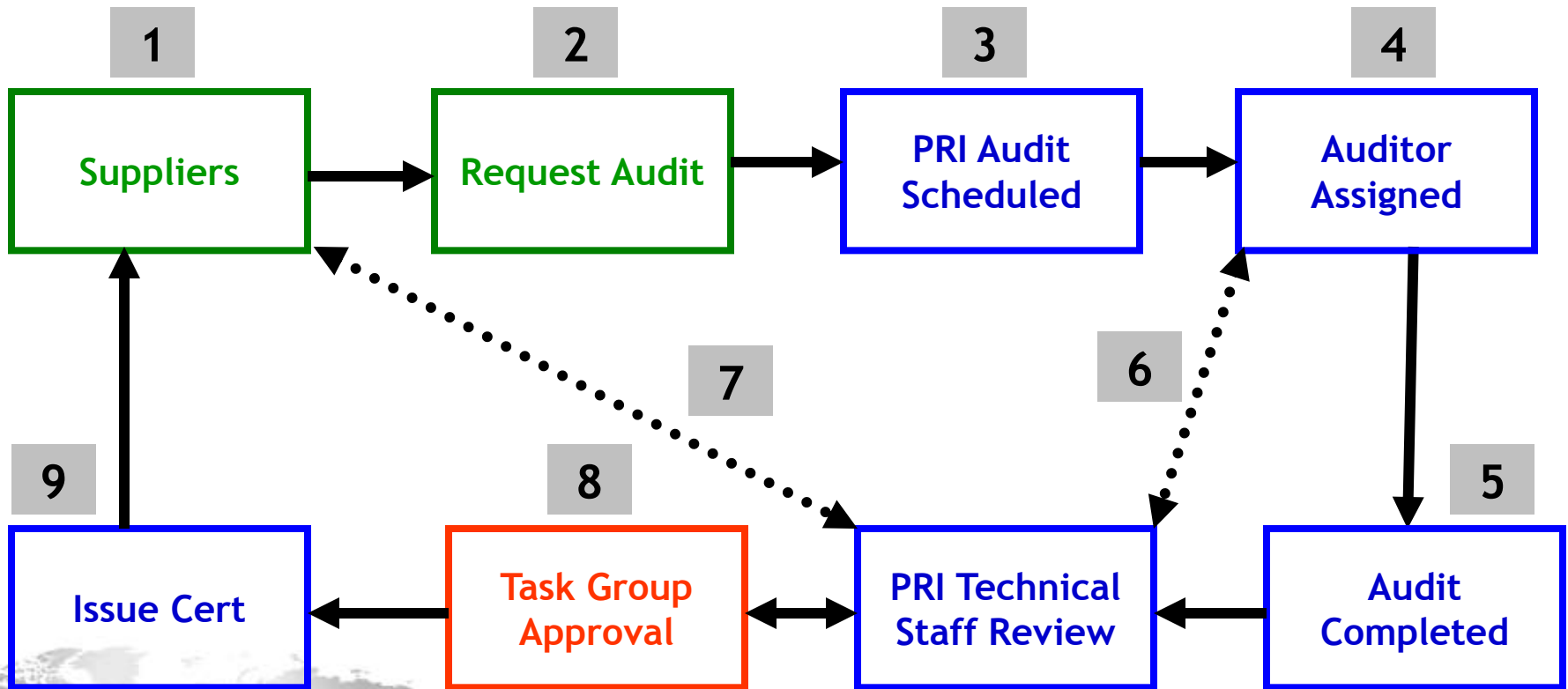


# Relationship between Supplement and Subscriber Requirements

- The supplemental checklist AC7102/S contains various requirements as defined by those subscribers wishing to establish supplemental criteria
- These are not new requirements but existing requirements contained within the subscriber specifications

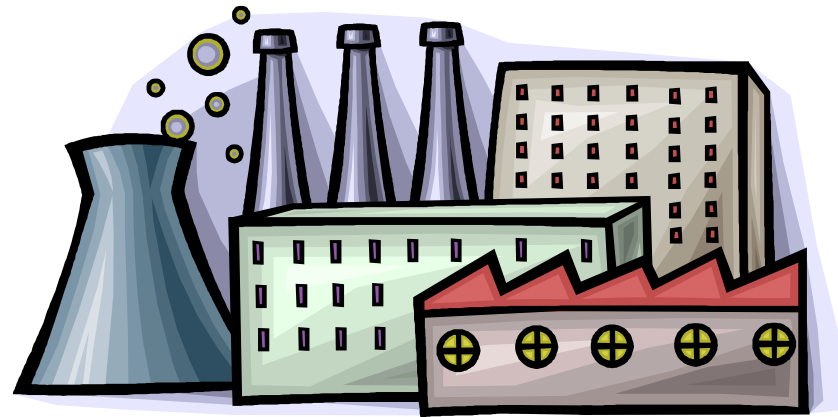


# Nadcap eAuditNet Process



# Satellite Facility Criteria

- Facility is within 25 miles/40 Kilometers radius  
distance from the main facility
- Facility uses the same Quality Manual and Procedures as the main facility
- The Quality Manager (day-to-day operational control) / NDT Level 3 is the same as the main facility
- The satellite facility has an on site individual who is part of the Quality Function and reports directly to the Quality Manager / NDT Level 3
- The facility is owned by the same company





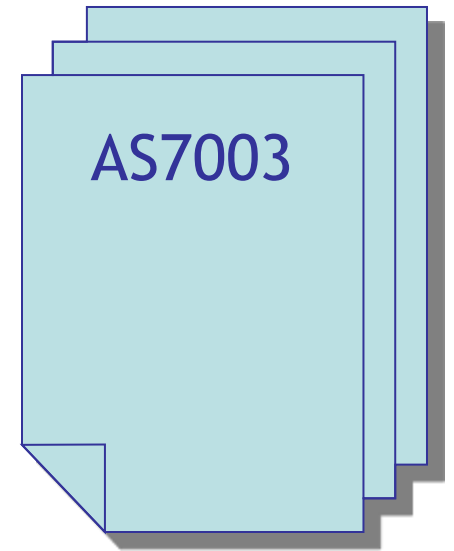
# Operational Documents

- NIP – Nadcap Internal Procedure
  - Details specific procedures by which PRI/Nadcap Staff operates.
- NTGOP – Nadcap Task Group Operating Procedure
  - Defines the scope and general operating procedure for each specific Nadcap commodity program.
- NOP – Nadcap Operating Procedure
  - Documents detailing the specific procedures by which Nadcap operates.

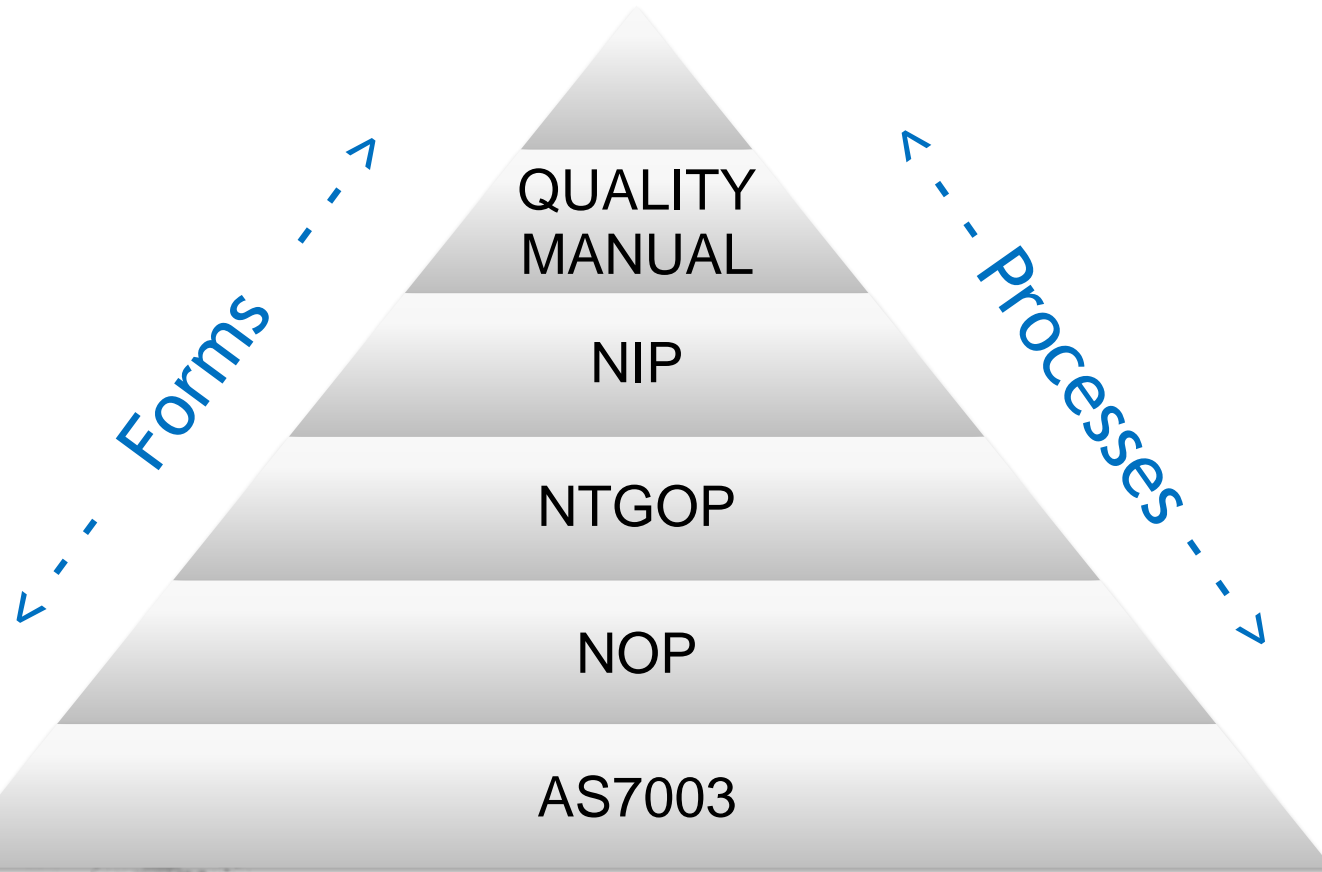
# Operational Documents

## Additional

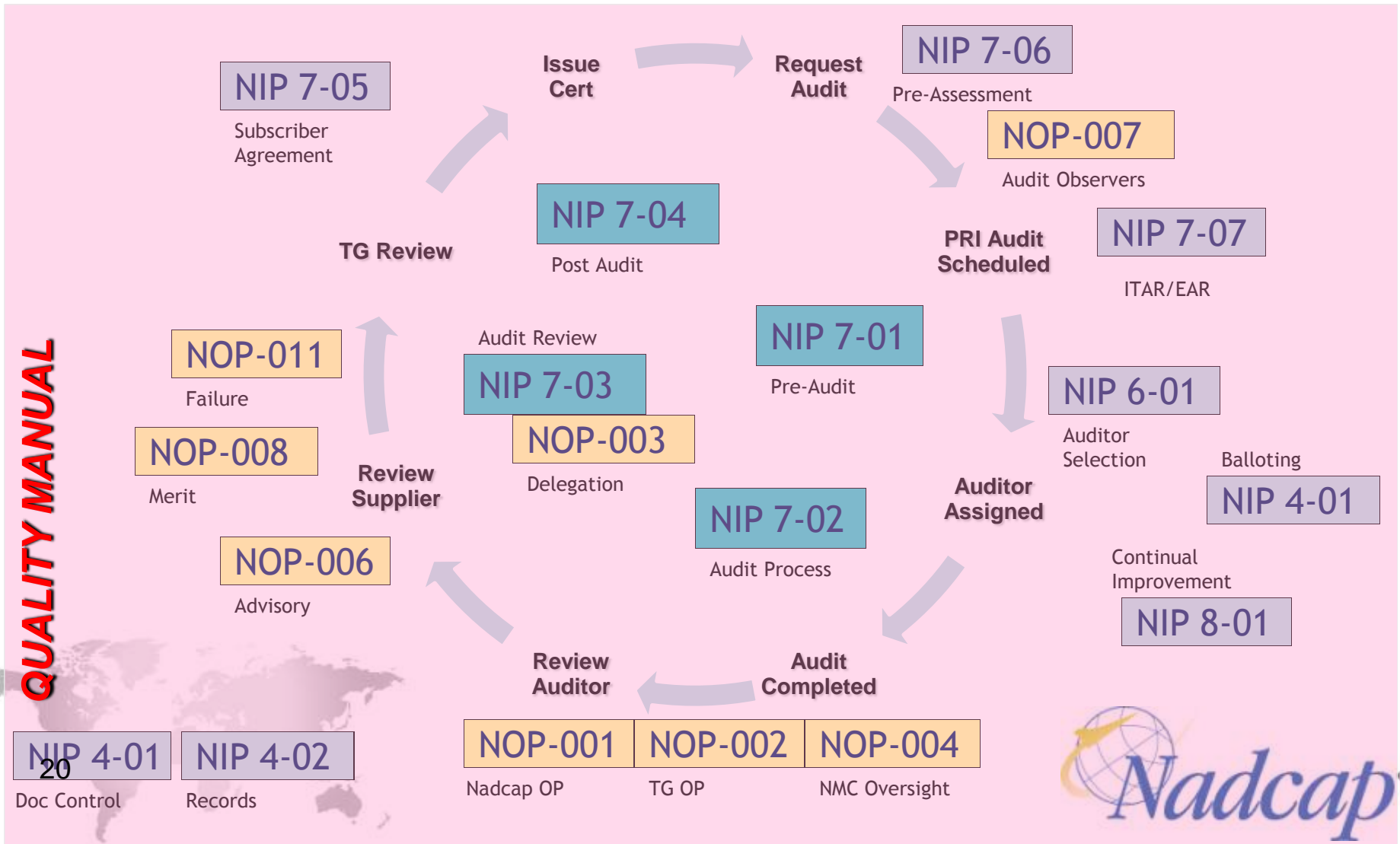
- Quality Manual – Performance Review Institute (PRI) Quality Process
  - PRI Quality System requirements
- AS7003 – Nadcap Program Requirements
  - Aerospace Standard which documents the requirements for implementing Nadcap industry consensus-based accreditation programs



# Procedural Hierarchy



# Procedure Map Summary



# Notable Procedures

- NOP-002 General Task Group Operating Procedure
- NOP-006 Supplier Advisory
- NOP-008 Supplier Merit Program
- NOP-011 Audit Failure Process
- NTGOP-001 Nadcap Task Group Operating Procedure
  - Appendix 3 Additional Requirements for the HT Task Group
- NIP 4-01 Document Control Procedure
- NIP 6-01 Auditor Selection, Approval and Training
  - Appendix HT Guidelines for Selection of Auditors of Heat Treating
- NIP 7-03 Audit Report Processing and Review

These are found at [www.eauditnet.com](http://www.eauditnet.com)

Resources > Documents > Nadcap Procedures and Forms



# Checkpoint

# Any Questions



# Agenda

- *Nadcap HT Task Group*
- **Preparing for the Audit**
- *The Nadcap audit*
- *Checklist Review*
- *Top NCRs and NCR response*

- *Web Tools & Additional Information*



# AC7102 paragraph 1.1

- 1.1 - Prior to the Audit

1.1.1 The Supplier **shall** complete a self-audit to (as applicable):

All HT checklists are specified

All non-conformances **shall** be corrected by the corrective action system, prior to the actual audit.

Nonconformance of a technical nature found during the actual audit will, at the Task Group's discretion, require a follow-up audit at the supplier's expense. This self-audit **shall** be maintained by the Supplier for review by the auditor.





# Timeline – Prior to the Audit

- Six months prior to your Nadcap audit:
  - Download/copy/print the required checklists
    - Consider including the checklists in the documentation control system as you would for customer specifications. These are after all requirements
  - Create an audit plan
  - Select and train auditors on the audit checklist and reporting



# Timeline – Prior to the Audit

- Four months prior to your Nadcap audit:
  - Conduct audits and identify NCRs
  - Do a thorough RCCA analysis
  - Create a plan for corrective actions, ensure corrective actions are flowed out to all areas
  - Involve all personnel that could be questioned or witnessed during the audit
  - See that the actual practice and procedural requirements are consistent
  - Assign NCRs to suitable people
- 90 days prior to the Nadcap audit, review eAuditNet website to assure checklist is the latest version
- One month prior to your Nadcap audit
  - Conduct a follow-up audit of NCRs and corrective actions

# One month prior to your Nadcap audit

- Conduct a follow-up audit of NCRs and corrective actions
  - Review specific items identified and verify they have been corrected
  - Verify procedures/instructions are amended and relevant personnel trained
    - Any additional procedural changes made since
    - Are the requirements still satisfied
    - Are the requirements fully understood
  - Review new job packages to verify if they are correct

# One month prior to your Nadcap audit

The supplier shall forward the following information as identified in AC7102 paragraph 1.1.1:

- List of equipment (atmosphere generation, testing equipment, lab equipment, inspection equipment, plating, coating, cleaning, Pyrometry, and Pyrometry testing, etc.)
- List of purchased services, including name(s) of supplier for calibration, processing, testing, etc., schedule of calibrations, uniformity surveys, system accuracy tests, hardness machines servicing, etc., schedule of periodic tests (tensile, decarburization, etc.)
- List of quality personnel, and approved heat treating personnel on each shift
- List of Prime customers and specifications for which heat treater is approved
- List of heat treat specifications [military, government, industry (AMS, etc.) and customer] that supplier is working to
- Copy of internal general procedures for heat treat processing, Pyrometry and testing/inspection of heat treated product
- Organization chart



# One month prior to your scheduled audit

- Documentation provided must be in English unless agreed between the auditor and the supplier. Note – responses to NCRs shall be in English
- All documentation will be destroyed or left with the supplier after the audit



# Other Considerations

- Personnel availability
  - Able to assist when required
  - Vacation
  - Part time personnel
- Availability of Records – Calibration, personnel records, training, qualification and other documents
- Hardware availability for compliance



# Prepare!

- Prepare, Prepare, Prepare!
- Attention to detail!
- A good self-audit Leads to a successful audit



# Checkpoint

# Any Questions





# Agenda

- *Nadcap HT Task Group*
- *Preparing for the Audit*
- **The Nadcap Audit**
- *Checklist Review*
- *Top NCRs and NCR response*

- *Web Tools & Additional Information*



# Export Control

- Certain documentation, platforms, components, drawings, etc may reference Export Control. This presentation does not intend to address Export Control other than identifying:
  - Suppliers are responsible for maintaining Export Control and notifying PRI if Export Controlled hardware is processed at the facility (during the scheduling of the audit)
  - Nadcap Internal Procedure (NIP) 7-07 addresses Export Control with materials and information
  - **ITAR/EAR and the Nadcap Audit** 2 hour webinar training is available from eQuaLearn

# The Audit: Initial Meeting

## Purpose

- To provide all participants with the opportunity to anticipate and prepare for obstacles, or situations, that might interrupt the audit
- Assess the supplier's readiness for the audit
- Communicate with senior representatives of the supplier who will not be actively involved with the audit, except for the daily briefing
- Review any safety/security issues



# The Audit: Initial Meeting

- General introductions
- Confirm understanding of ITAR/EAR - auditor, data and reporting restrictions
- Clarify audit being performed
  - HT processes
  - Customer base, Subscribers, approvals held
- Agenda for the audit
  - Availability of personnel – any personnel away from work
  - Personnel working hours
  - Availability of examinations

# Initial Meeting (cont.)

- Compliance jobs – in-process job / paper audits.
  - Not intended to be a nervous experience
  - Will speak with personnel during the compliance
  - Need to witness auxiliary processes that affect the HT process (e.g. pre-cleaning prior to HT)
  - Trainees (if used) will also be asked to perform certain functions during the compliance



# Initial Meeting (cont.)

- Nonconformance Reports (NCRs)
  - NCR Classifications (Major and Minor)
  - NCRs accepted on site by the auditor (auditor discretion)
  - Supplier kept up to date on NCRs. Discussed at end of day
  - NCRs from previous audit. Objective evidence to show they are closed out
    - Verified during the audit



# Initial Meeting (cont.)

- Miscellaneous
  - Procedural / personnel changes since the submittal of documentation to auditor
  - Proprietary / Export Controlled documentation
  - Lunch times
  - Language
  - Brief tour of the facility
  - Scope Verification



# Checklist Completion

- The Nadcap audit is like no other
  - Auditor requires compliance procedurally and in practice to the checklist requirements:
    - Documentation to show procedural coverage
    - Witness the inspector / processor working in accordance with the procedure and demonstrates (verbally) a sound knowledge of the requirements
  - Lack of objective evidence may result in an Nonconformance
  - Clear communication is imperative



# Daily Briefing

- Purpose is to allow the supplier time to listen to the progress summary of the audits:
  - NCRs
    - The supplier should be aware of NCRs or potential issues throughout the day
    - If compliance jobs are still being witnessed, auditor may not indicate an issue until the end (to determine if systemic)



# The Daily Briefing

- Intent is to promote discussion, not to re-address topics previously discussed or debated
- Allows the supplier to address any items of concern or documentation retrieval to prevent issuance of a nonconformance
- Confirm the agenda for the following day



# Compliance Jobs Task Group Expectation

- 10 job audits to cover processes and Nadcap Subscribing User base, including:
  - 2 historical/completed/shipped paper audits
  - At least 4 in-process job audits
  - The balance of 4 either historical or in-process job audits



# Compliance Jobs

## Availability of Hardware

- Supplier must take steps to obtain subscriber hardware, if available, pull from stock
  - Do not borrow hardware unless approved by customer
  - Must be aerospace
- Know the customer of the component being processed and the applicable specifications that apply



# Compliance Jobs (cont.)

- Availability of hardware
  - For Initial audits hardware can be replaced by dummy/scrap hardware processed the same way as a good hardware
  - Any problems, contact the PRI Staff Engineer



# Final Out Briefing

- Review all nonconformances / issues identified during the audit
  - Leave copy of NCR report – written or electronic
  - "0" NCRs requires feedback within 3 days from submittal of electronic audit report by the auditor



# Final Out Briefing (cont.)

- Outline the process for addressing Nonconformances and utilizing eAuditNet
  - Initial response to findings is 21 days from submittal of electronic audit report by the auditor
    - Corrective action plan and objective evidence
  - For second, third and fourth (max) response cycles, 7 days is required
  - ‘Late’ days are accumulated when the response date is past due. Shall not exceed 30 cumulative late days for the audit report package
    - Late days affects the merit process (discussed later)



# Final Out Briefing (cont.)

- Advise Supplier of RCCA Tutorial for corrective action help [www.pri-network.org](http://www.pri-network.org)
- Review availability of key procedures on eAuditNet
  - > Resources > Documents > Nadcap Procedures
    - Audit Process NIP 7-02
    - Merit Process NOP-008
    - Audit Failure NOP-011
    - Accreditation Process NOP-001
    - Audit Report Processing NIP 7-03
- Supplier Feedback Form





# Checkpoint

# Any Questions



# Agenda

- *Nadcap NDT Task Group*
- *Preparing for the Audit*
- *The Nadcap Audit*
- **Checklist Review**
- *Top NCRs and NCR response*

- *Web Tools & Additional Information*



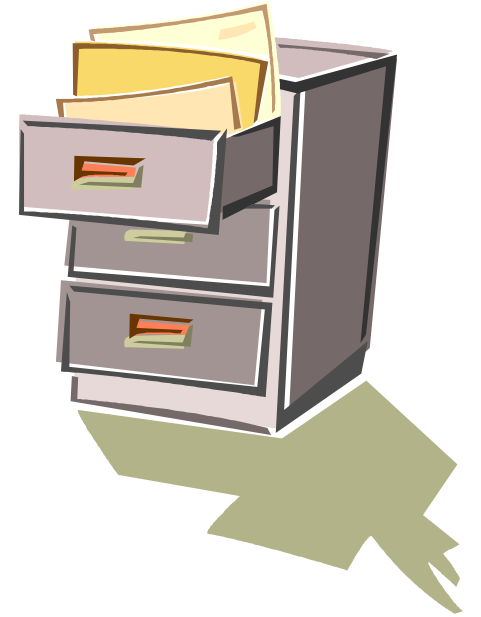
# AC7102 Checklist Format

1. Instructions to Supplier
2. Supplier Information
3. General Quality System
4. Personnel
5. Material Handling and Traceability
6. Inspection
7. Process Control
8. Refrigeration of Steels
9. Furnace Control and Maintenance
10. Pyrometry Testing
11. Vacuum Furnaces
12. 12 to 21 – Compliance Jobs





# AC7102 Checklist Review



# Checkpoint

# Any Questions



# Agenda

- *Nadcap HT Task Group*
- *Preparing for the Audit*
- *The Nadcap Audit*
- *Checklist Review*
- **Top NCRs and NCR response**

- *Web Tools & Additional Information*



# AC7102

## Top 10 Paragraph References 2009 vs. 2010

1-Jan-09 to 31-Dec-09	
Para	Times Cited
10.7.3.1	141
10.4.4	133
3.4.2	132
10.4.1	89
6.1.2	82
10.2.1	79
10.7.4.2-b	70
10.8.7.1	69
10.8.5.4	64
10.3.1	64

1-Jan-10 to 31-Dec-10	
Para	Times Cited
10.4.4	152
10.7.3.1	131
10.2.1	117
3.4.2	111
10.4.1	111
6.1.2	104
10.3.1	101
10.8.5.4	99
10.2.2	85
10.8.7.1-[1]	72

1-Jan-10 to 31-Dec-10				Total Audits Conducted
Top NCR	Paragraph Ref	Text	Times Cite	761
1	10.4.4	Do the instrument calibration records and stickers show conformance to the requirements of AMS 2750, or more stringent customer requirements?	152	
<b>Total Percentage for Para Ref 10.4.4</b>				<b>20.0%</b>
2	10.7.3.1	Are the SAT's performed on the temperature control and recording systems required by the applicable instrumentation type in each control zone of each piece of thermal processing equipment used for production heat treatments?	131	
<b>Total Percentage for Para Ref 10.7.3.1</b>				<b>17.2%</b>
3	10.2.1	Do the thermocouples and thermocouple wires meet the calibration frequency, temperatures intervals and accuracy requirements of the AMS 2750, or more stringent customer requirements? (U10)	117	
<b>Total Percentage for Para Ref 10.2.1</b>				<b>15.4%</b>
4	3.4.2	Are all corrective actions from the previous Nadcap audit still implemented (check the last full audit)?	111	
<b>Total Percentage for Para 3.4.2</b>				<b>14.6%</b>
5	10.4.1	Are the calibration accuracy and frequencies in accordance with the requirements of AMS 2750D Table 3, or more stringent customer requirements?	111	
<b>Total Percentage for Para 10.4.1</b>				<b>14.6%</b>
6	6.1.2	Is this review performed by Quality Assurance or other designated personnel and the review documented on the furnace recording?	104	
<b>Total Percentage for Para 6.1.2</b>				<b>13.7%</b>
7	10.3.1	Do all test instruments have a digital display and output, and meet the readability, calibration frequency and the accuracy requirements of Table 3 of AMS 2750D, or more stringent customer requirements?	101	
<b>Total Percentage for Para 10.3.1</b>				<b>13.3%</b>



1-Jan-10 to 31-Dec-10				
8	10.8.5.4	Are temperatures indicated by all furnace thermocouples recorded and included as part of the TUS record? (U11 & U13)	99	
		<b>Total Percentage for Para 10.8.5.4</b>		<b>13.0%</b>
9	10.2.2	Are the thermocouples being calibrated throughout the range in which they are to be used?	85	
		<b>Total Percentage for Para 10.2.2</b>		<b>11.2%</b>
10	10.8.7.1-[1]	Does the documentation of the performed TUS includes as a minimum: <ul style="list-style-type: none"> <li>• Furnace identification name or number</li> <li>• Survey temperatures</li> <li>• TUS sensors and location identification including a detailed diagram, description or photograph(s) of any load or rack used</li> <li>• Correction factors as well as corrected or uncorrected readings of all TUS sensors at each survey temperature. Readings shall be identified as corrected or uncorrected.</li> <li>• Testing company identification (if not performed in-house)</li> <li>• Signature for the testing company (if not performed in-house)</li> <li>• Name of technician performing the survey</li> <li>• Survey start date and time</li> <li>• Survey end date and time</li> <li>• Survey test instrument identification number</li> <li>• Indication of the test being passed or failed</li> <li>• Documentation of furnace survey sensor catastrophic failures (see AMS 2750D paragraph (3.5.15))</li> <li>• Time and temperature profile data showing TUS sensors and control or monitoring sensors for all zones tested</li> <li>• Summary of final plus and minus readings at each test temperature</li> <li>• Quality Organization approval</li> </ul>	72	
		<b>Total Percentage for Para 10.8.7.1-[1]</b>		<b>9.5%</b>

# Top HT Finding #1 (152 Times)

## 10.4.4: Pyrometry

Do the instrument calibration records and stickers show conformance to the requirements of AMS 2750, or more stringent customer requirements?



# Top HT Finding #2 (131 Times)

## 10.7.3.1: Pyrometry

Are the SAT's performed on the temperature control and recording systems required by the applicable instrumentation type in each control zone of each piece of thermal processing equipment used for production heat treatments?



# Top HT Finding #3 (117 Times)

## 10.2.1: Pyrometry

Do the thermocouples and thermocouple wires meet the calibration frequency, temperatures intervals and accuracy requirements of the AMS 2750, or more stringent customer requirements?



# Responding to NCRs

Five questions that suppliers must answer in an NCR:

1. Immediate corrective action taken (containment actions)
2. Root cause of nonconformance
3. Impact of all identified causes
4. Action Taken to Prevent Recurrence
5. Effectivity Date



# Immediate Corrective Action

What action was taken following the issue being discovered during the audit?

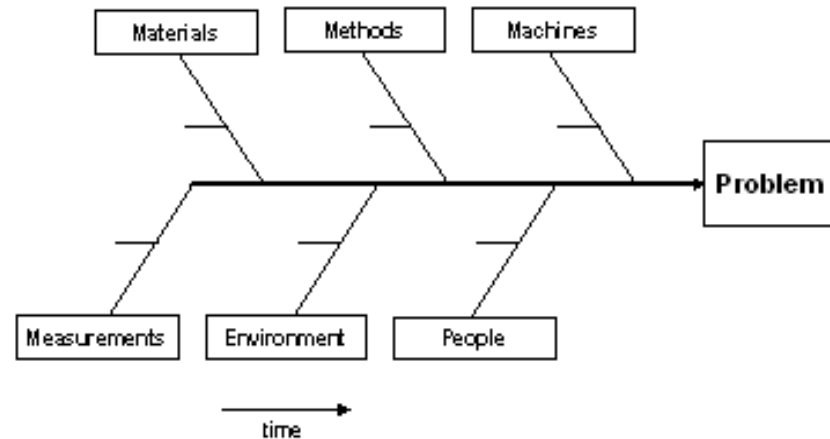
- Did you stop the problem from continuing?
  - Become compliant with the requirement
- Did you contain the problem found?
  - Were any other aspects (procedure, hardware, etc) affected by this NCR?



# Root Cause

Why did this occur? 5 Whys, Fishbone

- Why was this not identified audit using the Nadcap
- How was the question answered what objective evidence was consider the item as compliant?
- Why did the engineer not identify this issue? What involvement do they have in the system?



The Root Cause is the last logical cause in the chain

- Think you have it?
- Go one more.....



# Impact

What impact did the nonconformance actually have?

- Were parts or the integrity of the process affected in any way?
- Contacting of customer – Failing to comply with customer requirements may result in need to contact customer for additional investigation or corrective action
- Were parts shipped to customer?

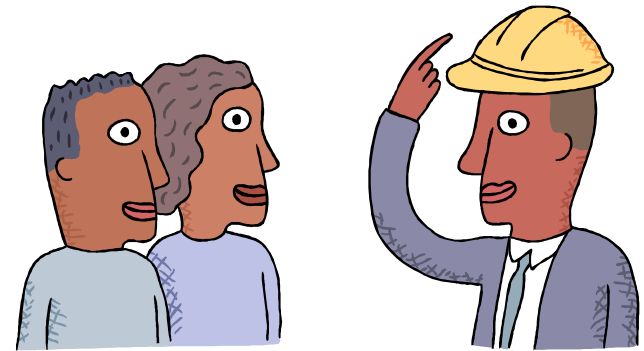




# Preventative Action

What is the long term action to prevent recurrence?

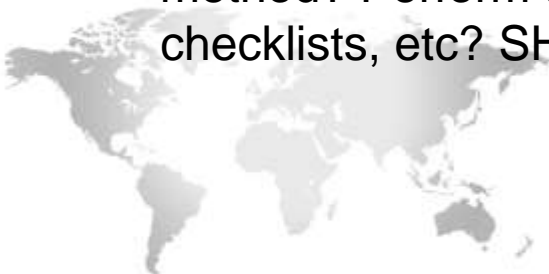
- Can only be addressed when the root cause is understood
- Do not rush, consider the effectiveness, feasibility, suitability to the company, and the company's budget



# Objective Evidence

What information can you provide to demonstrate the RCCA process applied to the NCR?

- If a procedure changed, clearly specify what the change was and show evidence to the HT Staff Engineer of the approved procedure (as applicable)
- Potential for Impact Hardware investigations. Provide the investigation report, include photographs
- Training/awareness of personnel. Provide evidence (sign off sheet)
- Change or create a procedure? Implement a new system or method? Perform training / awareness, propose audits, new checklists, etc? SHOW IT.



# How not to respond to NCRs

Immediate corrective action taken

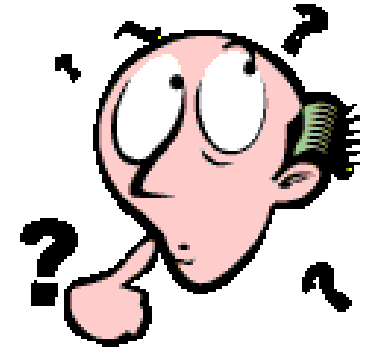
- Modified procedure

Root Cause

- We have been audited by many customers and Nadcap in the past. This has never been a problem.

Impact to hardware

- None



# How not to respond to NCRs

Action taken to prevent recurrence

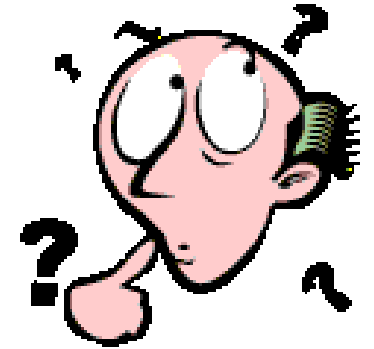
- Revised procedure

Training

- None

Objective evidence

- See attached revised procedure



# Example HT NCR

Identified Nonconformance: SAT are not being performed on the load TC's.

Finding: The supplier's furnace has Instrumentation type B and therefore must include a load TC in each load. Additionally, customer requirements require them to use additional load TC's in each load. Currently load TC's are not being given a SAT.



# How to respond to NCRs

- Immediate corrective action taken:
  - Conducted SAT with load couples on 8/10/11. Results were that load couples were minus 2 deg F from SAT couple.
  - Metallurgist reviewed the previous three months worth of SAT results and found results conforming.



# How to respond to NCRs

- Root cause:
  - The requirement “SATs shall also be performed on additional systems that qualify instrumentation as Types, A, B, or C...” was not understood to require SAT on load couples.



# How to respond to NCRs

- Impact to hardware
  - Test bars from four master heats processed from January through August 2011 were reviewed. All lots conform. See attachment Master Heat Testing from DST Heat Treat Loads-2011.
  - SAT results from 8/10/11 and 8/17/11 indicate load TCs were within two and one deg F.
  - Determined that no impact to product or certified castings exists.





# How to respond to NCRs

- Action taken to prevent recurrence:
  - WI-0173 Rev 3 System Accuracy Test procedure, Section 4.1 requires the verification of load TCs.
  - WI-0173 Section 5.2 and SAT FRM-0237 Rev 2 modified to include Quality Sign-off.
  - Quality Manager and Plant Metallurgist trained on meaning of AMS 2750D.



# How to respond to NCRs (cont.)

- Objective evidence:
  - SAT Record pdf (FRM-0237).
  - WI-0173, Rev 3.
  - Master Heat Testing from DST Heat Treat Loads-2011.
  - HT Procedure Update Training Record 08/23/11.
  - Training record on AMS 2750D.



# Final Points

DO NOT ask the auditor about how to respond to NCRs. The auditors job is to report the findings



# Final Points

- Got a problem or do not understand how to address an NCR?
  - Refer to the tutorials provided underneath the NCR posting on the supplier discussion screen: “Instructions on How to Respond to NCR”
  - Additionally, a Root Cause Corrective Action tutorial is available at :



<http://pri-network.org/resource>

- Problems? – Call the Staff Engineer.

# Checkpoint

# Any Questions



# Agenda

- *Nadcap HT Task Group*
- *Preparing for the Audit*
- *The Nadcap Audit*
- *Checklist Review*
- *Top NCRs and NCR response*

- **Web Tools & Additional Information**



# Nadcap Meetings

- Nadcap has 3 meetings per year.
  - February
  - June
  - October – Auditor training is typically aligned with this meeting.
- Next Nadcap Meeting
  - October 17-21, 2011 Pittsburgh, PA USA



# Available Training

- Please visit [www.pri-network.org](http://www.pri-network.org) for the following training material:
  - Prime Orientation and Tutorial
  - Supplier Orientation and Tutorial
  - Supplier Workshops
  - Nadcap Customer Support Initiative (NCSI)
  - Task Group Symposiums
  - Basic eAuditNet for Primes and Suppliers





# PRI/eQuaLearn Trainings

eQuaLearn has two core tracks :

- General Quality understanding of principles, including:
  - Internal Auditing
  - Problem solving
  - PFMEA
  - Root Cause Corrective Action
  - Introduction to Aerospace Quality
  - Contract Review
  - SPC
  - AS9100 Rev C



# PRI/eQuaLearn Program

eQuaLearn has two core tracks :

- General understanding of Nadcap and industry requirements
  - Nadcap Audit Preparations – NDT, Heat Treating, Chemical Processing, and Welding
  - Introduction to Pyrometry
  - Commodity specific trainings targeted at Process operator, process planner, and process owner of NDT, Heat Treating, Chemical Processing, and Welding processes.
- [www.eQuaLearn.com](http://www.eQuaLearn.com)
  - New website that contains details on eQuaLearn program



