



# 2014 General Meeting Certification-Qualification Team Breakout Session (Jan 28)

## **CAAFI® Certification-Qualification team reviews survey results and identifies needed improvements to ASTM D4054 alternative fuel approval process.**

The CAAFI Certification-Qualification (CQ) Team held a breakout session on January 28, 2014, Day 1 of the 2014 CAAFI General Meeting. During the 3-hour session, the CQ Team members participated in a discussion on the ASTM D4054 process. This included a status overview of fuel pathways engaged in that process, concepts to organize and fund the process, the results of a survey on the process, and ideas on how to improve the process. The agenda stimulated engaging dialogue among team members and they concluded the session by identifying key issues and recommendations for addressing those issues.

### **Session Highlights:**

The session began with an introduction from the CQ Team Chair Mark Rumizen that provided an overview of the current pathways and the D4054 approval process. It was noted that there are many pathways currently competing for the engine and aircraft OEM resources necessary to support the D4054 approval process. A representative from each of the currently active pathways then provided a one-slide status presentation that included a process flow diagram and a timeline of the progress of the D4054 approval process. The timelines revealed in most cases that the process can take several years to complete.

In the second half of the session, George Wilson, Southwest Research Institute, described a concept for coordination and management of the OEM review of the test and analysis data compiled in ASTM research reports, and Mark Rumizen summarized currently available FAA R&D funding mechanisms. The above presentations were intended to provide background information to support discussions on how to improve the D4054 process.

The session continued with a review of the OEM and producer survey results led by Mark Rumizen, George Wilson and Dr. Tim Edwards (from the U.S. Air Force). A survey with D4054-related questions had been previously distributed to key OEM participants in the ASTM aviation fuels subcommittee. A second and similar survey was also distributed to key producers who have participated in the D4054 process. The survey results enabled the team to quickly focus on key issues regarding the approval process. This stimulated a lively discussion that provided revealing insights into the inner workings of both the OEM and producer organizations.

## **Outcomes:**

The group identified three key issues along with recommendations for addressing each issue.

First, there is a lack of centralized management and coordination of the ASTM D4054 process for alternative fuel certification projects. This creates conflicting demands for OEM resources to review data and perform tests. It also makes business planning difficult for the alternative fuel producers due to uncertain schedules and costs. The team recommended that a single focal point be established as a D4054 facilitator. This focal point would track and monitor the progress of D4054 task forces, coordinate data review and fuel testing by the OEMs, and establish schedules and prioritize projects. It was noted that this would require a source of funding to support.

Next, funding of OEM support of alternative fuel D4054 certification projects was identified as a key issue. OEM support is required for component/rig/engine testing and for review of ASTM Research Reports. Funding will also be required to support the implementation of D4054 process improvements and to develop advanced analytical methods that could replace expensive engine testing. It was noted that U.S. Air Force funding support of alternative jet fuels has been drastically reduced. The team noted that it should be recognized that the OEMs cannot fund the entire support effort and recommended that the government consider funding D4054 support through its alternative fuel R&D programs. It was also recommended that airlines, the military, and the FAA communicate customer support of D4054 alternative fuel projects to the OEM management.

Finally, the length and cost of the ASTM D4054 process was identified as a key issue that needed to be addressed. The process typically requires extensive fuel property and engine and aircraft testing. Experience has shown that the same tests may be repeated for new fuels regardless of compositional similarities with previous fuel approvals. To address this, the team recommended that a staged gate approach be established; in which test requirements are scaled back to initially approve a smaller blend percentage. The blend percentage could then be increased as production and service experience are gained over time.

## **Next Steps:**

Key members of the CAAFI CQ team are currently working within their respective organizations to address the identified issues. In the coming months, several aviation fuel industry meetings and conferences are scheduled that will allow further coordination on the issues and recommendations. In addition, a CAAFI CQ session has been scheduled in conjunction with the Coordinating Research Council (CRC) aviation fuel meeting on April 28, 2014, in Alexandria, VA.

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