Aviation Committee Update

Martin Hunnybun –
Head of Good Practice,
Fuels & Fuel Handling

Nic Mason – Equipment
Sub-Committee Chair,
Technical Director
Q8 Aviation

May 2025

Overview

- **Who we are**
- **Recent aviation fuel handling resources**
  - 1533 quality assurance requirements for synthetic blending components/fuel
  - 1590 microfilters
  - 1587 single cartridge filtration units
- **Some current projects**
  - EI/JIG Standard 1530
  - EI 1584 (hydrant pit valves and couplers)
- **Key take aways**

Technical + Innovation

energy institute

We're stronger + together

We are the independent custodians of technical and innovation expertise for the global energy sector

We are the memory and heart of our industry

Technical + Innovation

2024 activity

energy institute

Original Research
technical studies
investigations
equipment testing

Technical publications
good practice,
standards, equipment
specifications, test
methods

OEM engagement
technical development,
innovation

The year in numbers

150 stakeholder organisations collaborating with our members

619 technical committee meetings held in the year (**520** online)

1,900 technical specialists inputting to our work

72 technical resources published

130,000 separate users of Toolbox safety app across **180** countries

22,000 publications downloaded worldwide

1700 attendees at **40** EI-hosted technical events

100 presentations on EI technical content at stakeholder events

Funding partners

Technical Liaison Partners

energy institute

Airlines for America
We Connect the World

中国民航
CAAC

IATA

JIG

NATA

DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

Publication

Animation

Other output

Aviation Committee
Dan Kadlecek
(ExxonMobil)
2025-26

1540 Design, construction, commissioning, maintenance & testing aviation fuelling facilities
Ad hoc research reports (area classification, bonding, conductivity, hydrant emergency shutdown systems, hydrant pit lid loading)

Filtration/sensors
Paul Wells
(ExxonMobil)

1550/70 handbooks
1581/82 FWS
1587 single filters
1588 water barriers
1589 compatibility
1590 microfilters
1592 bulk water detectors
1596 vessels
1598 water sensors
1599 dirt defence

Filter DP

Qualification witnessing

Equipment
Nic Mason
(Q8Aviation)

1522 hose accessories
1529 hoses
1566 biocide injection units
1576 coupler lift assist devices
1584 couplers, pit valves

Hydrants
Arthur Mitchell
(Air BP)

1560 hydrant operation
1594 pressure testing with water

Maintaining fuel cleanliness in an airport hydrant

Operations
Ben Harries
(Air BP)

1538 FSII
1541 internal coatings
1542 identification
1545 defuelling
1597 preventing misfuelling
HM20 meter proving

Misfuelling prevention

Handling FSII/DEF

Fuel Quality
Anthony Kitson-Smith
(VITOL Aviation)

1530 fuel quality upstream of airport
1533 semi-synthetic jet fuel
1535 multi-product pipeline additive approval

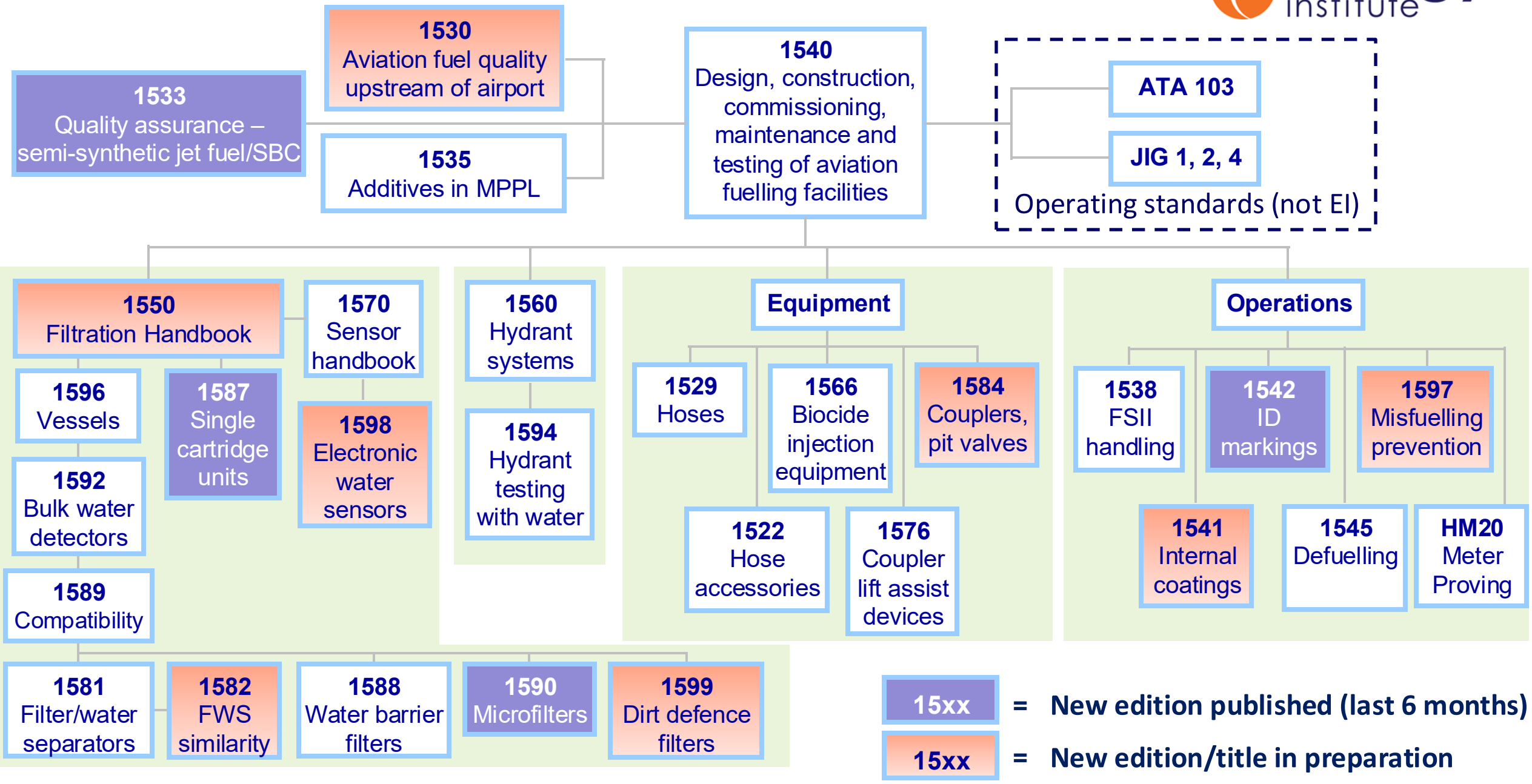
SAF/1533

1535 additive list

Sustainability
John Thurston
(WFS)

- Research report: Reducing GHG emissions associated with aircraft fuelling
- Sustainability clause for filter specifications

Aviation fuel handling portfolio



EI 1533 QA for semi-synthetic jet fuel

New content:

- Alignment with ASTM D7566
- Reference to GB6537 (Chinese #3)
- Detail on SBC settling times, testing static stock, soak testing new facilities
- Details of change of grade for SBC road tankers/rail tank cars
- Annex with example forms (COQ/RT/RC)
- Detail for SAF blending considerations
- Updated information on co-processing

EI 1533 QA for semi-synthetic jet fuel

Issues for future content:

- **Facilities for handling SBCs and semi-synthetic jet fuel – level of segregation?**
- **Clarification on document requirements – certification and recertification**
- **New approaches to blending?**
- **Optimising point of blending**
- **Evolution of co-processing**
- **Fully synthetic jet fuel**

….and any of your feedback

EI 1590 Microfilters

Inclusion of sustainability requirements

Clarifies that dirt removal performance of an 'EI 1590 qualified' microfilter is applicable in any (ASTM D7566) semi-synthetic jet fuel

Includes 125 mm (5 in.) nominal diameter element

Clarifies that one micron rating covers all microfilters 'up to 1µm'

- **Microfilters qualified to previous editions of 1590 automatically qualify to 4th edition**

EI 1590

Laboratory tests and minimum performance levels for aviation fuel microfilters

4th edition
May 2025

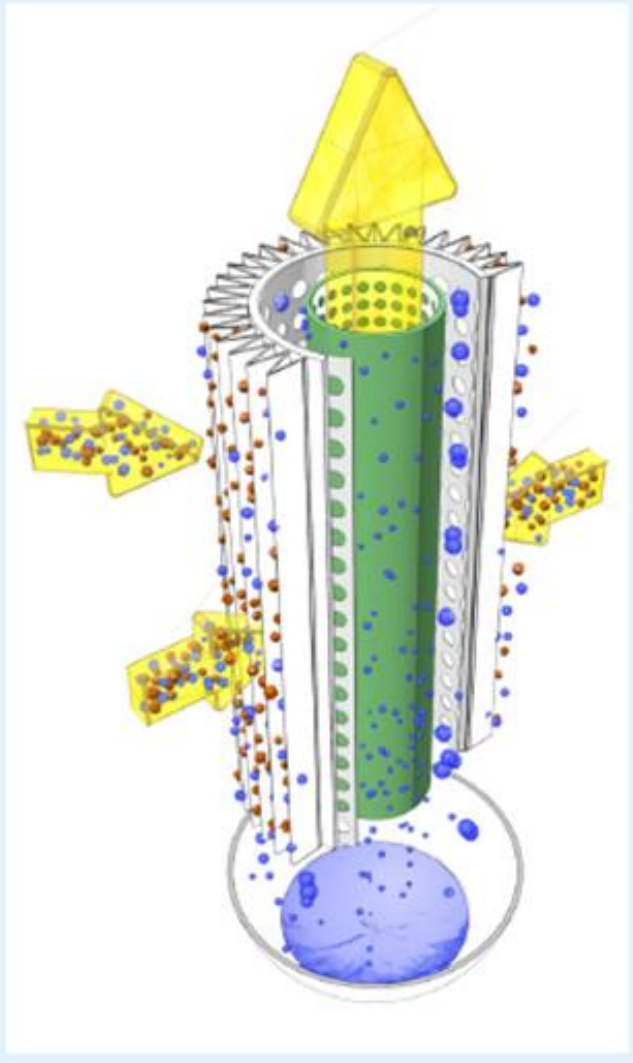
EI 1587 Single cartridge filtration units

- Describes four filter technology types
- Recommendations for filter selection, installations, operation
- Specification for single cartridge housing

EI 1587

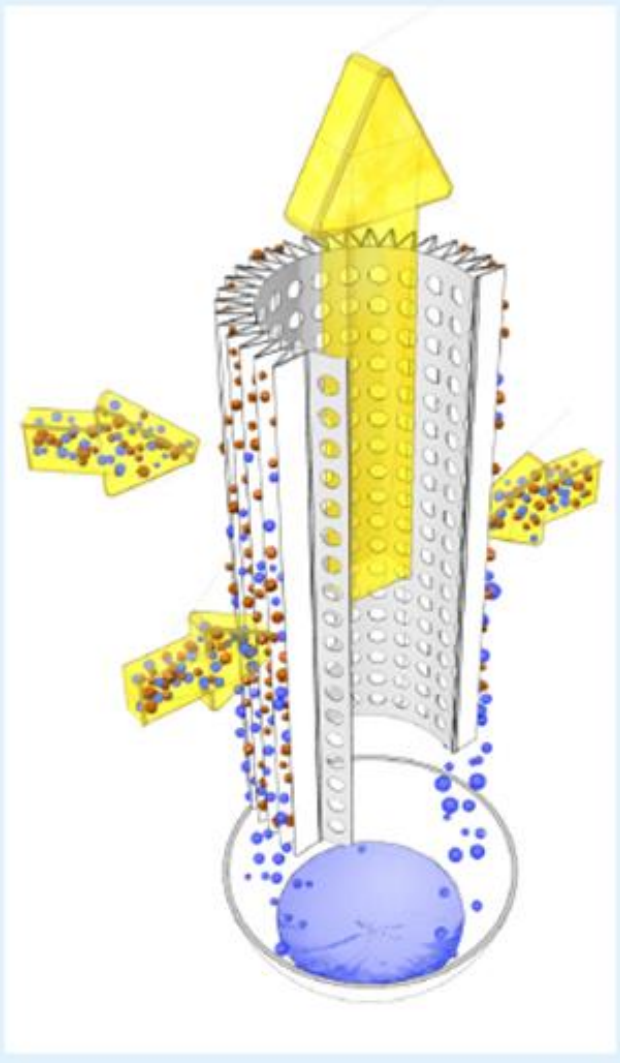
Recommended practice for single cartridge filtration units for aviation fuel

1st edition
February 2025



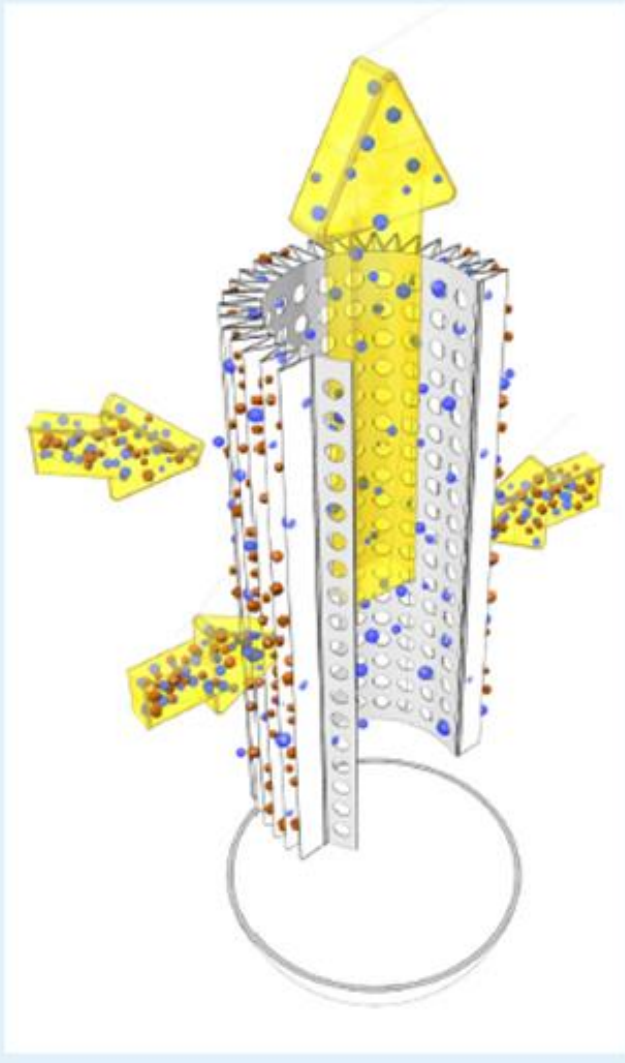
Coalescer/separator cartridge

Representation of a coalescer/separator showing both dirt and water being prevented from passing downstream, and water collecting in the sump from where it has to be drained.



Water barrier filter cartridge

Representation of a water barrier filter showing both dirt and water being prevented from passing downstream, and water collecting in the sump from where it has to be drained.



Microfilter cartridge or dirt defence filter cartridge

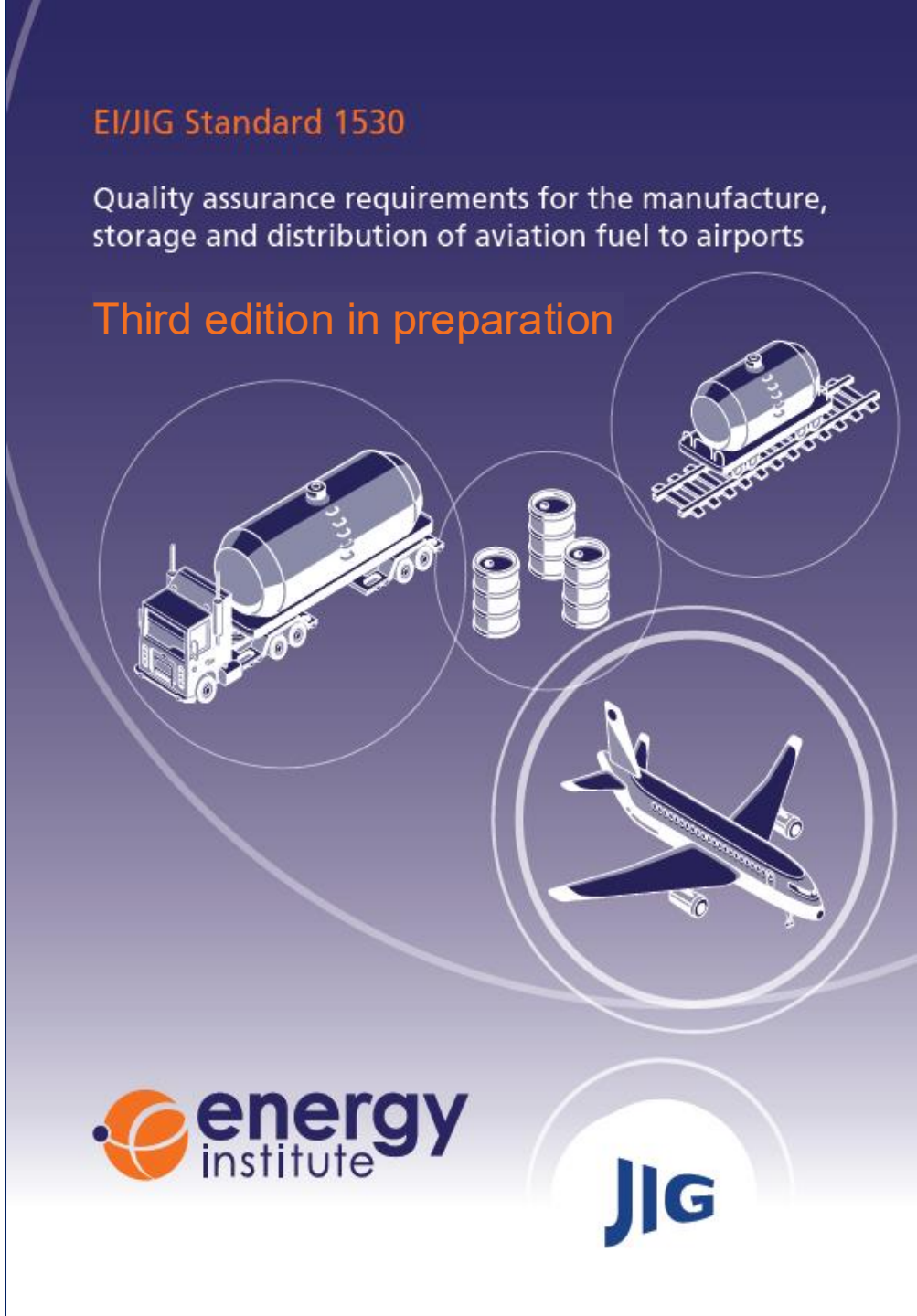
Representation of a microfilter or dirt defence filter in which only dirt is prevented from passing downstream, free water in the fuel passing through the cartridge.

Overview

- **Some current projects**
  - EI/JIG Standard 1530
  - EI 1584 (hydrant pit valves and couplers)

EI/JIG Standard 1530

- New content on transloading
- Clarification of difference between a ‘Tank Release Certificate’ and a ‘Transport System Release Certificate’
- ALL pipework, dead-legs and low points should be removed or shall be equipped with a drain point and flushed quarterly
- More clarification on recertification. Can do a CoA but variability limits shall be used
- Target release of draft – summer 2025



EI 1584 hydrant pit valves and couplers

American Petroleum Institute

API 1584 (1st ed, 1975)

4-inch 150lb inlet flange

12 inches high

4-inch outlet adaptor

THE INSTITUTE OF PETROLEUM

IP Aviation hydrant pit systems recommended arrangements (1980)

6-inch 300lb inlet flange

4-inch outlet adaptor

16-18 inches high

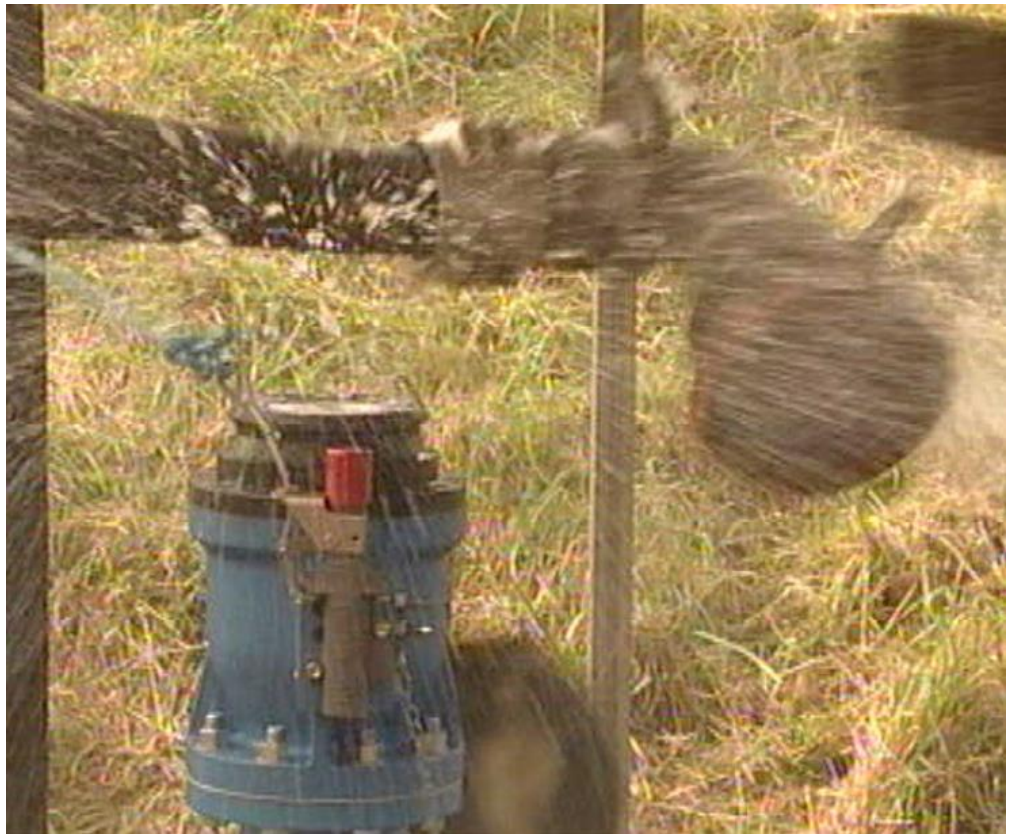
> tolerance limiting interchangeability

independent means to shut-off valve

API/IP 1584 hydrant pit valves and couplers

- Two titles merged in 1999
- Either 12 or 16 inches high
- Ability to replace API adaptor or pilot assembly with hydrant pressure applied
- Included air, dual (air/lanyard) and manual pilot controls
- Introduces steady load and pit coupler knock-off tests
- Pit valve 4-inch outlet required to close if coupler ejected under full flow conditions

EI 1584 hydrant pit valves and couplers



EI 1584 hydrant pit valves and couplers

- Simplify terminology – basic hydrant coupler or pressure regulating coupler
- Include fuel control pressure for hydrant pit valves
- Hydrant pit valve pilot device override primary intended as a diagnostic when determining “hot hydrant valve” cause. Not recommended for isolation for maintenance purposes
- Removal of hydrant pit valve reverse flow option

EI 1584 hydrant pit valves and couplers

- Removal of option for a secondary breakaway feature on the hydrant pit valve – obsolete with breakaway coupler
- Added a sense port option on hydrant pit valves for potential future condition monitoring devices – e.g. ‘Pit Sentry’
- Breakaway testing clarified and harmonised with requirements for CLADS – include attached section of intake hose along with a castor dolly
- Push/pull permitted for steady load test

EI 1584 hydrant pit valves and couplers

- Publication of EI 1584 Fifth Edition expected later in 2025
- Equipment qualified to 1584 4th edition will remain qualified to 1584 5th edition
- Please provide any user experience to feed into future develop of this important industry standard

Key takeaways

- Aviation fuel handling specialists from c25 energy organisations collaborate with equipment OEMs to maintain the content of EI resources
- Use EI 1533 for quality assurance discussions on SBCs/SAF
- Use EI 1587 for single cartridge filtration units
- Provide input to EI/JIG Standard 1530 (stakeholder review announced later this year via LinkedIn)
- We welcome your feedback on any equipment issues

A not-for-profit registered charity, which exists to develop and disseminate knowledge, skills and good practice

Thank you for your attention

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