The Supplier

COORDINATING AGENCY FOR SUPPLIER EVALUATION

DECEMBER 2015

Evolution

Robert Radawiec Jr.
C.A.S.E. 1A Level III

With the implementation of SMS across all platforms, there appears to be some significant changes to vendor oversight programs. Most companies now are determining vendor oversight requirements based on risk. While there are many positive attributes to this type of surveillance, the question is, what does it mean for C.A.S.E.?

C.A.S.E. has always done surveillance from a set schedule (24 not to exceed 36 months), regardless of what maintenance is provided by the vendor or what the previous surveillance results yield. For years these set schedules have proved beneficial to members and vendors alike. The obvious reasons stem from scheduling; knowing when surveillance is conducted and the ability to forecast surveillance schedules. For the majority of members incorporating C.A.S.E. surveillance into their audit program meets the

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Inside This Issue

Auditing Shot Peening

Stacey Sheldon
C.A.S.E. Training Chair, 1A Level III

What is Shot Peening?
Shot peening is a cold working process used to produce a beneficial, compressive residual stress layer and modify mechanical properties of metals (The Boeing Company, 2013). Shot peening a surface improves its fatigue resistance and is often used in the repair of critical engine and landing gear components.

How does it work?
Compressive stresses are induced by striking the surface with a medium, either another metal, glass, or ceramic, called “shot” at certain angles and intensities. Machinery is used to project the medium at the desired angle, force, rate and duration to a targeted surface area. The operation can be continuously fed or loaded to provide peening for a select duration.

What are the key elements to shot peening?
The effectiveness of a shot peening operation is most influenced by intensity and coverage. Intensity is the measure of shot stream energy. Intensity is expressed as the arc height at the saturation point of the saturation curve for a peened Almen strip. For example, a specification may require a .010 ± .002 A, which means the type “A” Almen strip must measure between .008 to .012 to be within specification (The Shot Peener Staff, 2011).
Coverage considers how much of the targeted area was peened and is often expressed in percentages or an integer (1.0 or 100%). Factures affecting coverage are shot media properties and exposure time. Shot peen operators will control the machine cycle time to achieve the desired coverage. Coverage is often determined through visual examination of the dent patterns though inspection aids, such as a magnifying glass, may be used. Some Almen strips are designed to assist the operator in performing these inspections as well.

What quality controls should be in place?
The quality of the shot media is a critical element and the supplier must a method to ensure all shot media

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surveillance requirement for their CASS program. However for members that have incorporated risk into their surveillance requirements, a completed audit now does not necessarily mean the vendor will go two years until its next surveillance. Due to the risk of the vendor, whether it be from the maintenance they are performing or previously poor audit results, something could trigger additional oversight. This additional oversight is burdening to both carriers and vendors.

An example of how risk is impacting audit frequency can best be described with critical components. Let's take an engine vendor for example. An Engine vendor listed in the registry receives an audit biennially. Airline members X, Y and Z perform surveillance on that vendor annually because their respective risk based tools deem engine vendors elevated. So instead of minimizing surveillance by being in the registry, being in the registry potentially added an audit. When viewing it this way one could question the value of the audit. Where is the registry benefit for either the member or vendor?

Another example of incorporating risk is with Essential Maintenance Providers (on-wing RII). Rarely would a carrier find these vendors to be "low risk" due to the nature of work. Some carriers require daily oversight, while others incorporate surveillance regardless of C.A.S.E. affiliation. Where is the registry benefit for either the member or vendor?

Moving forward into 2016 the incorporation of risk based auditing tools will only be more prevalent amongst the membership. We need to start asking, and answering these big questions. Is it time we as an organization incorporate risk methodology to our surveillance? I believe so. ■

How Sharp Are Your Skills?

In an effort to continuously improve our knowledge, a short quiz has been presented for this newsletter. Don't worry, only you will know how you measure up!

1. **What is the Code of Federal Regulations?**
   a. The law that established the Federal Aviation Administration
   b. Legal name for the Federal Aviation Regulations (CFR)
   c. Where all 50 U.S government regulatory titles are kept
   d. Old name for the Civil Aeronautics Administration, Civil Air Rules
2. **What does the word "section" mean in the CFR?**
   a. It is an individual rule
   b. It is a special Federal Aviation Regulation (SFAR)
   c. One of three parts of a rule: Policy, background, and legal justification
   d. Largest part in the CARs

3. **What is the most important certificate required to be in a U.S. registered aircraft?**
   a. Registration certificate
   b. Airworthiness certificate
   c. Radio license
   d. Operating Manual/Weight and Balance form

4. **What are Type Certificates issued to?**
   a. Engines, aircraft, and propellers
   b. Aircraft, engines, propellers, and appliances
   c. Aircraft only
   d. Aircraft, engines, propellers, appliances, and articles

5. **How many "kinds" of FAA Field Approvals are there?**
   a. One
   b. Two
   c. Three
   d. Four

6. **What is a PMA part?**
   a. FAA approved part for a specific make and model aircraft
   b. FAA accepted part for a specific make and model aircraft
   c. Part used on production model aircraft weighing less than 12,500 pounds
   d. Generic approved part used on many makes and models of aircraft

7. **What is a TSO part?**
   a. FAA approved part for a specific make and model aircraft
   b. FAA accepted part for a specific make and model aircraft
   c. Part used on production model aircraft weighing less than 12,500 pounds
   d. Generic approved part used on many makes and models of aircraft

8. **Studies have shown that the biggest obstacle to creating and maintaining a successful safety management system in a repair station is:**
   a. Lack of management buy-in
   b. Lack of employee buy-in
   c. Lack of resources
   d. Lack of training

9. **All maintenance performed by a Part 145 repair station must meet the standards identified in:**
   a. Part 145
   b. Part 43
   c. Title 49 of the Code of Federal Regulations
   d. Air Operator's maintenance manual

10. **Hazmat training for repair station located in the U.S. must meet:**
    a. Title 49 Code of Federal Regulations, Part 172, sub-part H
    b. EPA and the Hazmat training of the state where the repair station is located
    c. ICAO Technical Instructions for the safe transport of dangerous goods
    d. The National Air Carrier's Association (NACA) approved Hazmat training.

1c 2a 3a 4a 5b 6a 7d 8a 9b 10a

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Calendar of Events 2015

Winter Training Sessions

Charlotte, NC

January 25th to January 28th

Monday-Thursday

Spring Meeting

San Diego, CA

March 29th to March 31st

Tuesday-Thursday

Summer Training Session

Charlotte, NC

July 11th to July 14th

Monday-Thursday

Fall Meeting

St. Louis, MO

October 5-8

Tuesday-Thursday

Auditing Shot Peening Continued from page 1

received meets specifications. Each batch of shot must have a certificate of conformance that describes the specification and the details of chemical analysis, hardness, shot size range (in weight or percentages). In addition to the certificates, shot peeners should test their batches with calibrated sieves, in accordance with either ASTM E-11 or ISO 3310-1, to determine how much of the shot sample passes through and it should be close to the certificate of conformance. How much shot passes through a sieve is determined by weight and so a calibrated scale must also be used.

Almen strips are another key quality control element. These test strips are made from spring steel and, when subjected to a stream of shot, will arc towards the peened side. The “arc height” is then measured with an Almen gauge to determine intensity. Strips comes in different thicknesses, N, A and C and may also have a “prebow”, or variation from perfect flatness, grade. The work instructions will describe which strip thickness and grade must be used to validate the shot peen setup. The almen gauge is a calibrated tool that will measure the amount of deflection from flat, or “arc height”. At a minimum, these test strips should be run when a change to the system is made, such as, different media, different intensity, change in shot velocity, angle or distance (The Shot Peener Staff, 2011). Test strips should also be run at set intervals during continuous operation, -typically 4 hours for ceramic shot, 8 hours for glass beads and 12 hours for metal shot (The Boeing Company, 2013). The Almen strips should be retained for each batch and must be readily identified to the machine or job it was used to set up. Each lot must also have a certificate of conformance.

Shot peening machines often include a hopper that will draw the appropriate media from a bin. These hoppers include “shakers” that shift the shot to weed out those that are off specification. The maintenance of these shakers is very important. Calibrated sieves or shot classifiers are used to shift the shot and should be checked regularly to ensure it does not allow more than the permitted amount of worn shot to be used. Records of these examinations should be kept and available for review.

The equipment manufacturer will describe performance parameters that the shot peening company must monitor to ensure it functions as expected. In fact, the auditor should ensure the entire shot peening machine is covered under a maintenance plan since excessive wear to the blast nozzles, wheel, impeller and pneumatic controls will adversely affect the peening operation. Devices used to control peening time and rate of shot flow must be in good condition and functioning properly to ensure proper exposure time. A calibrated device must be used to verify stable wheel speed on machines that use centrifugal force to propel the shot (The Boeing Company, 2013).

The extent of the quality controls in place will be based on the specification used. AMS 2430 and 2431 are the typical standard. The airframe manufacturers also have standard operating procedures in their manual system to provide guidance were detailed information is not provided by the component manufacturer’s manual.

What other things should I see?

Parts should be clean with no oil residue, paints or coatings remaining on the part. Shot peen operators should inspect for these conditions before running a part. Any surface on the part that is not part of the peening operation must be protected, typically with masking tape. The peening operation must be done in the proper sequence with other metal treatment steps, as described in the maintenance manual, or the beneficial compression stresses may be removed. Once the peening operation is complete, the provider must check the part dimensions to ensure adequate material remains.

Work Cited: **The Boeing Company.** (2013). Shot Peening. In *Standard Overhaul Practices Manual* (pp. 1- 40). Seattle: Boeing Commercial Airplanes Group.**The Shot Peener Staff.** (2011, Fall). Key Terms in Intensity Control for the New Shot Peening Technician. ***The Shot Peener Maganize,*** *Vol 25 / Issue 4, Fall 2001*, pp. 1-3. ■

Treasurer’s Forum

Michael Goering
C.A.S.E. Treasurer, 1A Level III

An invoice for 2016 Annual Membership dues will be arriving in the Company Representatives Email box soon. Invoices are scheduled to be distributed at the beginning of January and will be due by January 31, 2016.

There are three ways to make payment:

1. Send a check made out to “C.A.S.E., Inc.” and send to the address below:

Michael Goering
C.A.S.E., Inc. Treasurer
8606 E. Mulberry
Wichita, KS 67226

(Preferred Method)

Please remember to note the invoice number on your check

2. Wire transfer. In this case the bank will charge C.A.S.E. a fee when making a wire transfer so an additional $25.00 will need to be added to your payment. Also, you will need to contact me for additional bank information when making a wire transfer.
3. PayPal. By accessing the C.A.S.E. website, www.caseinc.org, a link is posted under the “Air Carriers” button or “Repair Stations” button.

Membership dues are $ 1,400.00 for Air Carrier Members and $1,000.00 for Repair Station Members and are good for 12 months (January 1, 2016 through December 31, 2016)

If you have any questions, Michael can be reached by the following:

(734) 644-1149 cell
mgoering@kalittaair.com

Please note: If you do not receive an invoice by January 15th, please contact Michael. ■

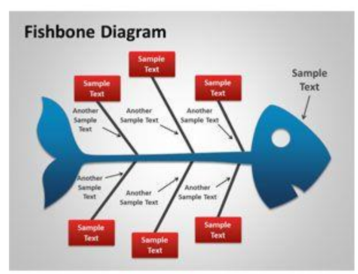
Corrective Action

Marcelo de Col
C.A.S.E., 1A Level III

During surveillance, auditors perform diligences in order to check conformance and just recently, performance. If a finding was discovered, an investigation associated with risk mitigation must be done to find out the extension, possible cause or causes along with a plan to fix this problem. However, some auditees have difficulties starting the post-audit process and normally deliver an inadequate corrective action plan. While there are several reasons auditees struggle, normally it is because they have limited amount of time or resources to do it, consequently failing to correct a problem.

This type of failure exist because auditees do not know or do not use quality tools to evaluate all possibilities leading to simple answers, shallow root cause analysis, and vague long term action plans. If this happens and the Lead auditor decides to accept those answers, which happens often, future auditors will identify the same issues.

There are several quality tools for root cause analysis, like: Five Whys, Ishikawa diagram, Brainstorming….



My advice….Take advantage of these great tools, and see the results, not just in post audit process, but in daily work problems. It also does not hurt to provide extra insight to vendors having troubles. It is for the benefit of all. ■

Vendor Surveys

Bud Morris
C.A.S.E. ACS Vice Chair, 1A Level III

Since the surveys were introduced in 2012 the percentage difference between the years have only been between 2-3 percent. Below are the results for 2015. Best year, keep up the professionalism each of you show representing the C.A.S.E. Organization.

1. Was the 1A Standard provided to you before the audit? **96.97%**
2. How was the auditor dressed? *Business casual* **76.52%**, *Business* **21.21%** and *Casual* **2.27%**
3. Did the Auditor request copies of applicable manuals, certificates, operations specifications in advance of the audit? **99.24%**
4. Did the Auditor identify him/herself as a C.A.S.E. authorized auditor with a current C.A.S.E. authorization ID card? **97.73%**
5. Was an in-brief conducted that adequately explained the purpose of the audit and the history of the C.A.S.E. organization? **99.24%**
6. Was the audit conducted in a professional manner? **100%**
7. Were the employee interviews performed in a professional manner? **100%**
8. Did the Auditor conduct themselves in a professional manner throughout the audit process? **100%**
9. In your opinion, were the sample rates appropriate? **100%**
10. Was an out-brief conducted that clearly identified all substantiated finding? **98.48%**
11. During the out-brief were response dates clearly established? **97.73%**
12. Were the ramification of a failure to respond clearly explained? **98.48%**
13. Was the Vendor appeal process clearly explained? **96.21%**
14. Was the CACS-7 Vendor Expectation Letter explained and signed? **97.73%**
15. Do you feel that the C.A.S.E. 1A-Audit was a value to your Company? **96.97%**

Training Improvements

Stacey Sheldon
C.A.S.E. ACS Training Chair, 1A Level III

At the last meeting in St. Louis, the Training Committee announced that plans were going forward to revamp the current training program. In case you missed it, here is a summary of what changes are planned:

Initial vs. Recurrent: Initial students will take different classes from recurrent students. We will be focusing on equipping initial students with the knowledge they need to understand and apply the standards and their respective P&P manual. Recurrent students will focus more on how they apply the standards, discussing techniques and methods, while demonstrating they still have the necessary knowledge base. Recurrent for the P&P is still being worked out.

Web-based & Instructor-led Classes: Web-based training will be a pre-requisite to the instructor-led classes and used to teach the standards and P&P manual, thus creating the knowledge foundation that will be used during the instructor-led portion. The on-site classes will use a mix of group activities, such as scenarios, role playing and other interactive tasks to reinforce the material presented during the web-based courses. Web-based and instructor-led will apply to both recurrent and initial students.

Test & Participation Credit: Successfully completely a course will involve passing the written exam and participating in the class. Instructors will be responsible for awarding participation credit for the on-site portion.

Why are we doing this? We realize we have two obligations to fulfill, first, that we equip students with knowledge of the standards and their P&P, and second, we teach you how to apply that knowledge. We do the knowledge part really well, our detailed slide presentations cover every word in the standards and P&P and our instructors discuss all the critical parts, but we recognized we are weak in the application area. We also recognize the current program offers little to our long-tenured auditors. This new program will allow us to address those shortcomings and make training more beneficial to the auditors, and the organization.

More details about this new training program will be presented at the Spring Meeting. Currently, the committee is targeting January 2017 for implementation. ■

Regulation Corner

Rules & Circulars

Robert Radawiec Jr.
C.A.S.E. 1A Level III

This section is developed to update members with regulatory guidance distributed this year potentially pertaining to the Quality Oversight and Auditor function.

Federal Aviation Administration

1. **RULE-14 CFR Parts 21 and 45 – Changes to Production Certificates and Approvals:**
   a. SUMMARY: The FAA is amending certification procedures and marking requirements for aeronautical products and articles. The amendment requires production approval holders to identify an accountable manager; allows production approval holders to issue authorized release documents for aircraft engines, propellers, and articles; permits production certificate holders to manufacture and install interface components, etc.

2. **RULE-14 CFR Parts 121 and 135 – Air Carrier Contract Maintenance Requirements:**
   a. SUMMARY: The new rules require affected air carriers and operators to develop policies, procedures, methods, and instructions for performing contract maintenance that are acceptable to the FAA, and to include them in their maintenance manuals. The rules also require the air carriers and operators to provide a list to the FAA of all persons with whom they contract their maintenance.
   b. Effective March 4, 2016 except for Sec. Sec. 121.368 and 135.426. The FAA will publish a document in the Federal Register announcing the effective date.

4. **RULE-14 CFR Part 5 and 119 – Safety Management Systems for Domestic, Flag, and Supplemental Operations Certificate Holders:**
   a. SUMMARY: This final rule requires each air carrier operating under 14 CFR part 121 to develop and implement a safety management system (SMS) to improve the safety of its aviation-related activities. SMS is a comprehensive, process-oriented approach to managing safety throughout an organization.

5. **AC-33-87-1A – Engine Overtorque Test, Calibration Test, Endurance Test, and Teardown Inspection for Turbine Engine Certification:**
   a. This advisory circular (AC) provides a method of compliance for the test requirements of Title 14, of the Code of Federal Regulations (14 CFR) 33.84 (engine overtorque test) when the applicant chooses to run that test as part of the endurance test of § 33.87. It also provides information and guidance on the test requirements of § 33.85 (calibration test), § 33.87 (endurance test), and § 33.93 (teardown inspection).

6. **AC-0056B Voluntary Industry Distributor Accreditation Program:**
   a. This advisory circular (AC) describes a system for accrediting civil aircraft parts distributors based on voluntary industry oversight. The AC also provides information for developing accreditation programs. This AC has been revised to meet current changes in regulatory requirements and industry practices since original publication.

7. **AC-21-43A- Production Under 14CFR Part 21, Subparts F, G, K, and O:**
   a. This AC provides PAHs and applicants for a production approval with guidance for developing and maintaining a production system that is appropriate to the PAH's operations and complies with the regulations.

Note: Not all changes were listed in this document. For the entire listing, reference the FAA website at http://www.faa.gov/regulations_policies/faa_regulations/.

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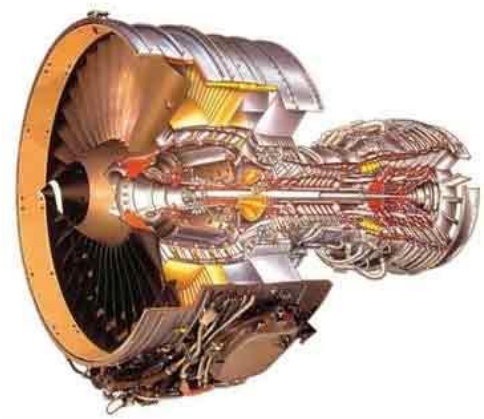
Capable, or Not?

Glenn Bolton
C.A.S.E. 1A Level III

As we know, the 1A standard directs that for vendors with limited ratings, our audits must include oversight of the capability List. The intent of this audit standard is to verify not only that a capability list exists, but that the items in work are in fact listed, and have the required documentation and tooling for accomplishment. A simple verification sampling of this can be accomplished by auditor's having the ability to reference the capabilities list during surveillance.

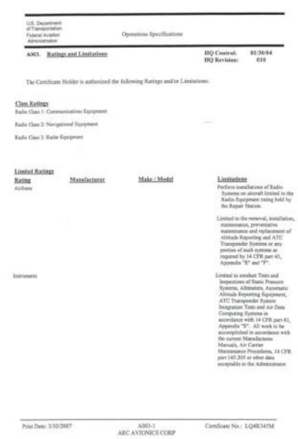


Recently an audit was accomplished where the auditor sampled items in work against the vendor's capabilities list and found three out of the five components were not properly listed. From the concerning initial sampling results, he immediately suspected a potentially larger issue. Diverting from the planned audit scope, he requested a print-out list of all RO's from three Air Carrier customers for the past 36-months. This resulted in several hundred line items, which were subsequently checked against the Capability List. The results concluded that for two of the Air Carriers, all the items were in fact listed correctly. However for the 3rd Air Carrier, twelve part numbers were not outlined in the capabilities list. Again, you may now wonder what action items to take regarding this significant findings.

After observing the issue, the auditor performed the following actions:

- The auditor requested the vendor to conduct their own evaluation immediately on all components to ensure compliance. This was done within 24hrs, and the Capability List was amended with these new part numbers; (Immediate mitigating action)
- The auditor issued a CAR identifying the discrepancy of numerous components being worked not listed on their capabilities.
- The auditor issued a second CAR to the vendor and faulted their internal audit program for failing to identify these concerns and for not controlling this process.
- The auditor performed registry action in the CASE Database.
- The vendor was placed on QA HOLD by the 3rd Air Carrier.

The point I am attempting to convey through this article, is the importance of bringing and then using the capability lists during surveillance. Had the auditor not had a copy with him, to reference during the audit, these significant findings may never have been discovered. I hope that each of us will take a moment to ensure enough attention is given validating what vendors are listing as capable of performing, and that they are only performing what there are capable of.



U.S. Department of Transportation
Federal Aviation Administration

Operations Specifications

A003. Ratings and Limitations

HQ Control: 01/30/04
HQ Revision: 010

The Certificate Holder is authorized the following Ratings and/or Limitations:

Class Ratings
Radio Class 1: Communications Equipment
Radio Class 2: Navigational Equipment
Radio Class 3: Radar Equipment

Limited Ratings

Rating	Manufacturer	Make / Model	Limitations
Airframe			Perform installations of Radio Systems on aircraft limited to the Radio Equipment rating held by the Repair Station.
			Limited to the removal, installation, maintenance, preventative maintenance and replacement of Altitude Reporting and ATC Transponder Systems or any portion of such systems as required by 14 CFR part 43, Appendix "E" and "F".
Instruments			Limited to conduct Tests and Inspections of Static Pressure Systems, Altimeters, Automatic Altitude Reporting Equipment, ATC Transponder System Integration Tests and Air Data Computing Systems in accordance with 14 CFR part 43, Appendix "E". All work to be accomplished in accordance with the current Manufactures Manuals, Air Carrier Maintenance Procedures, 14 CFR part 145.205 or other data acceptable to the Administrator.

Print Date: 3/30/2007 A003-1 Certificate No.: LQ4R345M
ARC AVIONICS CORP

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Did You Know –

The S&P Committee needs CACS-10's to be submitted 45 days prior to the Spring and Fall Meetings? (February 13th)

There are 7 Level IV's and 83* Level III Auditors?

Did you know that you have a 1 in 649,739 chance of being dealt a Royal Flush when playing poker?

*Number approximate

Dave Allison enjoying his past time golfing….He sunk this putt from about 20 feet out……For a double bogey.

Meet the Level IV

Robert Radawiec Jr.
C.A.S.E. 1A Level III

Within the C.A.S.E there is a group of individuals, seven to be exact that have made an extra commitment and become a Level IV auditors for the organization. Level IV's take on a significant amount of responsibility for the organization. Not only are these individual tasked with performing initial and recurrent evaluations of Level III auditors, they are also required to attend meetings and actively contribute to training sessions. When you add these contributions up, you understand why their time is so valuable. There are approximately 83 Level III auditors which means if split equally, each Level IV has the potential of performing 11 check rides a year!

In an effort to better acclimate the entire auditor group with these standup individuals, I created this section to "get to know" your level IV's. Speaking from experience, it only adds to the stressful situation of a check-ride when you have no idea of who your evaluator is!

Dave Allison pictured left, is currently one of the Level IV auditors within the organization. He grew up about two miles off the end of runway 26R in Atlanta, GA obviously with aviation flowing through his veins. He proudly graduated from the University of Georgia and immediately envisioned a position at Delta Airlines. He submitted his application on a Wednesday, interviewed on Friday, and started on the Ramp as Airport Customer Service the following Monday. 35 years later (October 6, 1980) he is still with Delta.

Through the years Dave served in many job titles. What eventually brought him into auditing was his handling of hazardous waste….interesting fit. That job that sounds less than to be desired actually proved to be the catalyst into TechOps. He took a position doing environmental audits of TechOps Line Stations which led to also doing Fuel audits. Ultimately in 2001 Dave started auditing vendors, parts pooling and code share audits for Delta.

Dave became affiliated with the C.A.S.E. organization in 2002 after Bert Myers passed his initial 1A Level III check-ride. After several years of auditing, Dave was ready for his next step, becoming a Level IV auditor. Initially the organization was soliciting for Level IV's due to a shortage which raised his attention. After consideration Dave realized not only would this help the C.A.S.E. organization, it would be an excellent challenge to him personally. Dave immediately began working on the requirements and ultimately was voted into Level IV status on October, 2008. He continued his contribution to the organization by being the Membership and Promotions Committee Chair and consistent instructor during training sessions.

Dave is an easy going guy that enjoys golf regularly and loves his Georgia Bulldogs. He is very personable and will spark a conversation effortlessly with anyone. When asked about what Dave most enjoys about auditing, he immediately mentioned the diversity of vendor audits he accomplishes. Nothing is ever the same week to week, from seat belts to landing gear, lavatories to engines. He very much enjoys the travel this job entails stating, "We (auditors) get to see the world".

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