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October 2006

NadcapNDT

Non-Destructive Testing Newsletter

From the Chair

Baselines, Baselines, Baselines. Over the past two years, baseline checklists have been the hot topic, the goal which we have been striving towards. Well, they are here! The NDT Baseline requirements have been finalized, posted, and, as of the first week in December, will be utilized. My sincerest thanks to the Task Group, the Supplier representatives who have been active in the development of these audit checklists, and the PRI staff who has put in an incredible amount of late hours and frustrating days getting these documents ready for use. The AC checklists are now posted on the eAuditNet website (under applications, select Checklists, Commodity, NonDestructive Testing) and available for your review. It is now the responsibility of you, the supplier, to review the requirements and ensure that you 1) understand the requirements, 2) flow the requirements down and provide training, as necessary, to the people in your facility who are involved, and 3) ensure that all requirements are being met.

Over the course of the last few quarterly meetings, the supplier symposium presentations have focused, a lot, on audit preparation. And, since there are going to be a few new requirements for some of the supplier base, it is important to do some up-front work. However, for the most part, the true audit prep is to

1) Understand your customer requirements

2) Ensure proper flowdown

3) Provide adequate training

If you have taken the time to read and understand your customer requirements, have flowed these requirements down to your inspection force and trained them on what these mean and how to meet them, and done some internal surveillance to assure yourself that you are doing what your customer expects, then there is no need for any special preparation for the Nadcap audit or any other assessment. Also, if your inspectors understand what is expected of them, and are given the proper training and resources to accomplish these tasks, then most of the nervousness that many times surfaces during audits, is relieved. They don't have to try to remember what they are "supposed" to be doing because it is what they do every day!

Internal surveillance, self-audits, are a great tool for identifying areas that may need a little extra attention, for helping to identify "bad-habits" that may tend to find their way into the daily routine of your inspectors, and for keeping you aware of where in your internal system you identify your customer requirements. Although it may take a bit of time to complete these, they can help to save countless hours spent answering audit findings, or addressing root cause and corrective action for things that could have been identified and corrected internally. As the old commercial said, "Pay me now, or pay me later".

We are entering the "next phase" of this dynamic program with the advent of the baselines, and we understand that there is going to be a period of adjustment. However, taking some time to identify your questions now, and working with your staff engineer or task group representative, is going to make the transition much easier. As always, I invite your feedback (philip.keown@ae.ge.com or via PRI staff - contact details on page 8), once you have had the opportunity to read the baseline checklists, or at any time. Your evaluation of the process, of the auditors, or the Nadcap NDT experience, is always sought and constructive criticism is important to the development of a strong program.

I look forward to hearing from you, hopefully at an upcoming meeting, and, once again, thank all of those who were instrumental in getting our baseline established.

Sincerely,

Phil Keown – NDT Chairperson

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Auditor Training 2006

It should come as no surprise that this year's auditor training program will feature the new Baseline Checklists, Supplements and Handbooks. The new baselines have been a long time coming, but they are here and the next very important step is to train the auditors in their application. The 2006 NDT auditor training will encompass two days, Sunday and Monday, and will be full of issues important to the auditors. A large portion of the training as already stated will focus on the baselines but other issues that will be addressed will include Audit Protocol, Compliance Testing and Procedures review. In addition, a sizable amount of time will be devoted to feedback and questions from the auditors to the primes and staff.

Please take note that as in the past, only those supplier's who have been invited to give a presentation are permitted to attend the auditor training. This step was taken due to the sheer size of the NDT group to include the auditors and the primes. Having said that, please do not overlook that we have arranged a special supplier symposium specifically devoted to the baselines to be presented at this Nadcap Meeting. This session will be 8 hours and will take place on Tuesday, October 17, 2006. Many suppliers tell us that they would like to hear what the auditors hear, that it would benefit them in preparing for and completing the Nadcap audit. This is your opportunity to hear the message, ask the questions, and prepare for the implementation of the new Baseline Checklists.

Mark D. Aubele – NDT Senior Staff Engineer

Baseline

Well, I will bet that some of you (like me) did not think that this day would arrive. What day? That day would be the day that I could report that the Baseline Checklists are a reality. They are posted on eAuditNet right now for your reading and preparation enjoyment. Of course no audits may be conducted utilizing those checklists until a 90 day "notice" time has elapsed, and that will be December 4th, 2006. So, if you have a Nadcap NDT audit scheduled on or after that date, please be aware that the new baseline checklists will apply.

There is also a "Supplemental Checklist" posted for each checklist, currently entitled "Drafts" due to the fact that they are in the ballot process. Therefore, for penetrant, you will find an AC7114/1 and an AC7114/1S. This is the format you will find for each of the methods. It is important to note that these supplements include only Nadcap user specific requirements and should not vary from what you are currently used to nor are they different from what you will find referenced in that primes specifications already being flowed down to you. The benefits of these supplements are many and the downside is, perhaps, zero. For the auditor, he or she can reference these supplements to determine your specific customer requirements in regards to procedural issues and process controls without having to go through endless pages of Nadcap user specifications. For the supplier, you get information relating to what, in most cases, are the issues that your customer most cares about as they relate to the NDT audit. One point must be made very clear here; these supplements in no way relieve you of your responsibility to know, understand and meet your customer's requirements exactly as they are flowed down through their specifications and contracting documents. These supplements are not a substitute for, nor do they negate any of those requirements. For the first time though, you will have some of the most important issues clearly defined in the audit medium, this cannot help but be beneficial. For the Nadcap user, they can be comfortable in knowing that their most important requirements have been addressed via the clarifications to the auditors and suppliers. And last, but certainly not least, for the staff at PRI these supplements mean that we should be requesting fewer clarifications of the auditors, and find fewer instances of requesting additional information from the supplier.

Finally, let's not forget the handbooks. The handbooks are, or will very soon be, posted along with the checklist and supplements. These are designed to help explain the "how", by which the NDT Task Group expects the suppliers to conform to the requirements expressed in the checklists. This, again, is a first in NDT. The concern of many suppliers, voiced to the Nadcap NDT program in the past, has been the need for a "clearly defined set of audit requirements". This baseline effort, initiated by the NDT Task Group in 2003, strives to do just that. It is our intention and sincere hope that this new approach will benefit all involved.

Mark D Aubele – NDT Senior Staff Engineer

Measurement of FPI/MPI Indications for GE Aviation

For sometime now, GE Aviation has required the use of calibrated pin gages or feeler gages for the measurement of indications. Specific tolerances are given in the respective engineering specifications. Occasionally, we have seen evidence that inspection facilities are confused as to the actual requirements. The intent is to use a gage of a known dimension and place it over an indication. If it completely covers the indication then the indication is less than the known gage. Some suppliers are trying to use clear plastic gages with fluorescent circles or dots. This is not allowed by our specifications. GE Aviation does not feel one can place one fluorescent image over another and accurately tell the size of the indication. Suppliers need to evaluate their indication sizing method for GE Aviation hardware and be sure they are compliant. Exceptions to the specifications may be made, but GE Aviation must authorize them through the eSPR system.

Ron Rodgers – GE Aviation, NDT Task Group Member

Supplier Perspective – Responding to Nadcap Non-Conformances

Gary White

Responding to non-conformances can be a challenging task if you do not have a structured approach for responding. It is necessary to know and understand what Nadcap is looking for when responding.

The expectation from Nadcap is:

- Immediate Corrective Action Taken
- Root Cause
- Impact on Hardware
- Preventative Action
- Objective Evidence
- Implementation Date

Immediate Corrective Action Taken
When a non-nonconformance is found, what action did you take to stop the issue?

- Did you contain the issue?
- Did you look outside the area where the issue arose to be sure it's not happening elsewhere (systemic issue)?

Root Cause
Why was there an issue?
The root cause of an issue is when you can describe the issue in terms of an activity, connection or flow. Root cause analysis requires a problem solving method. The root cause is the most difficult to solve because people do not truly look for the "Why Answer". A common approach for determining the root cause is using the "5 Why Method". The 5 Why's is a simple approach to problem solving. People stop looking for the root cause once they find the symptom of the issue. Solving the symptom will not solve the problem.

As an example, an air compressor has failed.
"Why" did the compressor fail? Because the electrical circuit tripped.
"Why" did the electrical circuit trip? Because the compressor overheated.
"Why" did the compressor overheat? Because it wasn't getting enough air.
"Why" wasn't it getting enough air? Because the air filter was dirty.
"Why" wasn't the filter replaced? Because there was no preventive maintenance to do so.

With the above scenario, we can now solve the root cause (set up a maintenance plan). If you replace the filter, you are just fixing the symptom. The compressor will eventually overheat once the filter becomes dirty. The maintenance plan should prevent this with regular replacement of the filter.

You must keep asking "Why" for each answer you give from the original issue statement. You can test each answer to your "Why" by asking, "If I remove this, will the previous answer go away? If the answer is no, you have not found the root cause. Keep asking "Why".

Impact On Hardware
Did the non-conformance affect parts already inspected? Did parts affected ship to your customer? If yes to one of these questions, did you re-inspect the affected hardware or notify your customer?

Preventative Action
What steps or actions will you put in place to prevent the non-conformance from happening again? How will you verify and document this?

Objective Evidence
Your corrective action response will be rejected if you do not submit objective evidence. Training documents, revised procedures, forms etc will need to be submitted as evidence with the corrective action package.

Implementation Date
Not all non-conformances will be completed within the allotted time frame. Equipment may need to be purchased or calibrated. List a planned implementation date. Make sure you follow up with this date if it is going to exceed your completion date.

When answering a non-conformance, take the problem solving to where the non-conformance was issued. If it involves the shop floor, go to the shop floor and solve. Have all personnel affected by the issue help resolve it. Use personnel outside the affected area to participate. It doesn't hurt to have a separate set of eyes looking on. Questions may be raised that no one thought to ask. Use visuals when problem solving. Map out the issue and current condition on a white board.

Using the 5 Why method is one tool you can use to develop a structured approach. Other methods, such as a fish bone diagram, will also provide a structured approach. These two methods work well together.

Whatever method you use, it is important to keep in mind, emphasis should not be placed on who did wrong, but rather why. Each step of the corrective action process needs to be documented. Turn the non-conformance into a positive and learn from it.

Gary White – Orbit Industries, Inc.
Supplier Voting Member – NDT Task Group

Upcoming Nadcap Training

Nadcap Customer Support Initiative (NCSI): A free, web-based training program that suppliers can access from their workplace. The training discusses everything from audit preparation to nonconformance responses, as well as the additional training tools provided by PRI. All sessions are conducted by PRI Staff and hosted by a Nadcap Management Council User Member. The upcoming dates for this program are:

US Office – Sessions for Initial audits
11 October 2006 .....2:00pm eastern time
8 November 2006 .....2:00pm eastern time
13 December 2006.....2:00pm eastern time

US Office – Sessions for Reaccreditation audits
14 November 2006 ..... 2:00pm eastern time

Europe Office – Sessions for Reaccreditation audits
6 November 2006 ..... 10:00am UK time

Please contact the PRI Training Department at **PRITraining@sae.org** for more information or to register for a session.

Root Cause Corrective Action: This 7-hour training class is based on the flow chart used by Nadcap and the course promises a proven method to improve root cause analysis and prevent the same mistakes from occurring over and over again. Suppliers who have participated in our training have shown improved root cause techniques and on average, their audits close faster than those who have not attended a training course. Upcoming dates:

18 October 2006 .....Pittsburgh, PA, US
8 November 2006 ..... Dallas, TX, US

AMS 2750D - Pyrometry Training: This 14-hour training course provides an in-depth review of the Nadcap Heat Treat Task Group interpretation of the AMS2750D specification with a focus on temperature sensors, furnace classification, system accuracy tests and temperature uniformity tests. Next sessions:

16-17 October 2006 .....Pittsburgh, PA, US
19-20 October 2006.....Pittsburgh, PA, US
9-10 November 2006 ..... Dallas, TX, US
7-8 December 2006 ..... Manchester, UK

The above two sessions require pre-registration and a training fee. For more information, please contact Jennifer Gallagher, +1 724 772 1616 ext 8194, **jgall@sae.org**.

Changes in Rolls-Royce RPS Specification

As you may be aware, Rolls-Royce plc is in the process of changing the following NDT specifications: RPS 700 (MT), RPS 702 (PT) RPS 704 (RT) and RPS906 (Control of NDT).

The intent is for Rolls-Royce plc specifications to become more closely aligned to the Nadcap baseline checklists, which will have the additional benefit to our suppliers of bringing the specifications closer to the industry standards. However, differences will still exist which are to be reflected in the supplementary questions.

The draft specifications is currently going through the Rolls-Royce ballot process with a target issue date being the end of November. Rolls-Royce plc will be distributing a presentation to all NDT level 3 personnel approved by Rolls-Royce plc, highlighting the differences between current and new specifications. Our expectation is that this information will be shared with all relevant NDT personnel. Please keep an eye on your inbox!

If you are an existing supplier to Rolls Royce plc and other Aerospace Primes and are aware of the new baselines, these changes should not hold any great surprises. If Rolls-Royce plc is your only Prime the new requirements will be different to those you are familiar with.

Please don't forget that nothing changes the overriding obligation to comply with Rolls-Royce requirements, in full, without deviation.

If you require further information, please contact:

andy.statham@rolls-royce.com *(NDT Task Group Member, Vice-Chair)*
shaun.gillott@rolls-royce.com
chris.stevenson@rolls-royce.com *(NDT Task Group Member)*

Andy Statham – Rolls-Royce plc, NDT Task Group Member, Vice Chair

Nadcap Meeting Schedule

Month	2006	2007
January	–	Crowne Plaza Redondo Beach Los Angeles, CA USA 22-26
April	–	Paris 23-27
July	–	Istanbul, Turkey 16-20
October	Marriott Downtown Pittsburgh, PA USA 13-20	Marriott Downtown Pittsburgh, PA USA 19-26

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ASTM E1742-06 Changes Update

ASTM E1742-05 has been replaced by ASTM E1742-06, which is now available and this article covers the basic revisions that have made to the specification. This article does not purport to cover all the changes that have been made and the reader is responsible to ensure that they carry out a full review of the specification as defined by their own quality system.

The following are the major changes:

- Table 2, Process Control Checks, the Viewer Light Intensity check has had the subscript I and verbiage removed.
- Paragraph 6.10, Film Density, has changed the maximum film density has been increased from 4 to 4.5 H&D.
- Figure 1, Minimum Film Density Difference Between IQI And Adjacent Base Metal Material Images, has been revised to allow a 4.5 density to be used.
- Paragraph 6.27.4, Viewers, requires the use of the ASTM E1390 to determine the viewer's maximum readable density.
- Paragraph 6.27.4.1, Viewers, allows the use of Candelas/m2 or Foot Lamberts.
- Figure 2, Maximum Allowable Film Densities as a Function of Film Viewer Intensity, has been changed to cover Candelas/m2 and Foot Lamberts also the graph line has been thickened from 2.5 to 3.0 H&D.

Phil Ford – NDT Senior Staff Engineer

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Notable Items

Failed Compliance Reporting
Further to agreement by the NDT Task Group during the July meeting in Madrid, PRI staff are no longer reporting the failed compliance data that formed part of the staff report given at each meeting. The early review process incorporates the failed compliance information. Further information on the early review process will be provided in the January 07 newsletter.

Q & A Forums
There has been much debate in the Task Group regarding the availability of a Q & A forum for those questions that are asked regularly. Task Group agreed that a web based system would not be a viable option at this point, however consideration would be made to have a Q & A article in each month of the newsletter. The intent being that a supplier representative would be responsible for receiving the questions, filtering and forwarding three to five questions per quarter to PRI Staff to obtain and publish the answers. Would you as a supplier representative be interested in this task? If so, contact Jim Bennett (bennet@sae.org).

NDT Team
It has been some time since we published a photograph of the PRI NDT Staff Team to show our latest fashion sense and hairstyles, notably Jim and Phil! During a recent PRI Global Meeting held in Warrendale we had the opportunity to get the Team Photo.

James E Bennett – NDT Staff Engineer

Front row from left to right: Samantha Jeswald, Mark Aubele, Mercedes Rodriguez. Back row from left to right: Mike Gutridge, Jim Bennett, Phil Ford, Louise Belak.

Nadcap NDT Word Puzzle Key (67 words)

The answers to the word puzzle are as noted below. The number and letter correspond to the location of the first letter of the word as it was noted in the original excel format. As noted the word may be in any orientation (vertical, horizontal, diagonal, forward or backward).

NDT – 7F
NCR – 13M
USER – 13H
SUPPLIER – 27J
NONSUSTAINING – 27E
INITIAL – 8P
REACCREDITATION – 2T
PRIME – 24J
STAFF ENGINEER – 13S
CSR – 6D
COMMODITY – 27S
PENETRANT – 19R
MAG PARTICLES – 1R
ULTRASONIC – 8H
RADIOGRAPHY – 16A
QUALIFIED – 33O
LEVEL – 21G
COMPLIANCE – 34A
FAILURE – 1M
MERIT – 22D
FEEDBACK – 32C
EVALUATION – 13D
EAUDITNET – 17L
SCHEDULING – 18Q
NTGOP – 3N
CHECKLIST – 8Q
EXPIRATION - 3B
SPECIFIC – 27H
GENERAL – 27Q
PRACTICAL – 25L
JAEGER – 14C
CALIBRATION – 30I
MAJOR – 23K
MINOR – 6G
OBSERVATION – 3D
BALLOT – 6I
FORUM – 1M
QUORUM – 27D
PROCEDURE – 1T
AUDITOR – 13I
PREVENTATIVE ACTION – 10E
IMMEDIATE ACTION – 16D
PRI – 5A
NMC – 7F
TEST REPORT – 18E
TECHNIQUE – 17T
AUBELE – 12G

NOP – 30S
NIP – 17R
NUCAP – 27E
RCCA – 2 O
MIKE – 15D
JIM – 21M
PHIL – 10N

SAM – 27H
LOUISE – 16K
ARSHAD – 17E
HEATHER – 1B
WAGNER – 24O
QQI – 33O
FILM – 19D

EXAM – 8D
FLUORESCENT – 32C
KEOWN – 28B
MERCEDES – 34R
NADCAP – 33T
MARY – 22D (Bonus)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	T	H	E	A	T	H	E	R	U	L	I	A	F	O	R	U	M	M	R	P
2	O	D	L	N	Y	N	O	I	T	A	T	I	D	E	R	C	C	A	E	R
3	I	E	D	O	B	S	E	R	V	A	T	I	O	N	X	P	T	G	E	O
4	R	X	A	I	V	V	E	R	I	F	I	C	A	T	I	O	N	P	N	C
5	P	P	C	T	N	P	Z	C	P	P	V	T	W	G	S	Q	C	A	I	E
6	M	I	R	C	A	Z	M	T	B	O	N	M	A	O	V	W	T	R	G	D
7	E	R	I	A	S	N	I	G	A	M	L	F	G	P	R	Y	L	T	N	U
8	M	A	X	E	D	R	N	U	L	T	R	A	S	O	N	I	C	I	E	R
9	U	T	H	T	C	E	O	I	L	X	A	O	T	R	M	N	H	C	F	E
10	L	I	W	A	P	P	R	W	O	R	Q	I	K	P	Y	I	E	L	F	V
11	S	O	K	I	R	B	T	Q	T	X	D	P	E	T	H	T	C	E	A	G
12	I	N	F	D	E	M	A	K	X	U	I	H	Q	W	R	I	K	S	T	E
13	F	B	O	E	V	A	L	U	A	T	I	O	N	N	C	A	L	H	S	J
14	I	C	J	M	E	E	N	S	B	B	M	P	P	C	B	L	I	W	Q	T
15	E	T	A	M	N	B	T	E	O	E	J	W	B	M	R	T	S	J	G	W
16	R	Q	E	I	T	A	X	R	A	A	L	O	U	I	S	E	T	D	C	Z
17	A	S	G	K	A	R	S	H	A	D	L	E	A	U	D	I	T	N	E	T
18	D	J	E	E	T	E	S	T	R	E	P	O	R	T	Q	C	S	I	M	E
19	I	V	R	F	I	I	I	B	H	N	M	U	Y	A	R	X	C	P	Y	C
20	O	I	X	I	V	R	U	C	Q	R	Z	I	F	O	E	N	H	E	T	H
21	G	W	R	L	E	W	L	E	V	E	L	A	J	U	N	G	E	N	I	N
22	R	X	T	M	A	R	Y	C	T	I	X	A	Z	E	G	K	D	E	D	I
23	A	P	N	U	C	T	K	W	P	L	M	V	R	S	A	B	U	T	O	Q
24	P	N	E	R	T	Q	D	A	L	P	R	I	M	E	W	O	L	R	M	U
25	H	W	C	O	I	R	C	M	Z	P	T	P	N	B	N	G	I	A	M	E
26	Y	O	S	U	O	U	D	A	B	U	B	R	U	S	X	E	N	N	O	F
27	K	E	E	Q	N	O	N	S	U	S	T	A	I	N	I	N	G	T	C	T
28	I	K	R	A	A	V	P	R	T	S	W	C	U	W	I	R	P	H	W	P
29	D	O	O	Z	E	E	C	O	W	Q	E	T	E	Z	B	L	Y	O	H	A
30	O	R	U	J	C	A	E	Z	C	A	L	I	B	R	A	T	I	O	N	C
31	N	N	L	I	H	X	Y	V	V	W	H	C	T	P	T	C	I	L	I	D
32	M	J	F	E	E	D	B	A	C	K	O	A	M	J	O	Q	U	O	M	A
33	O	I	Y	T	L	M	D	E	I	F	I	L	A	U	Q	R	W	Z	X	N
34	C	O	M	P	L	I	A	N	C	E	S	E	D	E	C	R	E	M	E	A

PRI NDT Team Wins Award

During the PRI Projecting a Winning Environment event held for all PRI staff (US, Europe, China & Japan), the NDT Team was awarded with the 'Best Example of Teamwork' award.

"Unprecedented customer service, recognized for excellent development and delivery of Supplier training, largest audit load and staff cycle time of less than seven days. Team works regularly with a globally located staff in the UK and multiple US locations. They seamlessly work to achieve their common goals and show by example that teaming can and does work. They work hard, respect each other and treat each member as if they were part of the family (even if separated by many miles)."

GO Team NDT!!

NDT Newsletter – News to You?

Are you a new reader of the NDT newsletter? If so, here is some information: The NDT newsletter is published four times a year prior to the quarterly Task Group meetings. The newsletters are read by the subscribing Nadcap Users, Suppliers, Auditors and anybody that happens to click on the latest NDT newsletter on the PRI website (www.pri-network.org). The aim of the newsletter is to communicate information relating to NDT within the Nadcap program to improve our process and to promote the sharing of best practices at all levels. If you have any articles that you feel would benefit the program, feel free to forward these to one of the NDT Staff Engineers for future inclusions.

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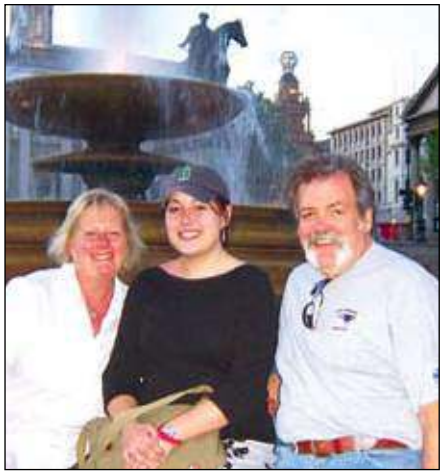
Phil Ford - phil.ford@pri-europe.org.uk

In Step With The Task Group Chair, Phil Keown



For those of you who have been involved with the program for any time at all, this micro-biography is not needed. For those of you new to the program, who have seen me around but have not had the misfortune of being subjected to one of my diatribes, I guess a bit of an introduction is in order.

I have been married to Susan, the beautiful blonde who shares both the accompanying photo with me, but is also one half of the dynamic duo that shapes and rules my existence (except for my time at the Nadcap meetings where Mark Aubele assumes that role). The other half, also seen in the photo, is my daughter, Bridget, a senior at Smith College. Bridget is also my role model. As I am often heard to say, "When I grow up I want to be just like her".

Having been involved with the Nadcap program since 1991, I am one of the "elder statesmen" (along with Ron Rodgers, also an NDT stalwart) and, therefore, have ample justification for the white in my moustache. But I have had the opportunity to meet, and work beside, many of the great people in the NDT aerospace business.

Proving that I am, truly, a fan of long term relationships, I have been with GE Aviation for 34 years, and in the field of NDT for 33 years. I have been brightening the lives of our supplier base, as an NDT auditor, Quality Systems auditor, Special Process auditor and ISO 9000 auditor for the past 30 years. Again, I have had an opportunity to work with, to visit and to learn from some of the giants in the aerospace arena and, more specifically, the NDT community. As a member of the AIA working group, the ASTM E07 committee and the SAE Committee K, I have played a small part in many aspects of the growth of our NDT business. I have also been given the opportunity to work with suppliers around the world, to see many parts of the globe that would have remained inaccessible to me had it not been for my career with GE.

If you find any useful information, or even a modicum of entertainment, within the pages of this newsletter, then I am pleased. For this newsletter will be part of the legacy I leave behind when my Nadcap days are finished. Although Jim Bennett and the rest of the NDT staff have done an incredible job of elevating it to it's lofty present state, I can lay claim to being a driver behind the newsletters inception.

Thank you for listening, or reading, and please feel free to stop by and say "hello" when next you see me wandering aimlessly during an upcoming Nadcap meeting.

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