



Nadcap A Regulator's View

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Nadcap

- Define Nadcap
- Nadcap Function
- Nadcap Administration
- Programme / Process
- Regulatory Acceptance
- Regulator's Observations

Nadcap

- Is a worldwide **co-operative program** of major companies designed to manage a **cost effective consensus approach** to special processes and products and provide **continuous improvement** within the aerospace industry.

Special Processes: are those processes where the parameters are directly influenced by component geometry and/or the results cannot be confirmed by inspection, e.g., NDT, Plating, Heat Treating.

Products: are the manufacturing output of the combination of distinct materials, parts and/or processes which forms a whole, e.g., Composites, Elastomer Seals, Electronics.

Nadcap Subscribers

- There are 40 organisations that have subscribed to Nadcap Commodity programmes
- These include:
 - Airbus Group
 - BAE Systems
 - The Boeing Company
 - Bombardier Inc.
 - Eaton Aerospace
 - Embraer SA
 - GE Aviation
 - GKN Aerospace
 - Honeywell Aerospace
 - Leonardo SpA - Helicopters
 - Rolls-Royce
 - SAFRAN Group
 - Spirit AeroSystems
 - United Technologies Corporation

Commodity Programmes

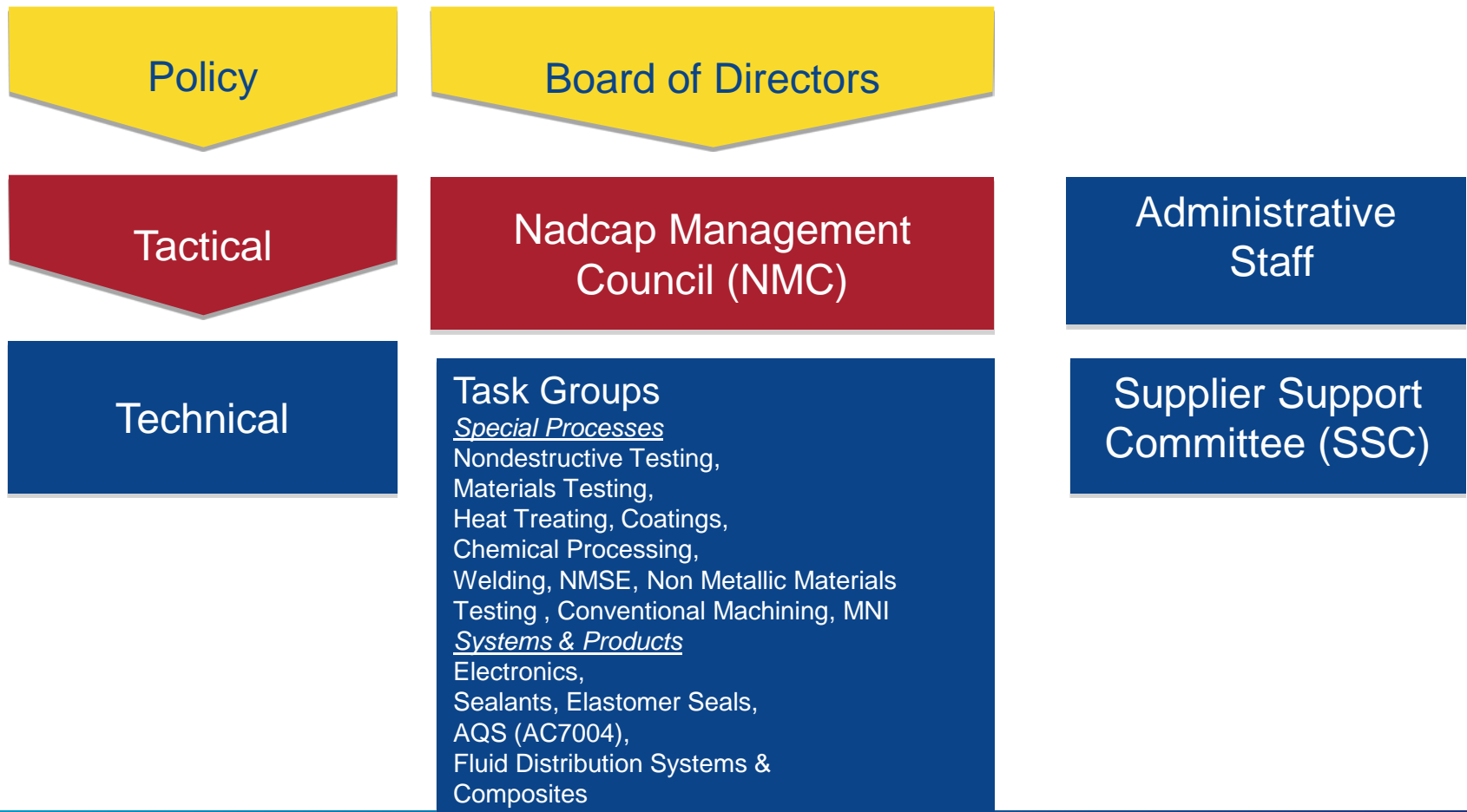
- Special Processes
 - Nondestructive Testing (NDT)
 - Materials Testing (MTL)
 - Heat Treating (HT)
 - Coatings (CT)
 - Chemical Processing (CP)
 - Welding (WLD)
 - Nonconventional Machining & Surface Enhancement (NMSE)
 - Non Metallic Materials Testing (NMM)
 - Conventional Machining as a Special Process (CMSP)
 - *Measurement and Inspection (MI)*
- Systems & Products
 - Aerospace Quality Systems (AQS): AC7004
 - Fluid Distribution Standards (FLU)
 - Elastomer Seals (SEALS)
 - Sealants (SLT)
 - Composites (COMP)
 - Electronics (ETG)



PRI

- The Performance Review Institute is a **not-for-profit** affiliate of **SAE** whose mission is to: Provide global, unbiased, independent manufacturing **process and product assessments and certification services** to the aerospace and automotive industries for the purpose of adding value, reducing total cost and facilitating teaming between primes & suppliers. PRI administers Nadcap.
- PRI has offices in:
 - Pittsburgh
 - London
 - China and Japan

PRI/Nadcap ORGANIZATIONAL STRUCTURE



Board of Directors

- The Board is made up of 13 members all from Subscriber Organisations, Rolls-Royce and BAE Systems are represented on the Board.

Responsibilities

- Legal entity
- Fiduciary responsibility
- Set policy
- Provide the vision

Nadcap Management Council

- The NMC is made up on 60 voting members of senior quality leaders of Subscribers and Suppliers.

Senior quality leaders & managers

- Oversee operation of Nadcap
- Establish & implement policy & procedures
- Task group coordination & development
- Identify, develop and deploy improvement

Commodity Task Group

- Task Group is made up of technical personnel from subscribing NADCAP Members.
- The Task Group is responsible for:
 - Development of audit checklist
 - Selection of auditors
 - Review of audit reports

Task Groups

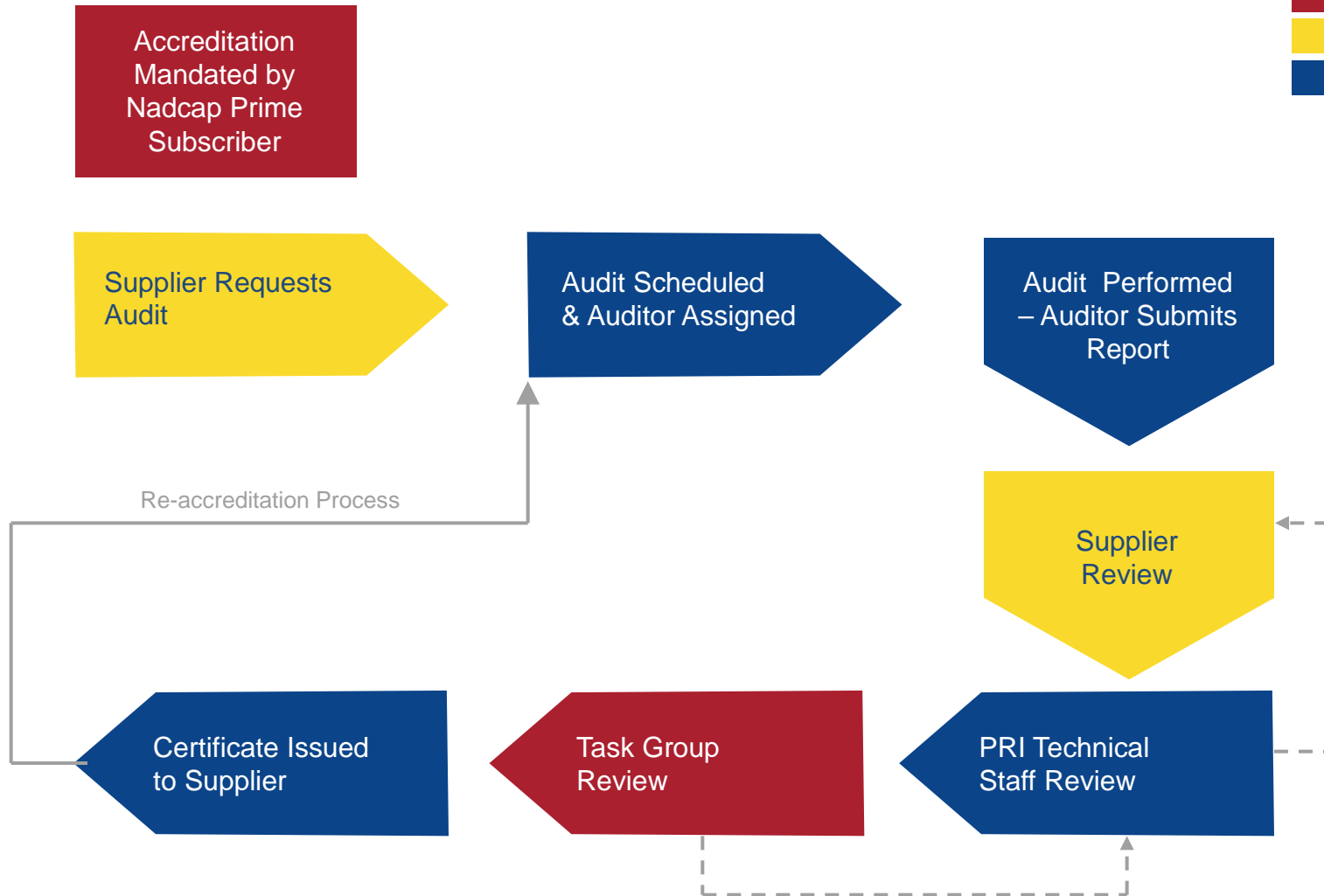
- These are made up of technical experts from Nadcap Subscribers and Suppliers. However supplier representatives only assist in the development of the checklists.

- **Technical Experts**
 - Determine requirements
 - Develop documents
 - Accept corrective action
 - Final decision on accreditation

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THE Nadcap AUDIT PROCESS

- Subscriber Action
- Supplier Action
- PRI Action



Nadcap AUDIT CONTENT

1. Quality Systems
2. Special Process and Product Specific Requirements
3. Compliance/Job Audits

NDT: 3 Witnessed Compliance Jobs per Method and 3 “Paperwork” Completed Compliance Jobs per Method

Heat Treating: 2 Long Jobs-8 Short Jobs

Materials Lab: Witnessing of All Test Methods

Chemical Processing: Minimum of 4 Job Audits

Coatings: 2-11 Job Audits (Based on Scope)

Welding: 2 Job Audits per Method

Nonconventional Machining: 2-10 Job Audits

Surface Enhancement: 2-6 Job Audits

Composites: 15-30 Job Audits (Based on Manufacturing Flow)

Electronics: Complete 1 Job Audit

Conventional Machining: 2-14 Job Audits (Based on Scope)

AUDIT REVIEW

PRI Staff Review:

- Staff Reviews Package for Completeness
- Review Audit Report
 - Clarification Changes (electronically) - Contact Auditors for Clarification
 - Review Supplier Corrective Action
 - Close-Out or request additional information via Forums
- Audit Report Package is submitted via eAuditNet for Task Group Review

AUDIT REVIEW

Task Group Review:

- Task Group decides Procedure for Review
 - Sub-group review, entire Task Group Review
- Task Group Reviews for Correctness
 - Technical Comments, Supplier Responses, Technical Completeness, Auditor Summary Letter, Identify Additional Findings
- Completes Review of Each NCR and dispositions (NCR Status)
- Discuss Results with Task Group within Forums
- Task Group Votes on Accreditation via On-Line Balloting

Regulatory Acceptance of Nadcap

- Nadcap is only applicable to Organisations that are Nadcap Subscribers.
- The organisation must:
 - Mandated the Commodity Program
 - Be represented on the NMC
 - Be actively involved in the work of the Commodity Task Group
 - Undertake the initial approval and Nadcap undertakes the surveillance

Regulator's Observations

Questions?