EI Research report

Laboratory testing of electronic bulk water detectors for aviation fuelling

energy institute

EI RESEARCH REPORT

LABORATORY TESTING OF ELECTRONIC BULK WATER DETECTORS FOR AVIATION FUELLING

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FOREWORD

This report has been prepared from text and data provided by P. Rugen and J. Dunbar (Shell Global Solutions) and K. Petersen (Southwest Research Institute [SwRI]) under contract to the EI. These data, and a draft version of this report, were reviewed by members of the EI Aviation Committee.

The report documents work undertaken to assess whether simple electronic probes could detect bulk water in jet fuel during aircraft fuelling and provide a 'go, no-go' response. This work offers an alternative approach to fuel condition monitoring to that previously investigated by the EI that involved the quantification of particulate matter and/or free water. For further information on that approach see EI 1570 *Handbook on electronic sensors for the detection of particulate matter and/or free water during aircraft refuelling* and EI 1598 *Design, functional requirements and laboratory testing protocols for electronic sensors to monitor free water and/or particulate matter in aviation fuel*, 2nd edition.

The information contained in this report will be used to develop a new EI specification for electronic bulk water detectors, enabling minimum requirements for future models to be communicated between manufacturers and users, and to provide a consistent approach to their laboratory test rig assessment.

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