

March 13, 2006

Subject: TECHNICAL BULLETIN - IP 1583 Monitor Specification Update

Recent incidents in the aviation industry have indicated Fuel System Icing Inhibitor (FSII) adversely affects the water removal properties of filter monitors and has also been implicated in media migration.

Facet realized the difficulty presented by FSII on monitor performance testing. The API/IP 1583 specification does not include FSII as a test additive however, knowing that monitors could be used with FSII, our 3rd and 4th Edition monitors were designed to withstand not only qualification testing with FSII but also the much more severe 50:50 FSII: Water slug tests. Instead of ignoring that FSII was an approved fuel additive (ASTM D-1655), Facet showed due diligence by fielding monitors that not only were qualified to the API/IP 1583 specification but also passed supplemental testing with FSII.

Facet can not unconditionally guarantee performance of monitors in fuel with FSII for the following reasons: FSII is not an approved monitor specification additive; we can not control the field conditions of proper additive injection or the condition of the neat FSII in operational storage, and can not assure that the proper sump draining procedures are in place.

Facet advises caution with using monitors in fuel containing FSII. As stated in API/IP 1583 4th Edition, paragraph 1.1 SCOPE, "Operators using such additives in aviation fuels are recommended to ensure for themselves the performance capabilities of filtration equipment ...". If your company policy allows for the use of monitors in fuel with FSII, be sure that the FSII is clean and dry, proportionally injected upstream of a pump into fuel that is also clean and dry. As additional precautionary measure, limit the maximum corrected differential pressure to 15 psi with FSII.

The following is a summary of recent monitor events:

The USAF identified problems with monitors in JP-8 fuel and had aircraft incidents related to media migration of CMC, an absorbent not present in Facet monitors.

A subsequent U. S. Army investigation revealed evidence of SAP (absorbent material in monitors produced by all manufacturers) in on-board aircraft filters however, without any incident of filter by-pass or any other problems.

Commercial aircraft testing is underway to see if migration occurs with Jet A and JetA1 without fuel additives.

American Petroleum Institute co-sponsor for the API/IP 1583 withdrew support for the specification in December 2005. Reasons for the action by the API are currently being clarified.

The Energy Institute (formerly Institute of Petroleum) originator of the monitor specification does not support the API position and has stated that they will not be withdrawing this specification.

Numerous major oil companies have taken a similar position as ATA Specification 103, Standard for Jet Fuel Quality Control at Airports, Revision 2004.1 that has the following caution statement about the use of monitors:

"CAUTION: FULL FLOW MONITORS SHOULD NOT BE USED WITH FUELS CONTAINING FUEL SYSTEM ICING INHIBITORS (FSII). THE WATER REMOVAL PERFORMANCE OF FULL FLOW MONITORS MAY BE REDUCED WITH FUEL CONTAINING FSII. "

Facet as a member of the EI Aviation Committee and Filtration Sub-Committee will continue to work in resolving monitor issues, and keep you informed as information becomes available.