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**MEDIA MIGRATION FROM AVIATION FUEL FILTER MONITORS**

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A laboratory-scale test apparatus, the Aviation Fuel Filtration Rig (AFFR), has been constructed and a test procedure developed to better understand media migration from aviation fuel filter monitor elements. Research with 2” filter monitors presented at the 2007 IASH meeting supported the hypothesis that super absorbent polymer (SAP) contamination originates primarily from manufacturing debris. In this next phase of research, 6”, in-to-out configuration filter monitors from three different manufacturers are evaluated. The effect of revised manufacturing techniques on the propensity of these filter monitors to release SAP into jet fuel is explored.

In order to establish future industry limits, it has become apparent that a more quantitative method of assessing SAP contamination is required. The original method employed a visual count of SAP particles stained blue via ion exchange with copper sulfate solution. The new method developed by ExxonMobil removes the copper from the SAP with a dilute mineral acid wash and quantifies the resulting concentration using a commercial induction-coupled plasma (ICP) device. (SAP types vary in their ion exchange capacity so standard curves are used to convert the copper concentration to the mass of a given SAP.) This methodology has been successfully demonstrated in the AFFR.