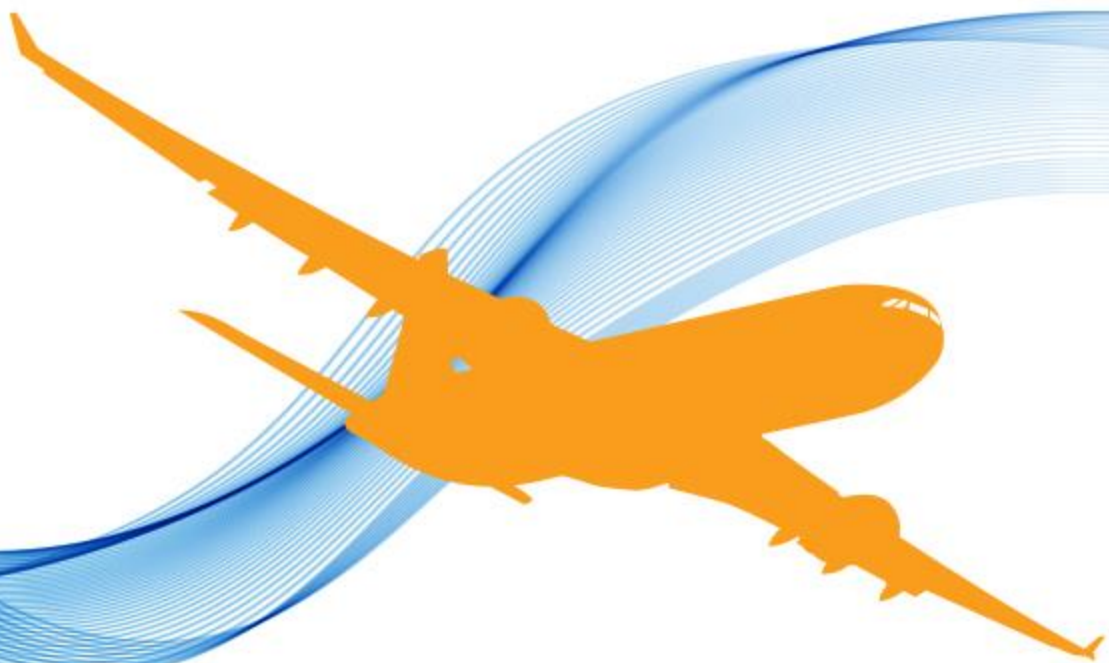




Aviation Fuel Forum

8-10 November 2016 Hanoi, Vietnam



Session 6

Industry Reports



Shell Aviation

Energy Institute update

IATA Fuel Forum Hanoi
November 2016

A photograph showing the underside of a white aircraft wing with several fuel tanks visible. Two dark blue fuel hoses are connected to the wing. The image is partially obscured by a dark blue curved graphic element.

**Anthony Kitson-Smith (VITOL Aviation)
Chair EI Aviation Committee**

www.energyinst.org

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Join us:
[Energy Institute](https://www.linkedin.com/company/energy-institute)

Presentation overview



Recent Publications

El 1535 additives for MPP use
El 1541 internal coatings

Main

Q4 2016 activity
1597 misfuelling prevention
1530 supply chain fuel quality

Technical engagement/ outreach –
Russia, China

2016 work in progress

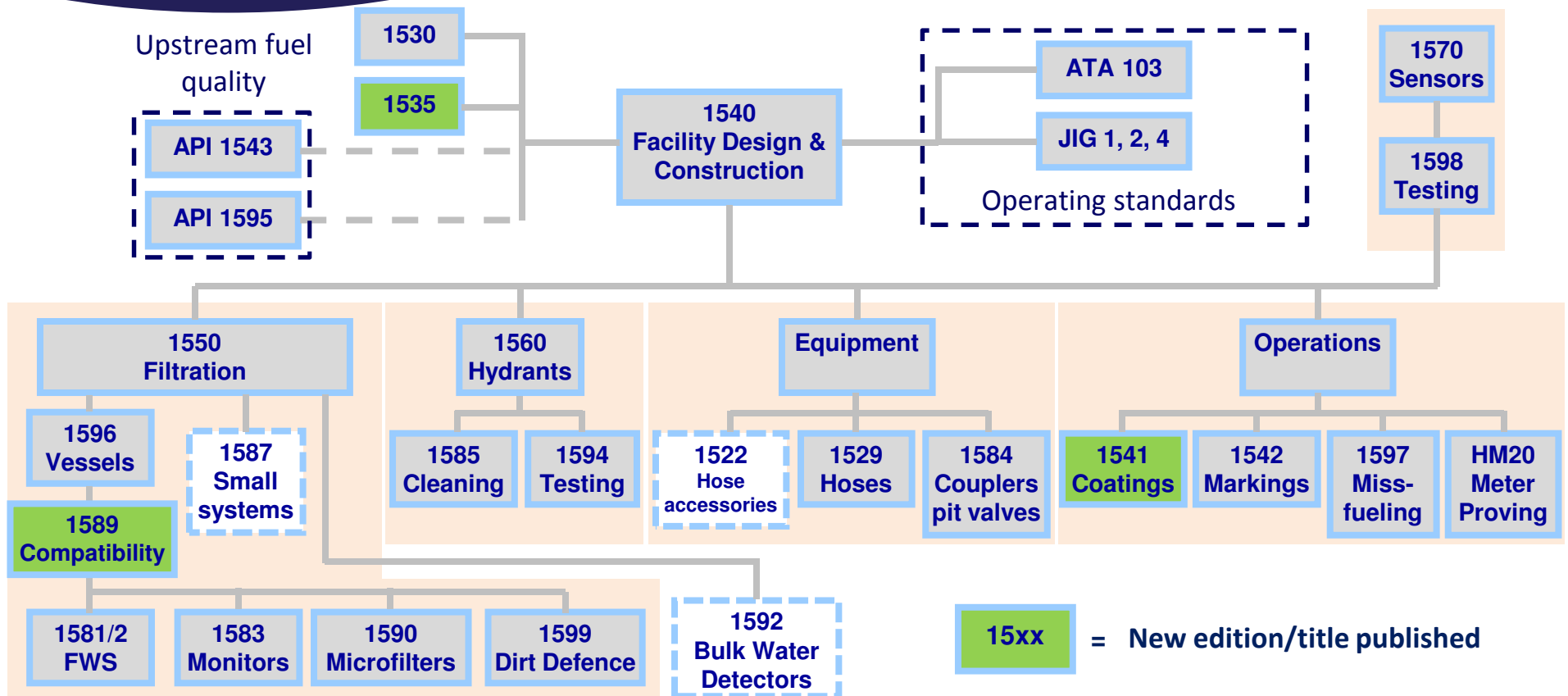
Eight research/ standards development topics

Main

Q4 2016 activity
1581 Filter/water separators
1584 hydrant pit valves/couplers

Disseminating knowledge –
El Aviation Collection,
Future delivery

Fuel handling portfolio – new titles/editions since May 2016



EI 1535, 3rd edition
Published October 2016

- **Provides tests required to demonstrate that additive containing fuels do not adversely affect jet fuel in MPP**
- **Includes lab screening and assessment of impact on coalescence via rig testing**
- **Management of change requirement for enhanced sampling on first use**
- **EI is maintaining list of additives evaluated in accordance with EI 1535, see www.energyinst.org/1535**



EI 1535

Minimum criteria to determine acceptability of additives for use in multi-product pipelines co-transporting jet fuel
3rd edition

October 2016



EI 1541, 2nd edition
Published October 2016

- **Provides performance requirements and manufacturer's test procedures for internal protective coating systems**
- **Conformance with 1541 is mandated for coating systems for:**
 - **new filter vessels (by EI 1596 2nd ed);**
 - **hydrant pipe (by EI 1540);**
 - **storage tanks (by EI 1540), and**
 - **rail tank cars and road tankers (by EI/JIG 1530)**



EI 1541

**Requirements for
internal coating systems
used in aviation fuel
handling systems**

2nd edition

October 2016



EI 1541, 2nd edition
Published October 2016

- Requires a coating to be qualified to either **DSTAN 80-97** or **MIL-PRF-23236D** and then meet additional requirements (some coating suppliers have not covered both aspects)
- New content includes option for testing for coatings intended to be used in systems with **FSII**
- Coatings qualified to 1st edition do not require requalification



EI 1541

**Requirements for
internal coating systems
used in aviation fuel
handling systems**

2nd edition

October 2016



Overview of key Q4 2016 delivery

Main

Q4 2016 activity

1581 Filter/water
separators

1584 hydrant pit
valves/couplers

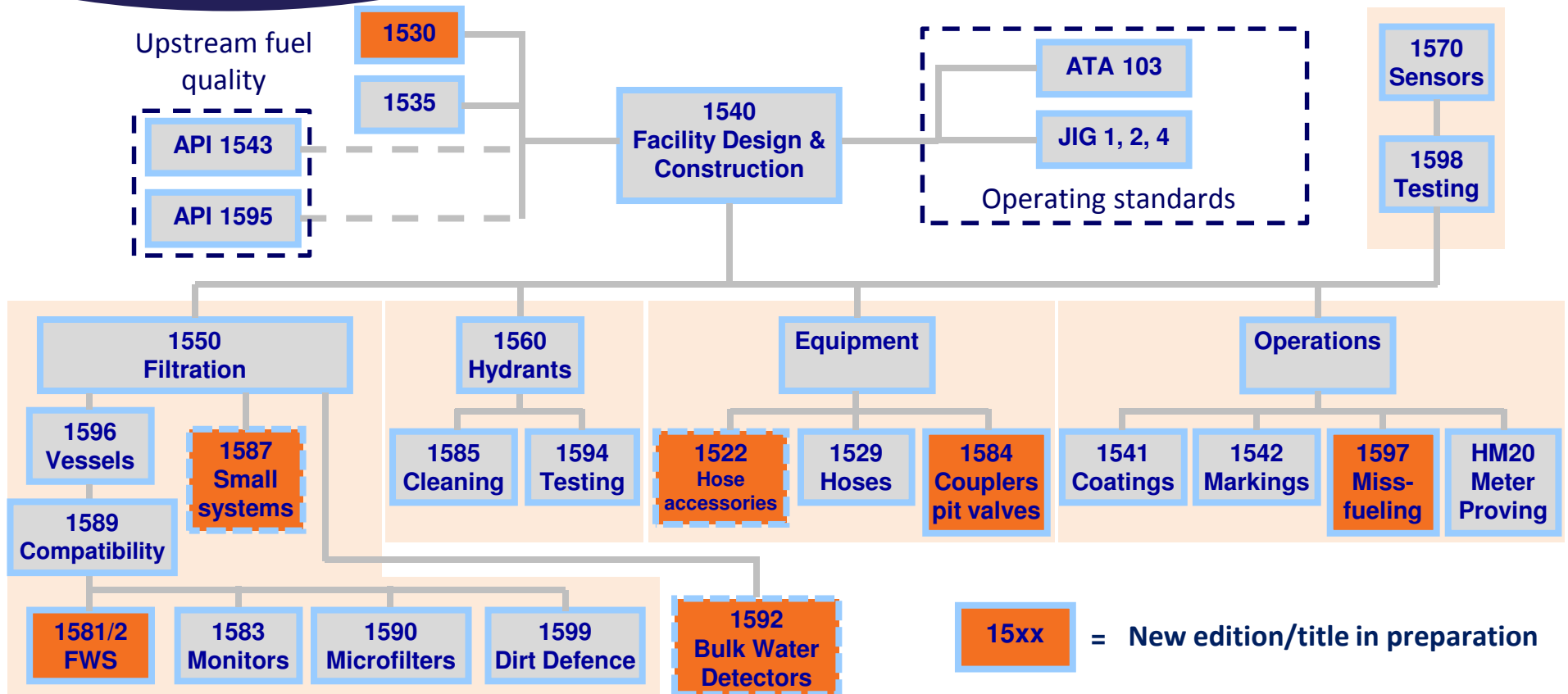
Main

Q4 2016 activity

1597 misfuelling
prevention

1530 supply chain
fuel quality

Fuel handling portfolio – titles/editions currently being prepared



**EI 1581 filter/water
separators, 6th edition
in preparation**



- **Final draft of 6th edition circulated for stakeholder review (22 Jul – 5 Sept)**
- **Thank you for your feedback, which has enhanced content**
- **Aviation Committee ballot for approval to publish (5 Oct – 2 Nov)**
- **Key changes include:**
 - A new low dirt/low water type of system for mobile applications (Type S-M)
 - Elements with 50 or 100 mm nominal diameter

EI 1584, 4th edition in preparation



- Provides first article tests/requirements for hydrant pit valves and hydrant pit couplers



EI 1584

**Four inch hydrant
system components and
arrangements**

4th edition

Expected, Dec 2016



EI 1584, 4th edition in preparation

- **Revisions include:**
 - **enhanced production quality assurance**
 - **pit valve wear limits**
 - **Greater emphasis on requirement for universal interchangeability of components**
- **Thanks to CLA-VAL, EATON, Meggitt, ZODIAC Aerospace and Raycon Industries for their input**
- **1584 3rd ed-qualified pit valves/couplers will not require requalification**



EI 1584

**Four inch hydrant
system components and
arrangements**

4th edition

Expected, Dec 2016



EI 1597 – preparation of 2nd edition

- **Highlights equipment and procedures required to avoid misfuelling**
- **Significant feedback from stakeholder review – thanks for your input**
- **Recommendations for handling FSII removed. Topic to be covered in more detail in a separate publication, EI 1538**
- **Aviation Committee ballot, 6 Oct-3 Nov**
- **Availability will be widely communicated to GA and pilots associations**



EI 1597

**Procedures for overwing
fuelling to ensure
delivery of correct fuel
grade to aircraft**

2nd edition

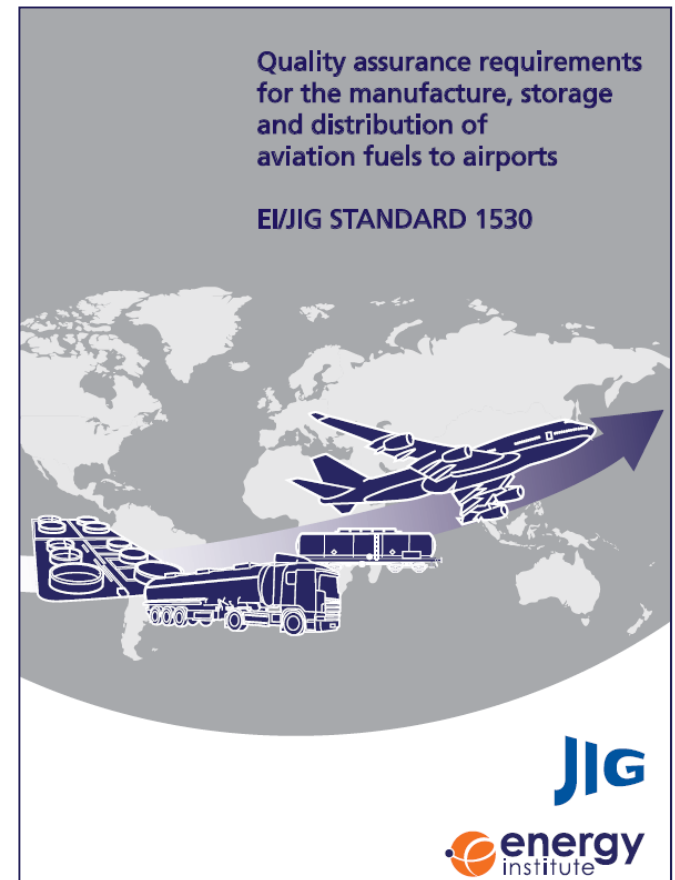
Expected Dec 2016

FREE TO DOWNLOAD



EI/JIG Standard 1530 Preparation of 2nd edition

- EI has proactively sought operator experience gained from implementing requirements of 1st edition
- US stakeholder engagement meeting, Houston, 30 September
- Thank you to everyone who has submitted feedback
- c.600 items have been collated for review
- Revision activity likely to take much of 2017



EI/JIG Standard 1530 Preparation of 2nd edition



* Liaison with JIG Operations Committee

** Liaison with JIG Product Quality Committee

- BP
- CEPS/NATO
- Chevron
- CLH
- ENI
- ExxonMobil
- Kuwait Aviation
- Phillips 66
- Saudi Aramco
- SGS
- Shell
- Tesoro
- TOTAL
- VITOL

Kevin Bower

Patrick Bosmans

Joe Sorena, David Dahlin

Beatriz Galindo, Ana María Diviú

Arianna Malpicci

Keith Camp

Nic Mason*

Enrico Lodrigueza, Ryan Manor

Kevin Braddell, Ayed Shammari

Dick Taylor, Marie Stackpoole

Anja Heckert, Karl Heinz Arnecke, Rob Midgley**

John Rhode

Anne Gandubert/Francois Dumez

Anthony Kitson-Smith/Andy Clifford

Overview of outreach efforts since May



Technical
engagement/
outreach –
Russia,
China

Technical engagement/ outreach

- **Correspondence with NPO Agregat, Moscow, from November 2015**
- **EI visit, August 2016**
- **NPO Agregat manufactures extensive range of aviation fuel handling equipment (inc filter vessels, filter/water separator elements and microfilter elements)**
- **Company has joined EI filter qualification test witnessing scheme**



Technical engagement/ outreach

- **EI Aviation Committee representatives met with representatives of the Civil Aviation Administration of China, at EI on 20 May**
- **Details of EI work on filtration and filter qualification testing was provided**
- **Since confirmed to be two Chinese filter manufacturers providing products for domestic use in China**
- **Understood that CAAC will construct its own filter qualification test rig in future**



Summary of other key work in progress



2016 work
in progress
Eight research/
standards
development
topics

Other work in progress - research

- Developing generic examples of hazardous area classification for aircraft fuelling
- Measuring the maximum electrostatic charge density of fuel being delivered to aircraft (joint with CRC)
- Reviewing aviation fuel hydrant emergency shutdown systems
- Assessing flammability of delivery hose accessories (wraps, beads)

EI Research Reports:

- Hazardous area classification
- Electrostatic charge density of fuel
- Hydrant emergency shutdown systems

Expected issue in 2017

Other work in progress – publications

- **EI 1522 Minimum requirements for aviation fuelling hose accessories, 1st ed**
- **EI 1587 Specifications and qualification procedures for filtration systems utilising a single element mounting position, 1st ed**
- **EI 1592 Design, functional requirements and laboratory testing protocols for electronic bulk water detectors for use in aviation fuelling, 1st ed**
- **Technical review of DP trend analysis – an input to EI 1550 3rd ed**

EI 15xx:

- **Bulk water detectors**
- **Small filtration systems**
- **Hose accessories (wraps, beads)**
- **DP trend analysis**

Expected issue in 2017

Overview of knowledge dissemination



Disseminating
knowledge –
EI Aviation
Collection,
Future
delivery

Disseminating knowledge – EI Aviation Collection

- An 'Aviation Collection' has been added to EI website
- Provides navigation aid to all aviation fuel/fuel handling materials provided by EI
- Intended to provide greater visibility of resources available to industry
- See

<https://knowledge.energyinst.org/collections>

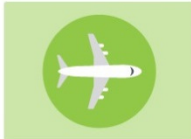







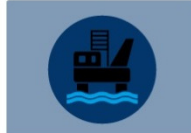


EI KNOWLEDGE SERVICE

Energy Matrix Collections eLibrary Magazines Policy Search Advanced

Home » Collections

Collections

| | | |
|---|---|---|
| Aviation Fuel Collection  | Datasheets  | Energy Management  |
| Offshore Wind  | Online Tools  | Refining  |
| Road Fuels  | Shale Gas  | Working Offshore  |

Disseminating knowledge – EI Aviation Collection

Home » Collections » Aviation Fuel Collection

Aviation Fuel Collection

Welcome to the EI's Aviation Fuel Collection which contains further reading, technical publications, training opportunities and contacts relating to aviation fuel.

In addition, you can view the simulation below from ZHAW which shows all commercial flights worldwide that occur in a 24 hour time period.



Home » Energy Matrix » Search results

Energy Matrix Search Results

You are searching for: Content Type: Published Resources

| Online Resources (3) | Multimedia (1) | Contacts and Networks (47) | Published Resources (280) | Training and Events (7) | News and Abstracts (1148) | Periodic |
|--|----------------|----------------------------|---------------------------|-----------------------------------|---------------------------|----------|
| Title | | | | Authors | | |
| EI 1589 Materials compatibility testing for aviation fuel filter elements and fuel sensing devices | | | | | | 2016-8 |
| Conversion factors used in the petroleum industry (DSI06) | | | | Energy Institute | | 2016-4-6 |
| Consumption/production - UK: UK deliveries for inland consumption of petroleum products (DSS24) | | | | Energy Institute | | 2015-11 |
| Glossary of petroleum industry terms (DSI01) | | | | Energy Institute | | 2015-8 |
| Glossary of oil trading terms (DSI01a) | | | | Energy Institute | | 2015-7 |
| EI research report: Laboratory testing of electronic bulk water detectors for aviation fuelling | | | | Energy Institute Energy Institute | | 2015 |
| Petroleum products - Determination of the Freezing Point of Aviation Fuels - manual method | | | | | | 2015 |
| Determination of the freezing point of aviation fuels à Automatic laser method | | | | | | 2015 |
| Freezing Point of Aviation Turbine Fuels - Automatic Phase Transition Method | | | | | | 2015 |

Energy Matrix



Further reading from the EI Knowledge Service

Transport Fuels Technology abstracts

Technical guidance



Aviation technical programme

Aviation fuel handling

EI research report: OEM approvals for 100 mg/kg FAME in jet fuel

EI 1535 Additive listing

Analytical test methods: Defence standard 91-091

Analytical test methods: Defence standard 91-090

Training



Aviation jet fuel

EI 1550 aviation fuel filtration

Contacts



EI member consultants

Organisations

Disseminating knowledge – future delivery

Proposals
to develop
'free to view'
training
animations via
internet

Offering
published
content in more
languages – e.g
Spanish,
Russian

Good
Practice
messages via
posters,
infographics -
less text?

Training
materials,
e.g. 1550,
made available as
online modules

All
resources
to be tablet/
cell phone
accessible

Energy Institute update



For any further information see

www.energyinst.org

www.energypublishing.org

or contact

mhunnybun@energyinst.org

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

A decorative graphic on the right side of the slide consists of three overlapping circles: a dark blue circle at the top, an orange circle on the left, and a light blue circle at the bottom. The text is overlaid on the dark blue circle.



IATA Fuel Quality Pool

November 2016

Marco Schaefers

Chairman IFQP

KLM Royal Dutch Airlines



IATA Fuel Quality Pool
QUALITY • SAFETY • EXCELLENCE



Content

- IATA Fuel Quality Pool Status Update
- IFQP Highlights May.2016 - Now
- IFQP Findings and Observations
- Outsourcing Quality Control
- IFQP – 2017





IFQP Status Update

- IFQP is growing, currently 168 members and new membership applications waiting for Approval.
- 189 trained and qualified inspectors (Level 1, 2 and 3).
- 1600 airports currently inspected (~1778 airports in our database).
- 8 Trainings (basic and refresh) in 2016.
- 8 Trainings (basic and refresh) scheduled for 2017.
- Training facilities are: ATH, BKK, BOG, BRU and OVB.
- 810 reports published, average findings per report at 6.6.





IFQP Highlights May 2016 – Now.

- IFQP Airport fuel quality and safety checklist, version 9:
 - Translated in Chinese, French, Japanese, Russian and Spanish.
- Meeting with IATA/JIG and A4A to seek common ground to ensure US domestic requirements are also reflected in future global standard.
- Refresh training sequence changed from 3 to 2 years
- Audit guidelines for inspectors incorporated in Quality Manual





IFQP Highlights May 2016 – Now.

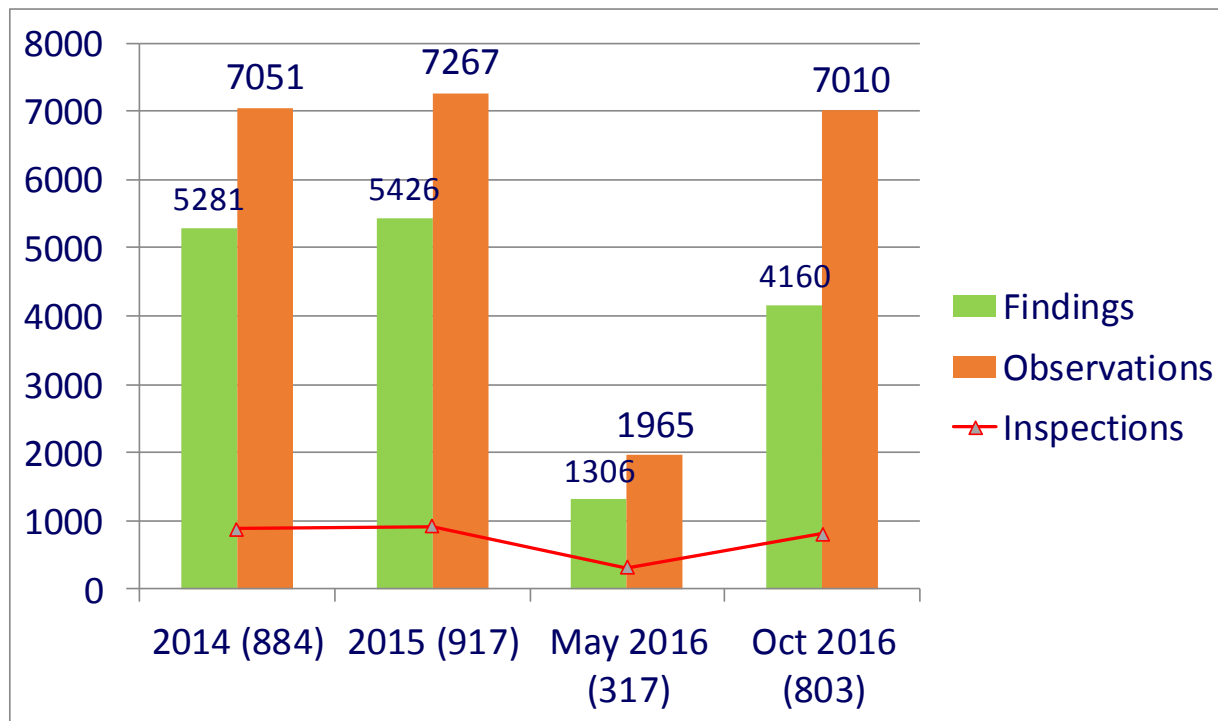
- Visit to Fuel facility at CDG to observe Electronic Test Rig.
 - Conform to JIG procedures
 - Fully automatic system
 - Possibility to record test results
 - Only one operator needed
 - Accurate results for valve closing time pressure, flow rate and Temperature.



IATA Fuel Quality Pool
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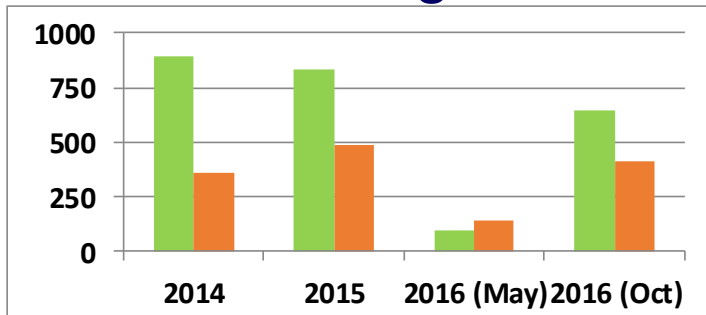
IFQP # of Findings / Observations



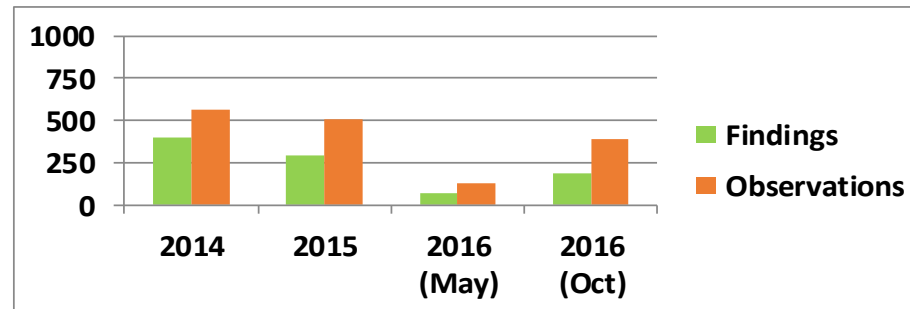


IFQP # of Findings / Observations

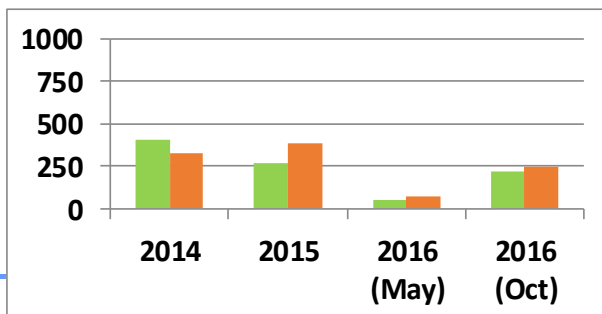
Africa Region



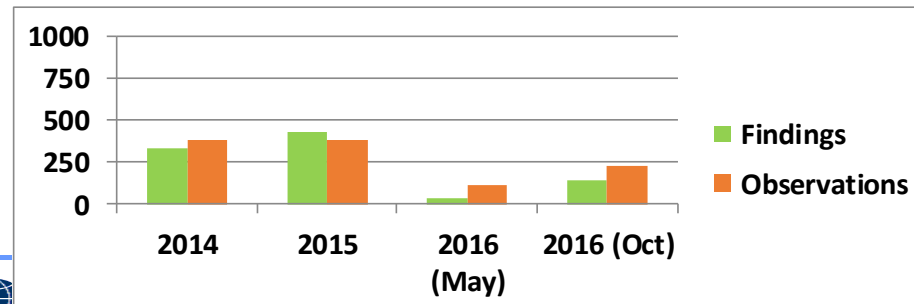
Asia Region



Australia/NZ



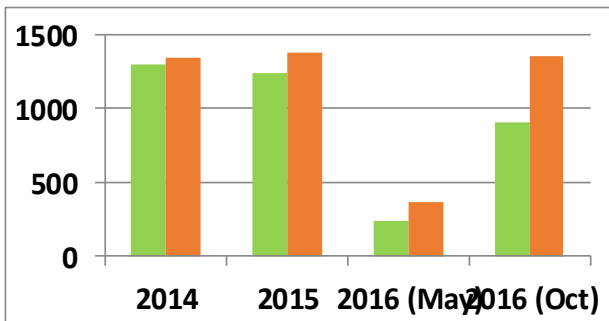
Central America / Caribbean



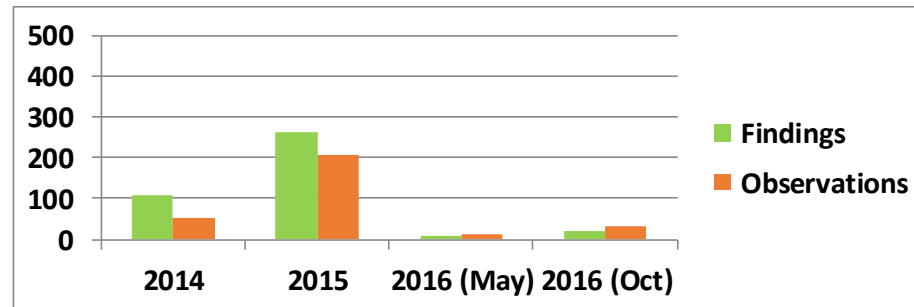


IFQP # of Findings / Observations

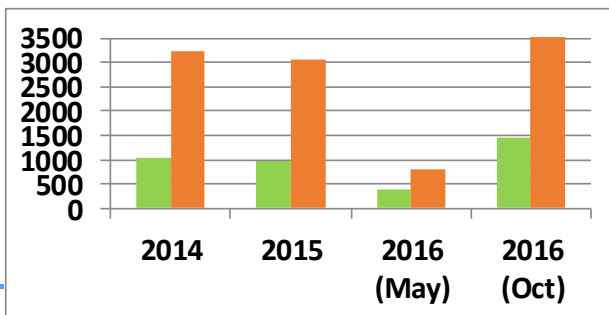
Europe



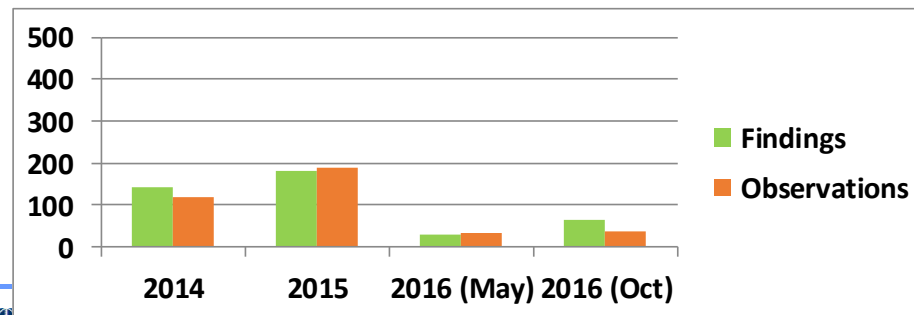
Middle East



North America



South America





IFQP # of Findings / Observations

Main Findings are on the following subjects:

- Quality & Safety Management:
 - SMS → Pro-active Risk Assessments, Trend analysis.
 - Tool/Test Calibration Program
- Airport Storage:
 - Receipt Documentation.
 - Tank design, inspections
- Fuellers:
 - Filtration, Interlock override
 - Records → Daily inspection records, dP, Pressure Gauges.



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Outsourcing Quality Control

- A process shall be in place to ensure a contract or agreement is executed with external service providers that conduct outsourced operations or maintenance.
- Such contract or agreement shall identify measurable specifications that can be monitored to ensure requirements that affect the safety of operations.

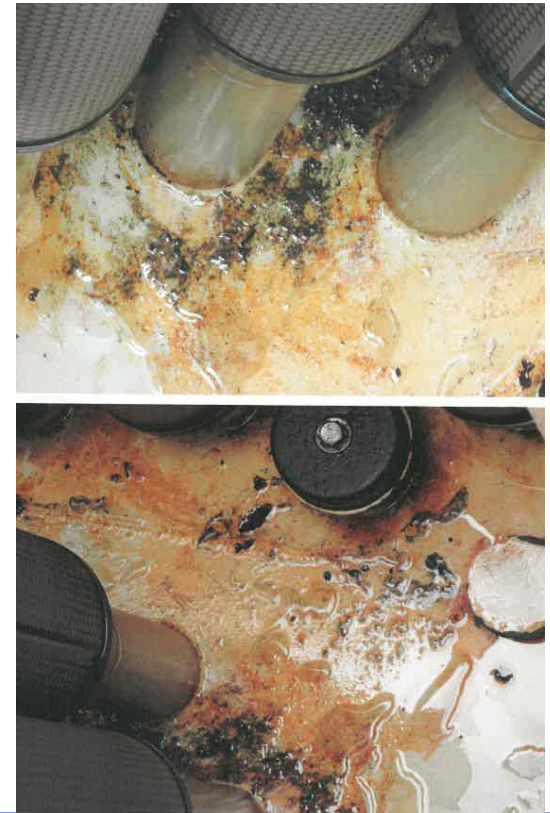
**Above Quality Control process is mandatory for Airlines.
Fuel Suppliers who outsourced for e.g. maintenance shall have the
same Quality Control process!!!!**



IATA Fuel Quality Pool
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IFQP – 2017

- Following missions planned:
 - Cuba Mission in Jan. → serious concerns about the quality of the Cuban Fuel Facilities, due to:
 - IFQP inspection results
 - Old equipment
 - Monopolist as fuel supplier
- Inspection of new Hanoi refinery together with JIG.
- Follow-up inspection of Seoul Airport.





IFQP – 2017

- Continuous monitoring of airports with:
 - Quality issues → ICN, LOS
 - New facilities → at airport LED
 - New into-plane agents → at airports SVX, ROV, KJA, SVO or LED
 - New airports → Ashkhabad, Beijing, Chengdu or Qingdao
- Further contribution to IATA/JIG Global Standard
- Future structure of IFQP
 - Formation of Project team
 - Identify restructuring options





Questions?



IATA Fuel Quality Pool
QUALITY • SAFETY • EXCELLENCE



On behalf of



IATA Fuel Quality Pool
QUALITY • SAFETY • EXCELLENCE

Thank you

<http://www.iata.org//ifqp>



IATA Fuel Quality Pool
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Welcome Καλώς ήλθατε Bienvenidos Willkommen Добро пожаловать
Swagatam 欢迎 Bienvenue Selamat Datang Καλώς ήλθατε Benvindos Welcome
Benvindos chào mừng Willkommen Добро пожаловать Swagatam 欢迎
Willkommen Selamat Datang Bienvenue Welcome Καλώς ήλθατε Добро
позжаловатъ Benvindos Swagatam 欢迎 Bienvenidos Welcome Selamat Datang

Tony Conway
JIG General Manager



JIG 2016 Highlights

- Over 1000 copies of new JIG Standards sold
- New Committee structure implemented with more representation from JIG Members
- Training in Athens, Rio and Abu Dhabi
 - 25 training attendees
 - 16 JIG member companies involved
- Workshops in Rome, Capetown and London - over 140 attendees
- New JIG Inspections policy developed
- New JIG Inspectors policy developed
- 2 LFI packs
- 10 Bulletins developed
- JIG Member survey
- HSSE Standard published



HSSE Committee



Publication of JIG HSSEMS Standard
Enhancement of Guidelines issued 2010
Updated to align to accepted industry good practice
Strengthens focus on areas of weakness identified by both HSSE and Technical audits
Entities operating to JIG Standards expected to meet the requirements

Ongoing publication of JIG LFI Packs

- Learning From Incidents Toolbox Meeting Pack
- Issued quarterly
- promote a healthy, informal dialogue on safety between operators and management
- Available to all free of charge via public section of JIG website

Drive Away
LFI 2016-9

Incident Summary
A Drive Away (while still connected to an aircraft) incident occurred after an Operator refuelled an Airbus 319. The damage was limited due to the break away aircraft coupling functioning as designed.

Causes

- The Operator did not follow the correct procedure before driving off after completing the fuelling operation – Walk Around was not carried out as required, and he did not look up and notice that the fuelling hose was still connected to the aircraft.
- The interlock (a key barrier) failed to operate as the air line had melted as a result of being in contact with a hot hydraulic line.

Toolbox Discussion Points

- What barriers (both human and hardware) do you have in place to manage the drive away risk?
- How do you make sure your barriers are effective and working as they should? What checks are in place?
- Discuss what Human Factors could have contributed to this incident e.g. Attitudes; Behaviours; Complacency; Fatigue; Competency
- How do you ensure that your Operators perform an effective 360 walkaround which includes a look up to the fuelling hose to aircraft connection point? JIG 1.6.5.1(n)
- Is your training sufficient to achieve the desired human behaviours
- When developing a new vehicle design do your management of change procedures require the consideration of lessons learnt from previous incidents?

Can you think of a similar situation that you have experienced or witnessed and did you report it?

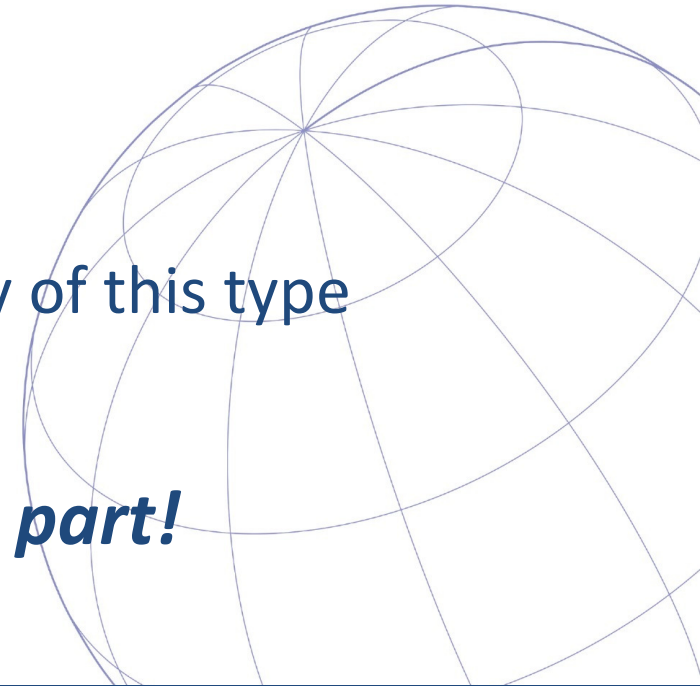
21/10/2016 Joint Inspection Group Limited - Shared HSSE Incidents 6

JIG Survey 2016



- Great response rate
- Conducted June 2016
- All Members invited to participate
- 54% response rate – very high for a survey of this type

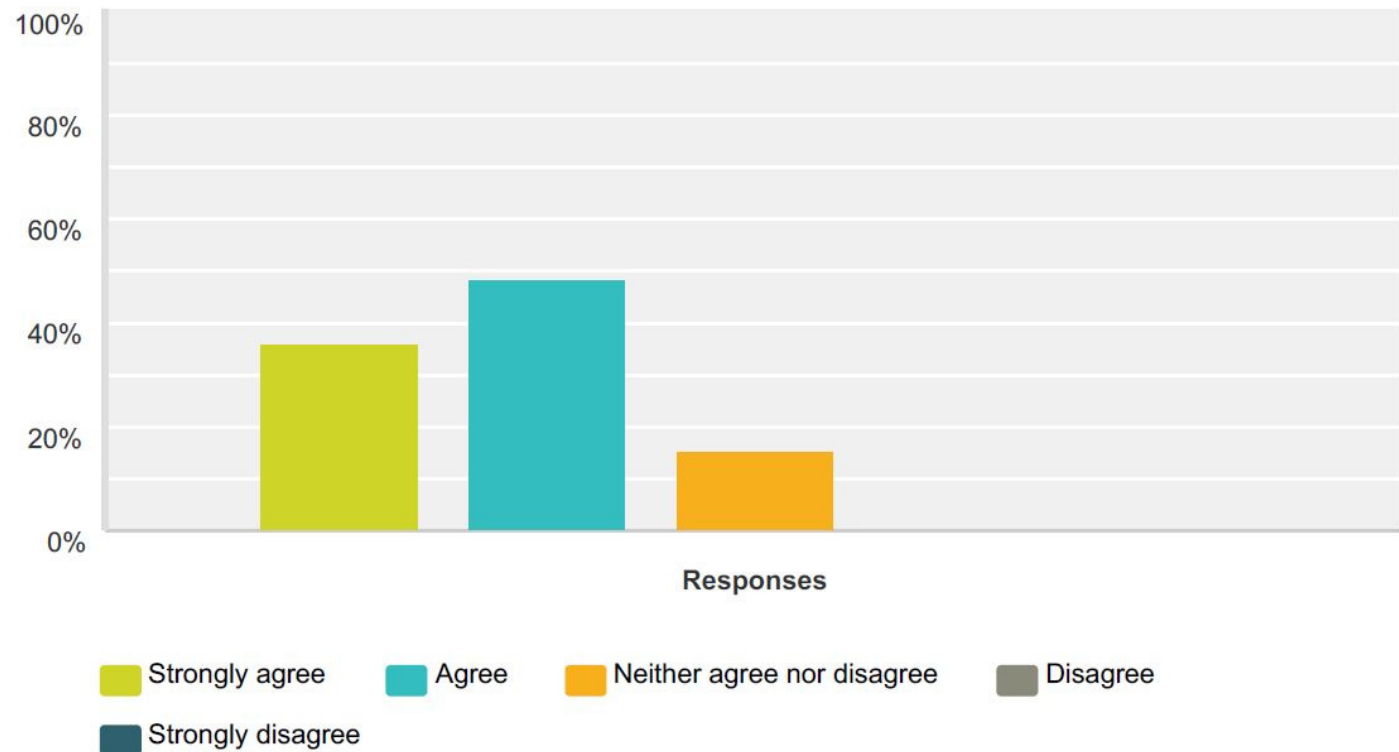
Thank you to everyone who took part!



We're doing the right things



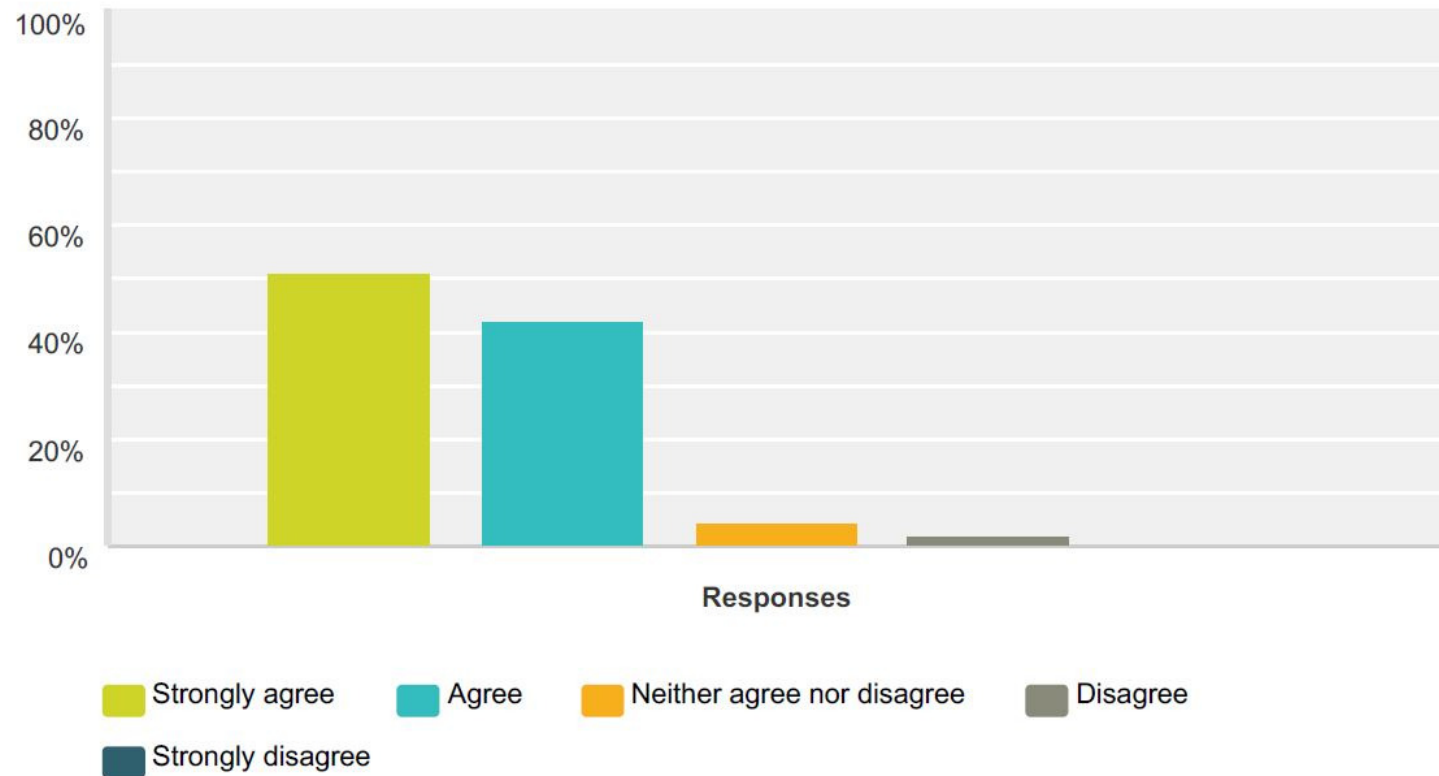
84% strongly agree/agree that overall their company's expectations are being met



We have the right vision



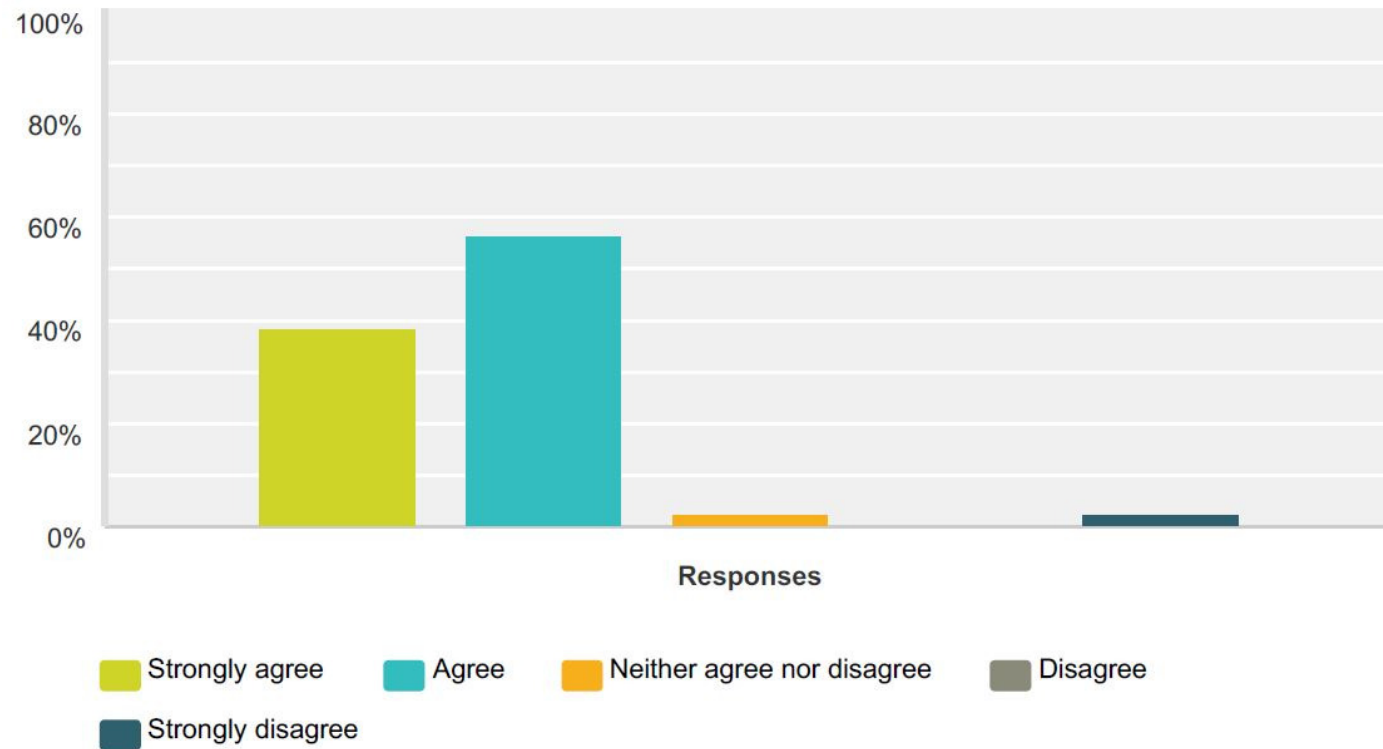
93% strongly agree/agree that we have the right vision



We have the right objectives



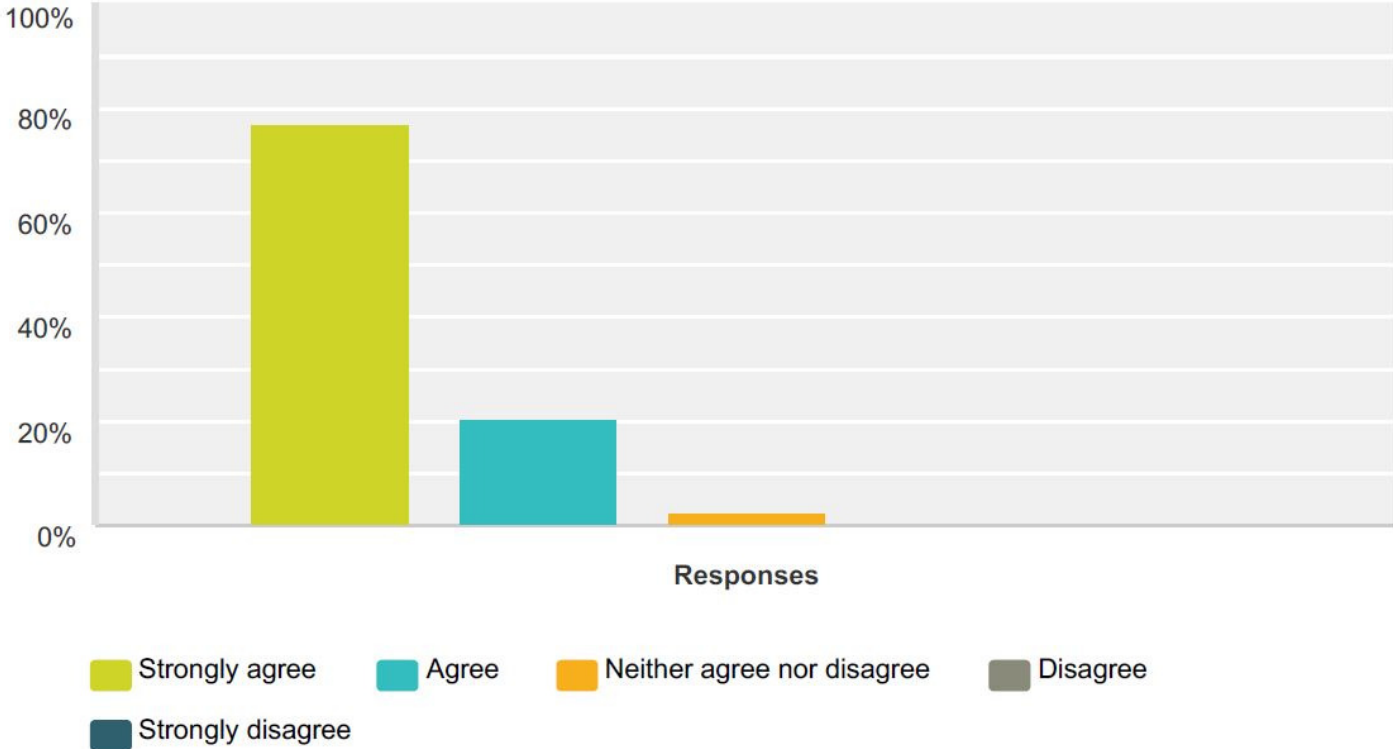
95% think JIG has the right objectives now and for the foreseeable future



We should deliver world-class standards



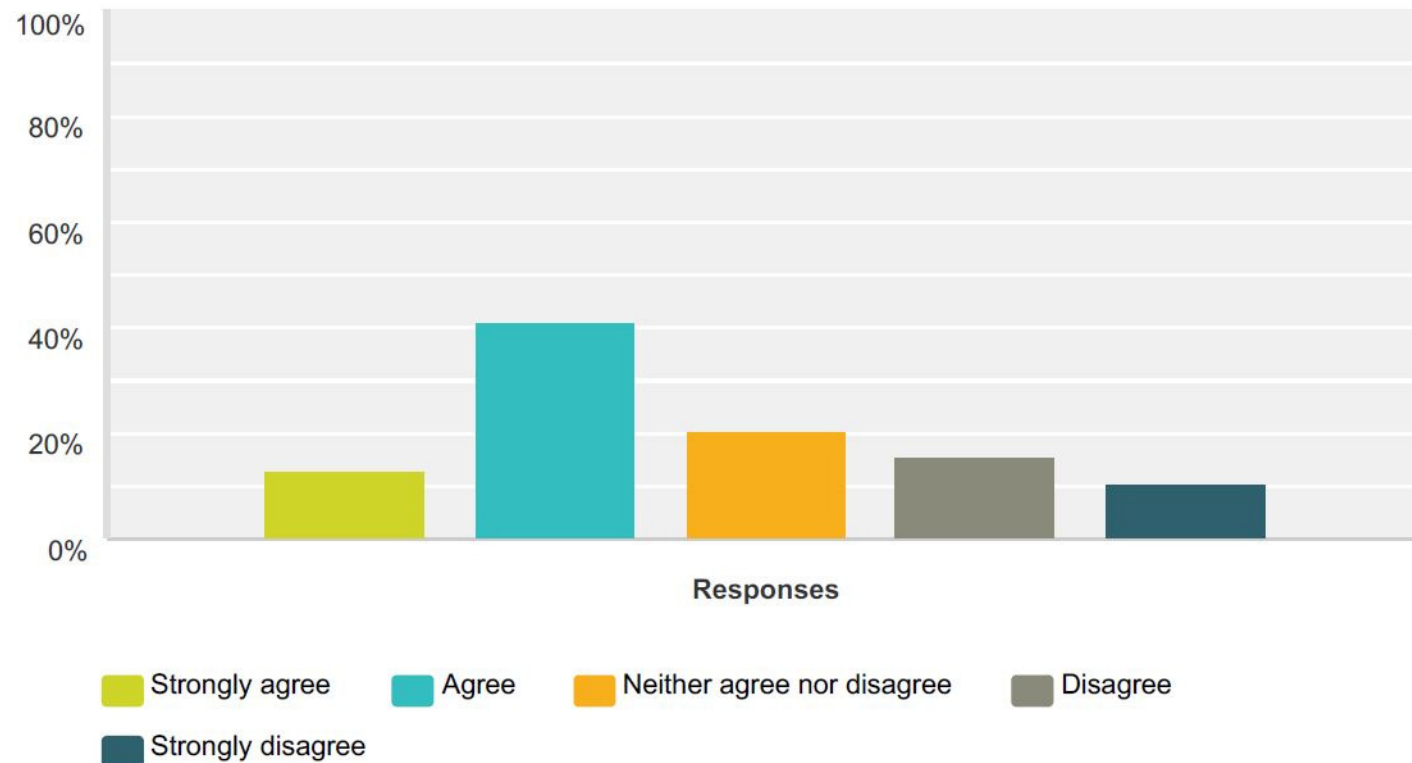
97% strongly agree/agree that we should continue to deliver updated, world-class standards



The current structure offers enough opportunities to engage with JIG



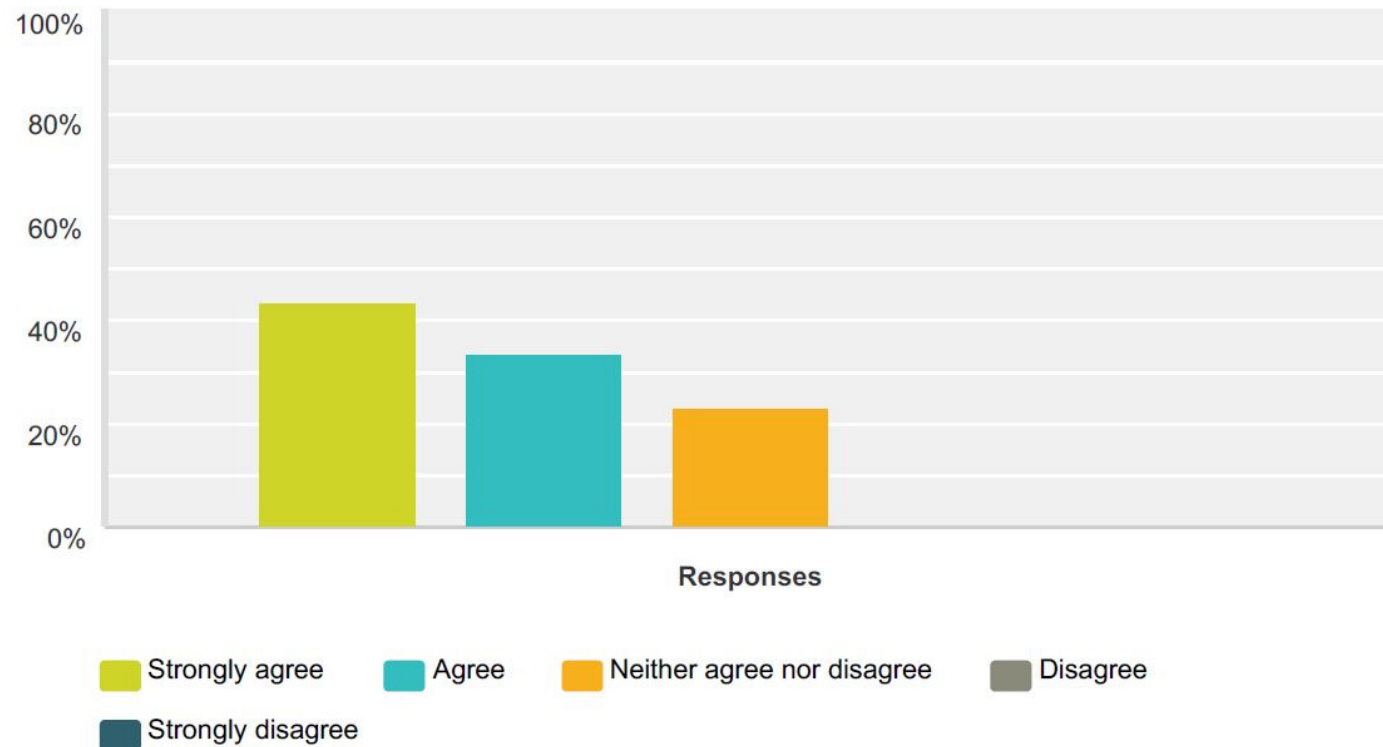
26% do not think the current structure of committees and working groups provides them with sufficient opportunity to engage in JIG activities – **but the survey was conducted before implementation of the recent changes**



My company would like greater involvement in the Standards Working Group



77% would like greater involvement in publications working groups – **but the survey was conducted before implementation of the recent changes**



JIG Response



- **Some steps already taken:**

- Increased Member representation on committees and working groups
- Changes to the format of the Members Technical Forum – Member presentations and feedback
- Communications plan featuring enhanced Member communication

- **More to be done:**

- Implement 'Inspect to JIG Standards'
- Update JIG website to be more informative and responsive
- Continued industry liaison



JIG (JITS) Inspections

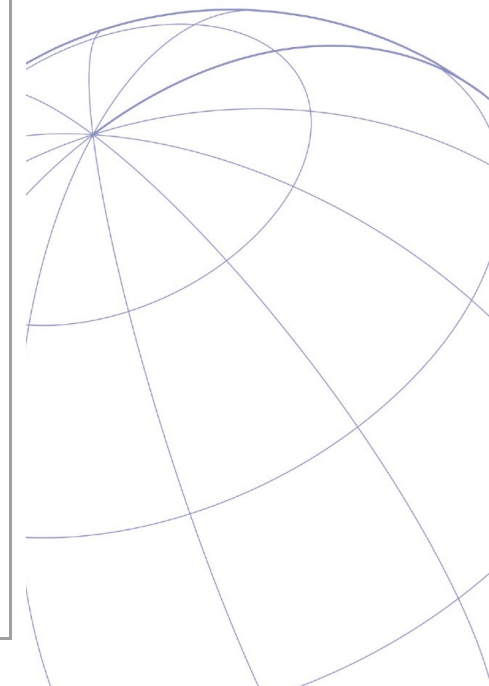


Progress - Inspection Programme (2015)

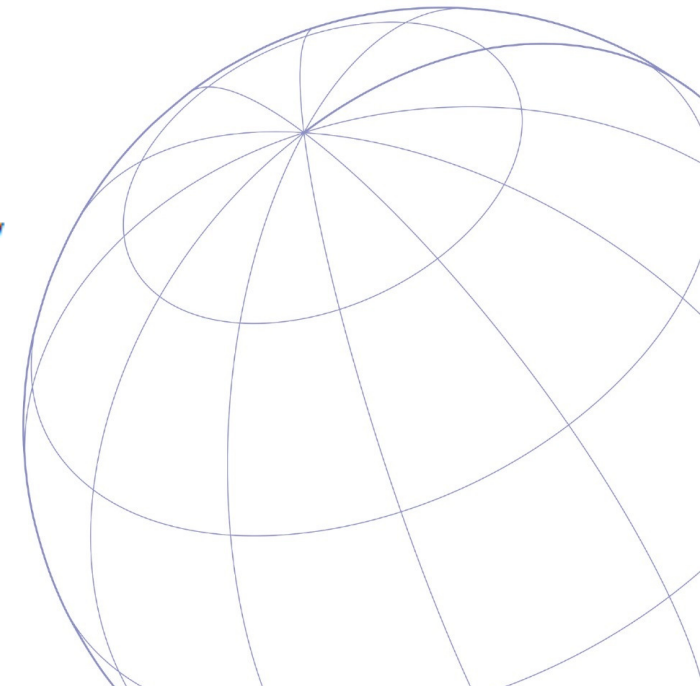
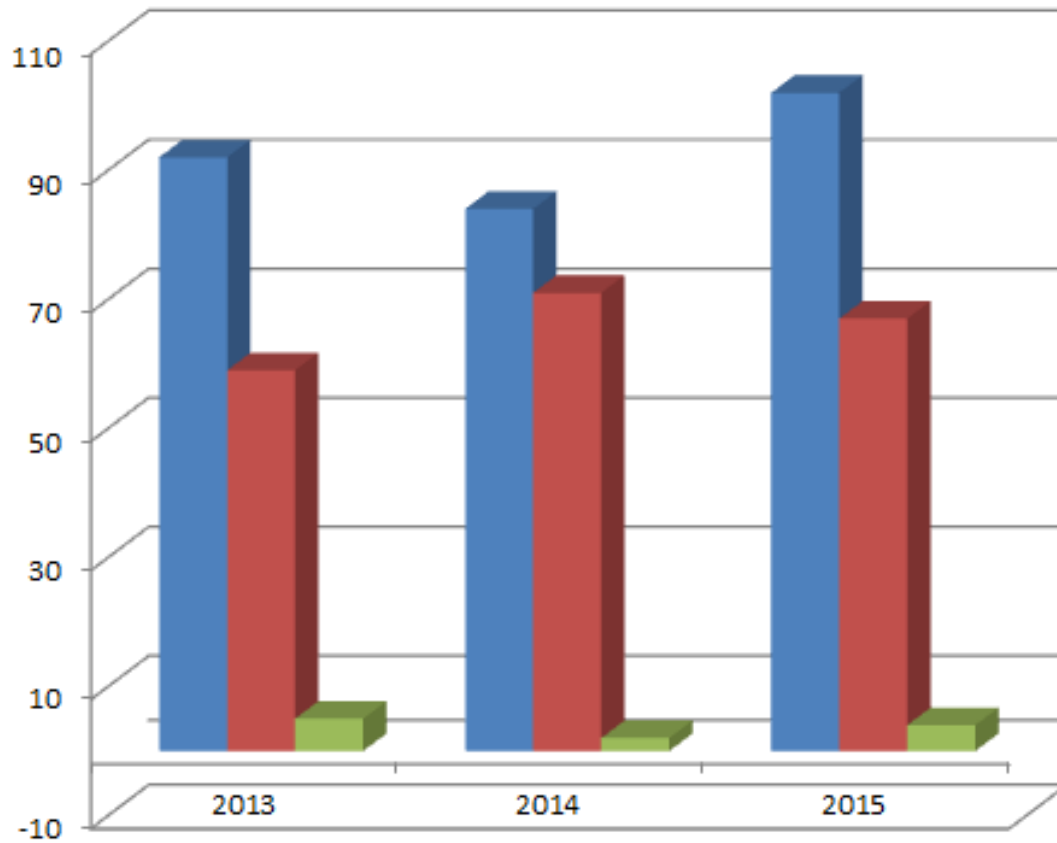
| Title | Jan | Feb | March | Apr | May | June | July | Aug | Sep | Oct | Nov | Dec | TOTAL |
|-----------------------|-----|-----|-------|-----|-----|------|------|-----|-----|-----|-----|-----|-------|
| # Planned | 6 | 4 | 10 | 10 | 22 | 8 | 13 | 12 | 13 | 27 | 41 | 7 | 173 |
| # Uploaded | 6 | 4 | 10 | 10 | 22 | 8 | 13 | 12 | 13 | 27 | 41 | 7 | 173 |
| # Started | | | | | | | | | | | | | |
| # Not Started | | | | | | | | | | | | | |
| # Uploaded each Month | 26 | 3 | 5 | 13 | 6 | 20 | 14 | 9 | 10 | 18 | 27 | 22 | 173 |

Inspection Ratings

| Overall rating Split for Uploaded Reports | | | | | |
|---|---|------------|------------|------------|-------------|
| Rating | | 2013 | 2012 | 2015 | 2013 - 2015 |
| Excellence Certificate | ★ | 17 | 16 | 11 | 44 |
| Good | 😊 | 92 | 84 | 102 | 278 |
| Satisfactory | 😐 | 59 | 71 | 67 | 197 |
| Less Than Satisfactory | 😞 | 5 | 2 | 4 | 11 |
| No Rating | ? | | | | 0 |
| Total | | 156 | 157 | 173 | 486 |



Inspection Ratings



JIG Inspection Findings

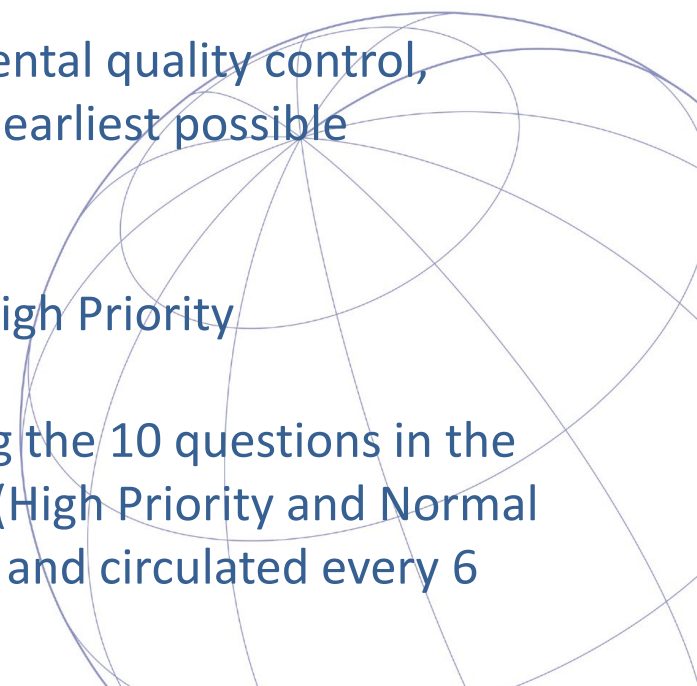


Inspection findings (recommendations) are classified as either High Priority or Normal Priority

High Priority recommendations are those concerning “fundamental quality control, operational or safety issues which need to be addressed at the earliest possible opportunity”

Currently less than 10% of recommendations are assessed as High Priority

From the JIG Inspection Tracking System we are now identifying the 10 questions in the inspection checklist that generate the most recommendations (High Priority and Normal Priority). Summaries of these inspection findings are prepared and circulated every 6 months.

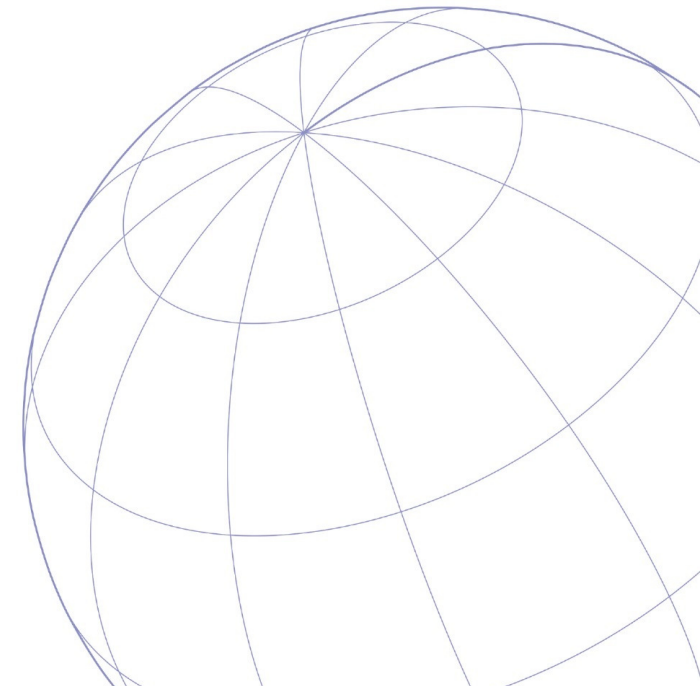


Most Frequent Findings - 2016



- **High Priority Findings**

- High level alarms on storage tanks not working
- Fuellers loaded with engine running
- Microfilter without dP gauge
- Receipt FWS dP gauge not working
- Tanks with unsafe access walkways
- Bridger discharge into wrong storage tank
- Driver Controlled Delivery procedures not followed correctly (training required)



Most Frequent Findings - 2016



- **Normal Priority Findings**

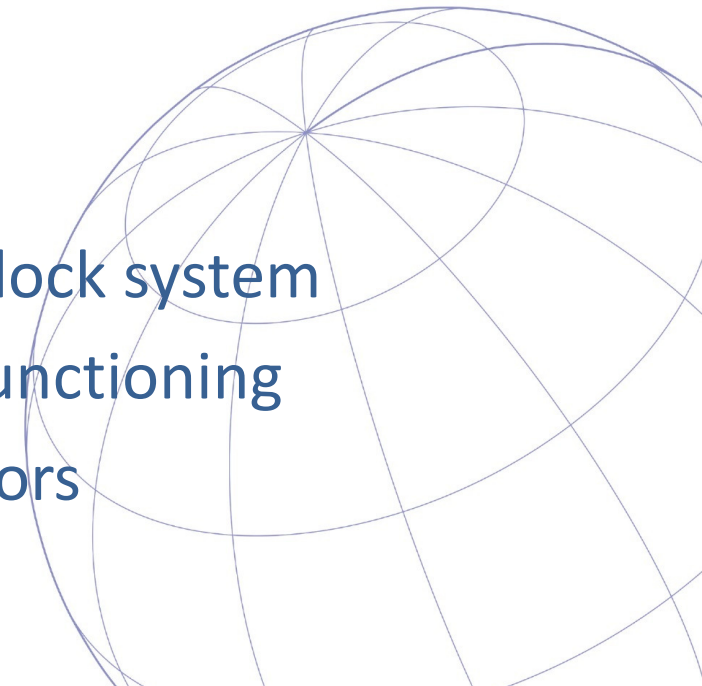
- Conformance with EI/JIG 1530 not available from upstream suppliers
- Spring-loaded valves required at filter/tank sampling points
- Air eliminators and thermal relief valves not tested & isolation valves not sealed open
- Product Recovery and Quick Flush tank design and maintenance issues
- Product Quality Certificates not providing traceability to supplying refinery



Most Frequent Findings - 2016



- **Normal Priority Findings**
 - Rail tank cars not internally lined
 - Hydrant low point flushing equipment unsuitable/leaking/damaged hose/no interlock system
 - Elevated fuelling equipment platform not functioning
 - Fuelling platform not fitted with wand sensors



Future Analysis of JITS Data



- Regular reports summarising inspection progress and most frequent inspection findings for JIG Operations Committee
- Regular reports highlighting the frequent inspection findings
- Data from JITS to be used to update the Inspector Training Material and to identify training needs



JIG 2017 Focus



- Inspect to JIG Standards
 - Over 2000 member sites
- Continued development of JIG Standards
 - Continue or expand Standards Working group
- Working with industry to reduce risk and increase efficiency
- Develop JIG Training & Workshops
- Expanding the JITS for Member inspections
- Continue work with EI on further development of EI/JIG 1530



Thank You



Merci Ευχαριστώ Gracias Спасибо Danke Dhanyavad Obrigado 谢谢
Thank you Terima Kasih Obrigado Dhanyavad Gracias Спасибо
谢谢 Danke Gracias Merci Terima Kasih Ευχαριστώ Thank you Danke
Thank you Спасибо Gracias 谢谢 Terima Kasih Merci Gracias Obrigado
Ευχαριστώ Obrigado Danke 谢谢 Спасибо Dhanyavad Terima Kasih



IATA – Fall Meeting, Hanoi
ASTM Subcommittee J Report

**George Zombanakis,
Executive Vice-Chairman
10 November, 2016**

ASTM Update, 10 November

- **Specification D1655, Aviation Turbine Fuels – Changes**

Added ASTM D7945 Dynamic Viscosity Measurement, and revision of Appendix X1.6, guidance for measuring minimum temperature at which 12 cSt. occurs in jet fuel.

Added a further discussion of chloride contamination, X1.12.6, to Fuel Cleanliness Appendix, X1.12.

Currently in Ballot: Co-processing of Vegetable Oils (HEFA) using hydro-processing with a limit of 5% of the feed stock.

ASTM Update – 10 November

- **ASTM D7566 – Aviation Turbine Fuels with Synthetic Components**

Synthetic Fuels Added to Specification –

None recently, but Test Method for aromatic content added to Table A1.1 with approval of FT SPK/A, Annex 4.

Adding D7945, STM Dynamic Viscosity, et.al., (currently in J Ballot).

Currently In Review –

VIRENT SK CPK – Synthetic Cyclo-Paraffinic Kerosene, Stage 3 Review, continuing.

ARA CH SKA – Full Range Synthetic Product, Stage 3 Review Complete.

VIRENT SAK – Primarily Aromatic Kerosene, Initial research (Spec. & FFP) awaiting OEM review, Stage 3.

Future Efforts –

“Green Diesel” – Hi-Molecular Wgt. HEFA SPK, Freeze Pt Limit(?), Modify A2 or create Ax?

Increasing Aromatic Effort – Necessary for fully synthetic fuel, but lower thermal stability and increased particle emissions.

How to handle known additives – Use Known chemistry, Use military QPL’s?

ASTM Update, 10 November

- General Progress: Aviation Turbine Fuels

Reapproved ASTM D6986 – STM for (Visual Inspection) Particulates, Free Water and Other Contamination in Aviation Fuels.

ASTM D3241, Thermal Oxidative Stability – Updated Jointing with IP323.

ASTM D7797, Revised Precision of Measurement of Fame In Jet, FTIR/ IP583 (Jointed). Also revised Bias Statement.

ASTM D7959, STM for Determination of Chloride in Jet Fuel, set date, June, 2018, that ILS would complete to establish precision, & added clarification to Key sections of the method.

ASTM D4171, STM to Determine FSII in Jet Fuel, updated temperature measuring instrumentation to non-mercury devices.

ASTM D7223, Specification for a Certification Aviation Turbine Fuel, revised minimum FSII level to 0.07%, Vol.

ASTM Update, 10 November

What Subcommittee J is still working on –

Metrology:

Identifying a referee method, Technical data and arguments need to be aired to clarify Notes in D1655, D6615, D7223 and D7566.

Standardize area to be used to evaluate deposit depth (current J Ballot).

PAC Ellipsometer (Currently in J ballot.)

Gravimetric:

Provided a revised research report which will replace D02 RR1012, to properly define millipore filter paper in D2276 and D5452, Gravimetric test methods.

**Continue to refine statements pertaining to government use of D1655 fuels.
Allow particle counting (report only) into D1655.**

Establish DRA “Nil” limit using D7872, at 72 micrograms/Liter.

ASTM Update, 10 November

- **Sulfur in Jet Fuel –**

Sulfur Data received from DLA for 2014, still being examined.

Plan to report-out in December meeting.

At question is determining amounts of low sulfur product being produced.

Data may be insufficient to determine LS or ULS amount.

Colonial Pipeline expects to limit what they will accept to 500 ppm sulfur (or less) Jet, only on and after 01 January 2018.

ASTM Update, 10 November

Additives in D4054 Review –

AFTON HiTec 4547, Avguard SDA

In J Ballot

BASF Kerostat 8118™ SDA

Research Report Final Annex to OEM's

OEM review initiated

ASTM Ballot request approved

BASF/Palox Aquarius (basically an FSII)

**D4054 requirements nearly complete, pending an OEM
assessment**

**There has been a flight test, it went OK, One OEM still on the
fence.**

ASTM Ballot request approved

ASTM Update, 10 November

International Activity

Russian Aviation Fuels – GOST (R) 10227-2013 still on track to take effect on or after 01 January 2017.

Recent letter issued to permit GOST (R) 10227-86 plus Amendments 1 – 6 to stay in force after 01 January 2017 for an undisclosed period of time to allow use of available stocks while fuel made to the -2013 requirements is coming on-line.

Chinese Fuel Additives, T1502, SDA continues to move toward OEM approval. Recent communication with Chinese Authorities has resulted in the presentation of technical data for OEM review and comment.

T1602, CI/LI, status is currently unknown. No data available.

FAME – 50 ppm limit is 2 years old, Current reports show some low levels, but no significant (>50 ppm) reports.

J ballot issued to increase level to 100 ppm (hard) limit, results to be discussed at December Mtg.

ASTM Update, 10 November

- **The Fall meeting will be held 04 – 08 December, Lake Buena Vista, FL.**
- **Spring Meeting will be held in Boston, MA, 28 June to 01 July, 2017**