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**DETERMINATION OF THE EFFECTS OF FUEL SYSTEM ICING INHIBITOR (FSII)
CONTAINING DI-EGME ON IP 1583 4TH EDITION WATER
ABSORBENT MONITORS**

Gary B. Bessee¹ and Jeremy Tucker²

¹Manager, Southwest Research Institute, 6220 Culebra Road, San Antonio, TX 78238, USA

²Aviation Fuels Technology Manager, Defence Fuels Group, West Moors, Wimborne, Dorset,
BH21 6QS UK

The objective of this program was to determine the filtration effects using di-EGME in F-34 aviation fuel.

Tests were performed using with the 50-ppm water and water slug sections of API/IP 1583 4th Edition. The test stand was configured to operate in a single pass mode. API/IP 1583 4th Edition 2" water absorbent monitors were evaluated to determine the water holding capacities using F-34 fuel with and without fuel system icing inhibitor (FSII). Di-EGME was used as the fuel system icing inhibitor for all of the evaluations. The water injection flow rates were used based on the monitors operating at rated flow: 20, 40, 50, and 100 ppm.

Water challenges ranging from 20 ppm to 100 ppm were used with both test fuels to determine any differences when the monitors were exposed to FSII (Di-EGME). All the analytical methods (free water by Aqua-glo, turbidity, and particle counting) agreed that the fuel containing FSII has detrimental attributes to water removal efficiency. Similar results were found when performing the water slug tests.

This work augments earlier results produced by DCSEA under contract to the Energy Institute (2000) in which testing with a 3rd Edition 1583 Velcon 2" water absorbent monitor demonstrated unacceptable performance in F-34 containing di-EGME.