

*The
Penetrant Professor
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ASTM MEETING NOTES

Our October 2009 issue of the PENETRANT PROFESSOR discussed the results of balloting on revisions to **ASTM E-1417**, and the fact that the revisions were not approved.

Committee E-07 met again in Fort Lauderdale during the week of January 25, 2010, and **ASTM E-1417** was again a hot topic. Looking at the subject in the large, the question was what to do about suggestions that the specification be aligned with current **NADCAP** check lists. Two problems were discussed with relation to this. The first problem is that some items on the **NADCAP** checklist are apparently not backed up with technical evidence, which is a requirement for **ASTM** specifications. The second problem is that many of the users of **ASTM E-1417** are not in the aerospace field. These users were not in favor of skewing the specification to the specific needs of the aerospace prime contractors. After a lot of discussion, the suggestion was made that perhaps a new specification, specific to either the aerospace prime contractors or to the aerospace engine manufacturers was required. A small group will puzzle this out and report at the next meeting. How such a document

would relate to **AMS-2647** would need to be addressed, since fewer specifications are preferable to more specifications

Negative responses to the ballot were also discussed, and one of them dealt with the subject of system performance. The present version of the specification requires that the system performance be checked by using a “**known defect standard**”. Many, if not most, companies rely upon a TAM panel for this purpose. There are conflicting opinions about the need for the system performance test and if it is made, the efficacy of the TAM panel. One opinion is that if the penetrant materials have been tested and found to be in compliance with the requirements of **E-1417**, it is not necessary to make the system performance test. The logic for this is that when using the present wording, if the system performance test fails, then one tests the penetrant materials. Other factors, such as the system operating parameters or the cleanliness of the TAM panel are not specifically required to be checked to determine the source of the unsatisfactory system performance.



HAPPY ST. PATRICK'S DAY

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St. Patrick's Day MADNESS

2010



A second opinion is that the TAM panel is not able to separate unsatisfactory performance from satisfactory performance. This point was debated hotly, but anecdotal evidence suggests strongly that the use of the panel **rarely identifies poor system performance.**

The question that plagues Committee E-07 and the industry is that **if** it is really necessary to test the system performance, what kind of test piece should be used. Current specifications usually allow the system operator to choose what he or she wants, but most operators simply rely upon the TAM panel. Other test pieces have been suggested, and some European specifications require the use of cracked chrome panels. At one point in the past, **Frank Vicki** was promoting a specific kind of tapered cracked chrome panel, but it was not found up to the job. In theory, it is perhaps intuitive to use a defective part that one is inspecting, and which has a defect of the kind that one needs to find. To test the system performance, one would run the known defective part through the line, and if the defect

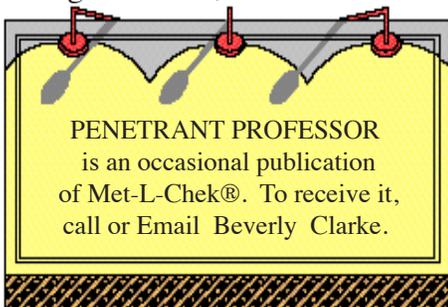
were found, the system performance would be certified. While this might sound good, it becomes difficult to use when the line is inspecting many different parts, each with its own type of defect. This subject is not an easy one to deal with, and it shows no sign of dying. The use of the TAM panel is pretty well entrenched, and is not likely to go away. However, even if one agrees that it is not capable of discerning poor system performance, one must agree that its use is essentially **harmless**. This is because if it does indicate that the system is not performing properly, it simply refers one to make tests of the penetrant materials

Back to the subject of what happened in the meeting with regard to progress on **ASTM E-1417**. **Brian MacCracken**, of Pratt & Whitney, volunteered to take the present wording and to try to address and integrate the negative ballot comments into it. The result will show up at the next meeting Stay tuned.

The new **LED UV-A** lights were discussed at the Committee E-07 meeting, and various of these lights have been found to **not** produce light at the required wave length of **365 nm**. Also, some of them emit **too much white light** to meet the requirements for inspection. However, since these lights are very convenient to use, it was decided to allow them for in-process inspection, but to not allow them for final inspection.

DOUBLE SECRET PROBATION!

Yes, "Animal House" fans the dean is back and what you thought you knew, is not what really is. What does this mean? Well, in the February 2010 Penprof we had quoted a reliable source and advised that those of you working to Pratt & Whitney's FPM, had until 2012 to get any changes in place. The truth is you have until **July 8, 2011**, so don't get caught short.

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