

Joint Industry Action update: EI progress

IATA Fuel Forum London
May 2018



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Chair EI Aviation Fuel Filtration Committee**



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EI progress – Overview since Nov 2017

Publications

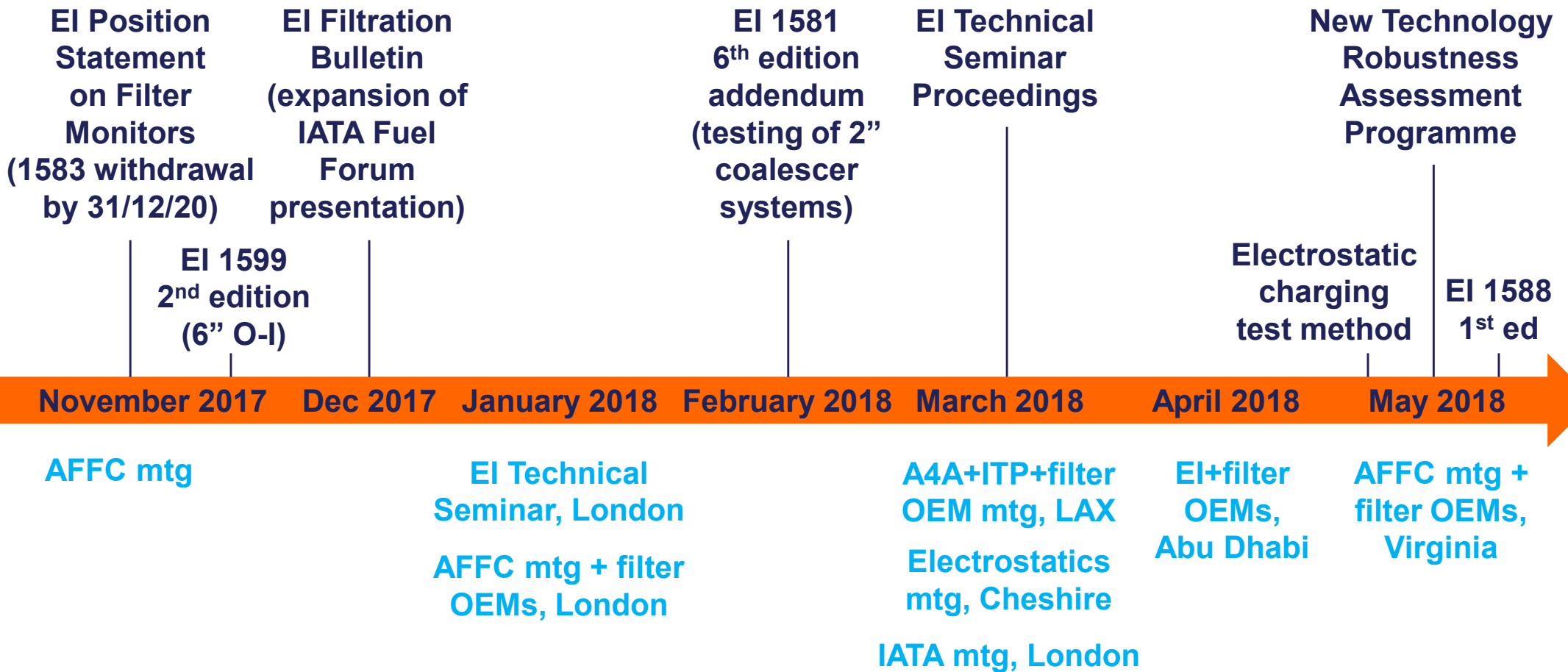
Eight documents
issued

EI qualification test witnessing

Six filter/sensor
qualification
tests

Robustness
Assessment
Programme for
monitor vessel
retrofit
technologies

EI progress – transition from filter monitor use - publications



EI documents issued

- **EI Position Statement on Filter Monitors, (27/11/17). EI 1583 will be withdrawn by 31 Dec 2020**
- **EI 1599 dirt defence filters, 2nd ed (30/11/17). Includes 6” in-to-out flow format**
- **EI Filtration Bulletin (1/12/17). Expansion of information presented to IATA Fuel Forum, Vancouver**
- **EI 1581 6th ed addendum for testing 2” FWS systems (5/02/18)**
- **Technical Seminar Proceedings (9/03/18)**



EI 1599

Laboratory tests and minimum performance levels for aviation fuel dirt defence filters

**2nd edition
November 2017**



EI documents issued

- **Draft report of electrostatic charging test method development (3/05/18), for AFFC and OEM review**
- **Final Robustness Assessment Programme (11/05/18). Finalises feedback to 3 previous versions**
- **EI 1588 specification for water barrier filters (31/05/18)**



EI 1588

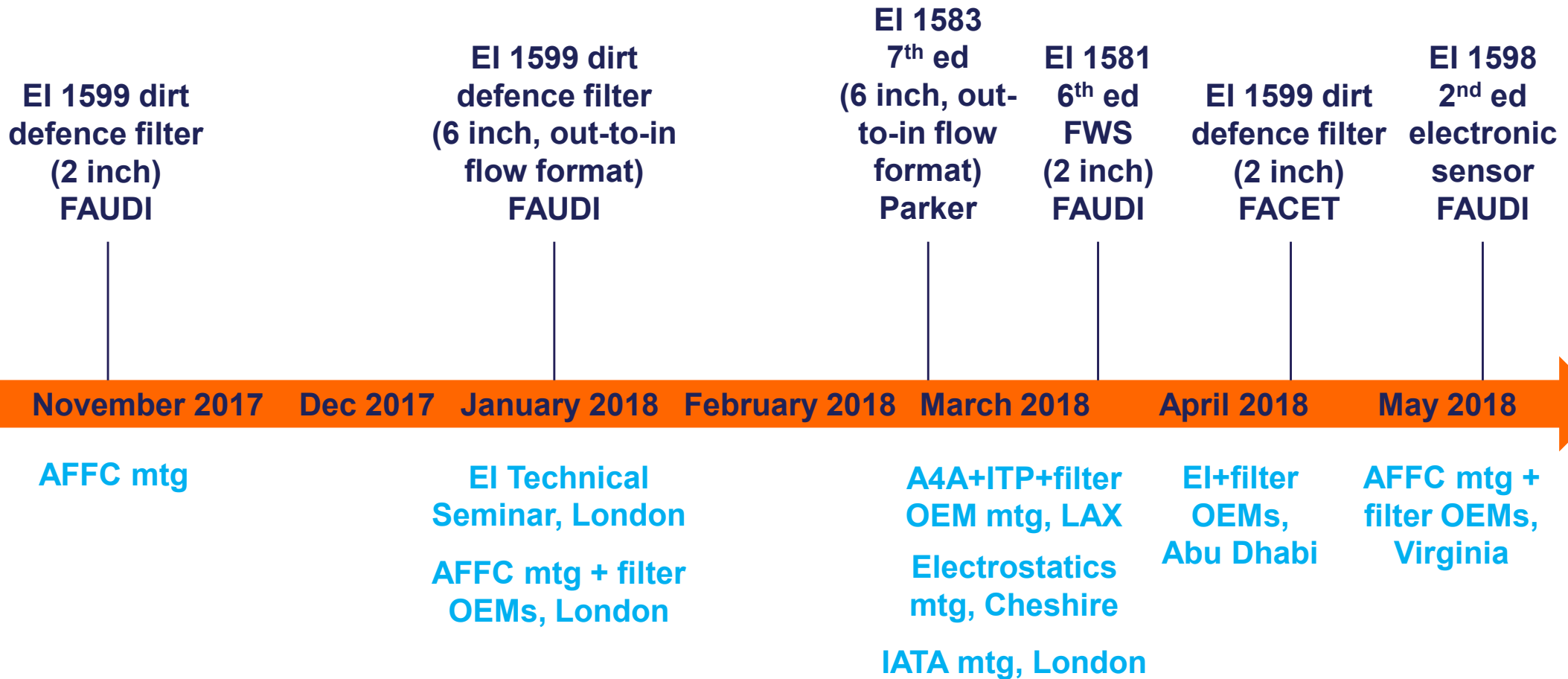
Laboratory tests and minimum performance levels for aviation fuel water barrier filters

1st edition

May 2018



EI progress – transition from filter monitor use – qual test witnessing



Qualification tests witnessed by EI (AFFC review of reports)



- **FAUDI dirt defence filter (2"), 1-3/11/17
(accepted 30/11/17)**
- **FAUDI dirt defence filter (6" out-to-in flow
format), 8-11/01/18 (accepted 7/03/18)**
- **Parker ACO filter monitor (6" out-to-in flow
format), 6-7/03/18 (accepted 29/03/18)**
- **FAUDI filter/water separator (2" coalescers,
4" separators, Cat C, Type S-M), 19-20/03/18**
- **FACET dirt defence filter (2"), 25-27/04/18**
- **FAUDI 1598 electronic sensor, 15-16/05/18**

Implementation of monitor replacement technology



Development follows usual EI committee process and EI Qualification Test Witnessing Scheme

EI committee confirms technology proof of concept and develops EI specification

Filter OEM undertakes Qualification Testing to EI specification

Robustness Assessment Programme

Laboratory tests defined by EI committee (includes A4A, CAAC, CSA, IATA, JIG and filter OEMs)

One-off laboratory assessments by filter OEMs, witnessed by EI

EI oversees field conditioning of filters with rapid high fuel throughput. Conditioned filters sent to filter OEM for lab assessment

One-off prolonged exposure to multiple fuels (c1 million litres per element) using a fuel conditioning rig/test stand (not ITP)

Output from robustness assessment programme is EI committee statement that the technology is suitable for into-plane field trials (or that further EI specification or filter OEM product development is required)

New Technology Robustness Assessment Programme



- **Initially targeting 50 mm diameter elements**
- **Production batch of 400 manufactured**
- **Test filters randomly selected by EI witness**
- **Stage 1 = 20 laboratory single element tests and 1 full scale**
 - Water barriers = 19 tests
 - Dirt defence filters = 4 tests
 - Combination dirt defence +1598 sensor = 14 tests
- **All tests to be witnessed by an EI witness**
- **Expected duration 4-6 weeks**

New Technology Robustness Assessment Programme



- **Stage 2 testing - expose water barrier elements to rapid high-volume fuel throughput (c1 M litres per element) then contamination removal performance testing at filter OEM**
 - 50ppm water removal test (x5)
 - Water slug test (x5)
 - End cap testing to point of failure
- **Expected duration – up to 3 months**

New Technology Robustness Assessment Programme



- **Programme issued to filter manufacturers to progress their testing, 11 May**
- **Facet and FAUDI laboratory testing of dirt defence filters and electronic sensors expected shortly**
- **Parker laboratory testing of water barrier filters expected 3Q 2018**
- **EI AFFC statement of suitability for field trial expected within 6 months of commencement of filter OEM testing**

Energy Institute update



For any further information see

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www.energypublishing.org

or contact

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A decorative graphic consisting of three overlapping circles: a large orange circle on the left, a dark blue circle on the top right, and a light blue circle on the bottom right. The text is overlaid on the dark blue circle.

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develop and
disseminate
knowledge,
skills and good
practice