



# NADCAP NDT

## Non-Destructive Testing Newsletter

March 2002

### Issue Highlights

Expansion into Europe  
NAS 410 / AIA Committee  
Supplier Prospective  
Next Meeting

### Editors

Mark Aubele – Staff Engineer  
(maubele@sae.org)  
Phil Keown - Task Group Chairman  
(philip.keown@ae.ge.com)

### From the Chair...

Those of you who attended the January meeting are aware of the dynamic growth facing the NADCAP program. New mandates from Primes and expansion of the program into Europe and Asia offer some great challenges as well as some wonderful opportunities.

In articles shown in this issue of the Newsletter Chris Gooding (Rolls-Royce PLC) will explain the progress being made by the committee working the expansion initiative bringing the NADCAP program global. Greg Rust (Vought Aircraft) will highlight some of the changes being proposed in the latest revision of NAS 410. Greg, the former chair of the AIA committee, is a new member of the NDT Task Group and gave some interesting background into the rationale behind some of these changes. This issue also features the inaugural submittal by the Supplier Representative, Dave Mitchell.

January's meeting produced a tremendous turnout from the Primes supporting the Task Group and suppliers interested in being a part of the dynamic NADCAP process. As we continue to deal with the challenges and opportunities that the expansion of the NADCAP produces, we continue to extend a

sincere invitation to all suppliers to involve themselves in this program. If you can attend a quarterly meeting, please come and be heard. If not, please send your comments, concerns, and/or questions so that we can have an opportunity to address them. I hope we have another "standing room only" participation at the April meeting. See you in Cincinnati!

### Expansion into Europe

Both Rolls-Royce PLC and Honeywell E&S have been involved with the NADCAP process for a number of years, but the activity has been restricted to Suppliers within the North Americas. During 2001, however, this changed as both Companies issued a mandate to their suppliers in Europe that they must have NADCAP accreditation – initially in NDT and Mechanical Testing – but with other special processes to follow. Other Primes have declared they will accept NADCAP accreditation in Europe.

As a new concept, it was felt necessary to hold a series of one day workshops for suppliers and these took place during June in the UK, France and Germany. Support was provided by PRI, Rolls-Royce, Honeywell, GEAE, Boeing and Howmet. The workshops were well attended and, in addition to explaining how NADCAP works, the opportunity was taken to present the viewpoint from each Prime as well as from a supplier that had been subjected to the process. As you might imagine the question and answer sessions were lively!

PRI has now set up an office in Bristol, England, and appointed a European Business Manager to look after the operation. After the expected relatively slow start, suppliers are now actively engaging and the numbers of audits being carried out is growing.

The Society of Automotive Engineers (SAE), along with the European Association of Aerospace Industries (AECMA) and the Society of Japanese Aerospace Companies (SJAC), sponsor the International Aerospace Quality Group (IAQG). IAQG is an organization representing the global aerospace industry and approximately 40 Primes actively participate. The IAQG goal is to improve quality and reduce costs throughout the value stream. They look particularly at the shared supply network. At their last meeting in October they chartered a team to “propose and develop an industry controlled process to assess suppliers’ special process capabilities for acceptance by all companies”.

The team, consisting of representatives from the American, European and Asian aerospace quality groups has been preparing proposals on how a global management structure might look. In addition, two pilot task groups have been launched in Europe on penetrant inspection and heat treatment to review the existing checklists. The intent is to utilize existing NADCAP checklists and only make a proposal for change where it is considered justified for use on the global scene. There is a short timescale to reach agreement between relevant NADCAP task groups and the folks working in Europe on the documents, as the first pilot audits are scheduled for completion by September, 2002. NADCAP NDT task group members were issued copies of modified checklists in draft form for FPI and General NDT at the January meeting in Phoenix and asked to comment.

If you have any questions concerning this article, please contact either Chris Gooding [chris.gooding@rolls-royce.com](mailto:chris.gooding@rolls-royce.com) or Mark Aubele [maubele@sae.org](mailto:maubele@sae.org)

## **NAS 410**

The AIA NDT Project Group is responsible for the technical content of NAS 410. This

includes responding to interpretation requests from NAS 410 users. Additionally, they are responsible for reviews/revisions (5 year cycle) based on changes in the industry, clarity of meaning improvements and gained knowledge. The year 2001 was a challenging year for the group. The first NAS 410 revision was in work all during that year. Both semi-annual meetings were well attended and the discussions were intense. The result of these meetings has been distributed for final balloting. The more significant changes deal with clarification of the NDT auditor requirements and the time period between recertifications.

A sub-group of the AIA is currently working with members of the EN 4179 committee to develop a single international NDT certification standard aimed at merging the certification practices on EN 4179 and NAS 410 to provide the International Aerospace Quality Group (IAQG) with a best practice. A draft has been completed and is currently out for comments.

Another sub-group is also studying the Physical Examination requirements. Opportunities include current requirements being adequate to prescribe minimum requirements clearly, items constituting value and adequacy of visual exams and time periods involving external factors, including age. [Rustgr@voughtaircraft.com](mailto:Rustgr@voughtaircraft.com)

### Contacts:

AIA NDT Project Group Chairman

Steve Gaylord [stephenwgaylord@eaton.com](mailto:stephenwgaylord@eaton.com)  
517-789-2964

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NAS 410 Custodian

Frank DeSande  
[frank.m.desande@boeing.com](mailto:frank.m.desande@boeing.com)

714-896-3993

## ***The Supplier Perspective...***

As NADCAP approved NDT suppliers, our participation in quarterly meetings provides the opportunity to stay up to date on current requirements, learn of new or proposed requirements, and influence the direction taken by the NDT Task Group. The Task Group has shown a desire and willingness to work with the Supplier base, but our participation in the process has not been overwhelming.

The PRI Staff Engineers have worked diligently at collecting data to help uncover weaknesses in the Supplier base, Auditors and the Audit Checklists. They also point out areas of needed discussion between Suppliers, Prime representatives and PRI Staff. Repeat NCR's point to areas which need addressing. The larger the group that participates, the greater the base for creative solutions, the greater the potential for improvement.

The Primes have shown an increasing concern over repeat NCR's. Repeat NCR's point to improper or incomplete Corrective Actions and keep us from progressing as an industry. More focus is being placed on Root Cause Analysis and proper Corrective Actions and failure to comply will impact a Supplier's eligibility for Extended Frequency. This failure adds cost to the process and added work for the suppliers, PRI Staff and the Task Group.

The Supplier Group is planning to meet prior to the NDT Task Group Open Meeting. This will provide us a forum to discuss mutual problems and suggested "fixes" to bring to the Task Group for discussion. Suggested agenda items are welcome! Please contact one of the following with your ideas:  
Dave Mitchell david@mitchell-labs.com  
Steve Garner stevegarner@eaton.com  
Dave Campbell ndcampbell@wptlabs.com  
Michael Empel mike\_empel@praxair.com

## ***Top Ten NCR's***

For some time now the NDT Task Group and PRI staff have been collecting quite a large amount of metric data. One of the outcrops of that data is the "Top Ten". This of course refers to the top ten areas where we have found the largest number of NCR's. You may not be surprised to find out that the majority of these are to found in the penetrant and certification areas, take a look:

1. Personnel Records – Section 4 & 5
2. PT Process Control – Section 5
3. PT Compliance – Section 7
4. Quality System – Section 3
5. PT Procedures – Section 4
6. Calibration – Section 9
7. MT Process Control – Section 5
8. PT Process Control – Section 6
9. MT Procedures – Section 4
10. RT Film Viewing – Section 7

What is to be done with this information?

Well, I can tell you, that a full **89%** of all of the NCR's found in the 4<sup>th</sup> quarter of 2001 were located in the very areas that you see above. All other issues found amounted to only 11% of the total. If a supplier could eliminate the areas above, the rest would be easy. Take a good look in these areas in your facility before the NADCAP auditor comes in next time, and good luck.

If you have any questions concerning this article, please contact Mark Aubele  
maubele@sae.org

## ***Next Meeting***

The next NADCAP meeting is scheduled for Cincinnati, OH, April 15 – 18, 2002. Please plan to join us in our endeavor to make this program as successful as it can be. This is your program, too! For more information please reference the NADCAP homepage at <http://www.pri.sae.org/NADCAP/nadcap.htm>