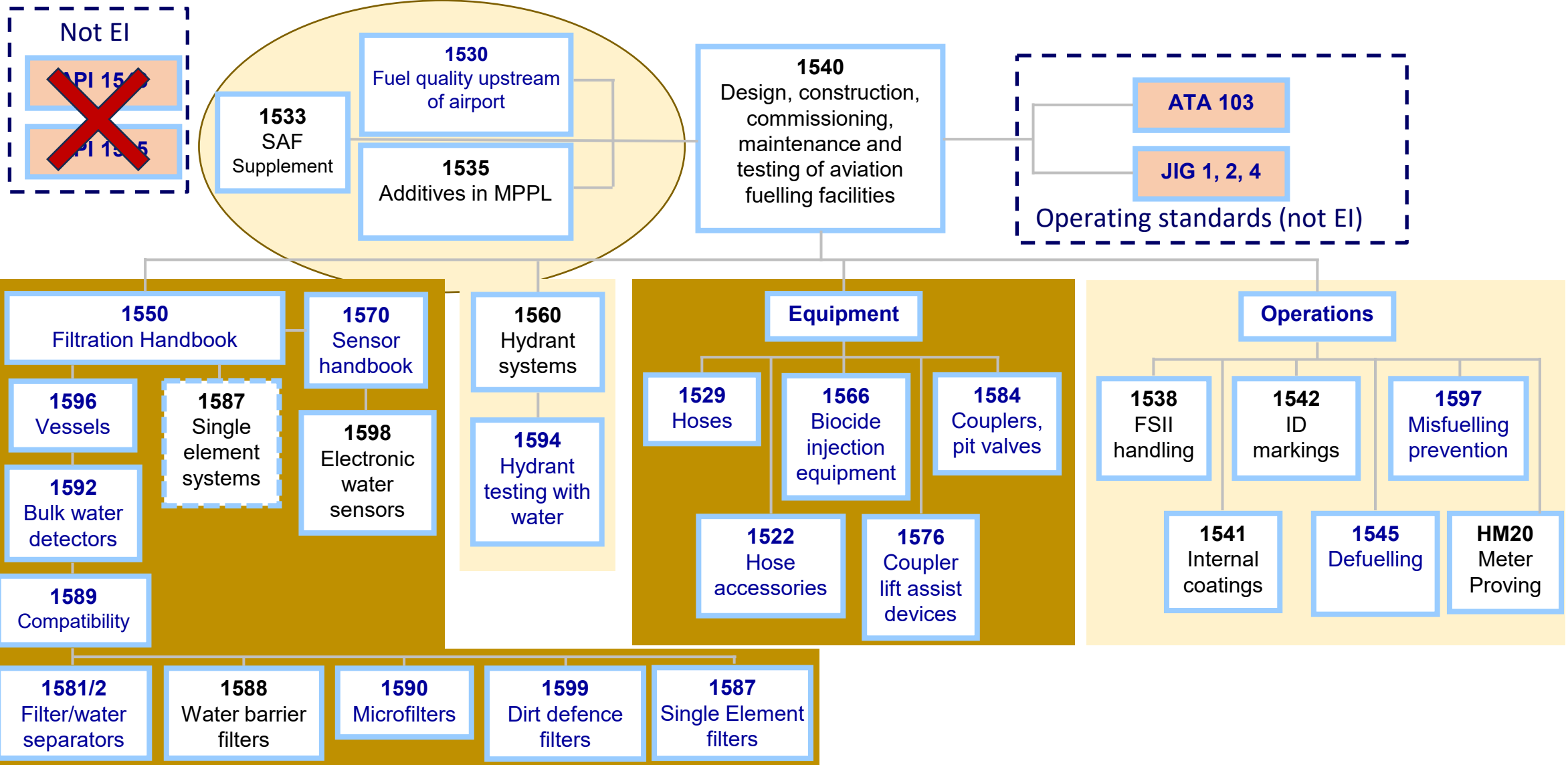




**EI/JIG  
1530 3<sup>rd</sup>  
edition  
and a brief  
update on  
EI 1533  
3<sup>rd</sup> edition.**

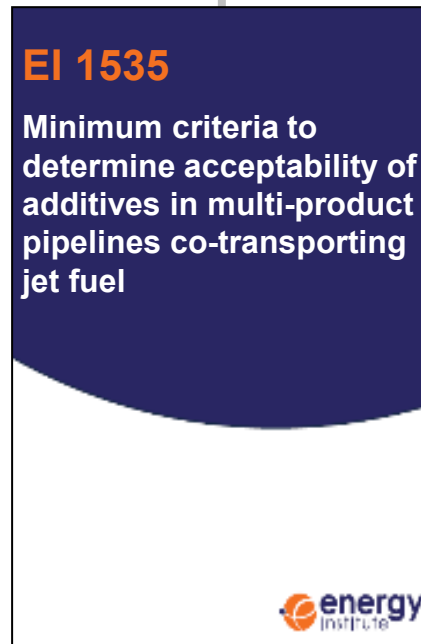


# Supply Chain Fuel Quality Sub-Committee



# Supply Chain Fuel Quality Sub-Committee

## Supply Chain Fuel Quality Sub-Committee



1<sup>st</sup> Edition

November 1997

Current Edition

4<sup>th</sup> edition Nov 2024

Planned Update

Review 2029



October 2013

2<sup>nd</sup> edition May 2019

3<sup>rd</sup> edition Q4 2026



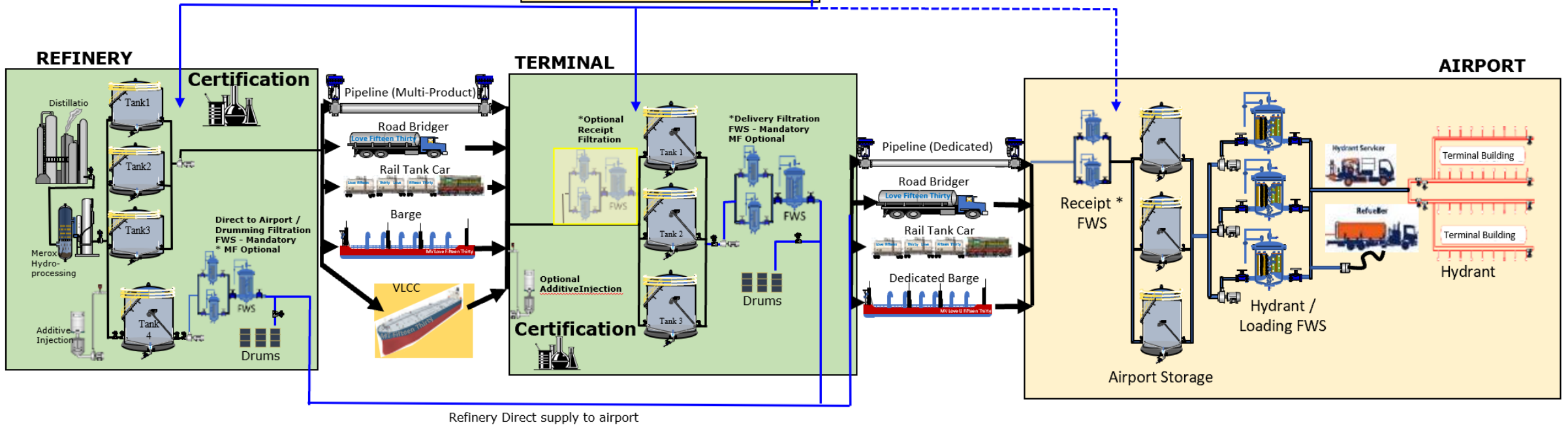
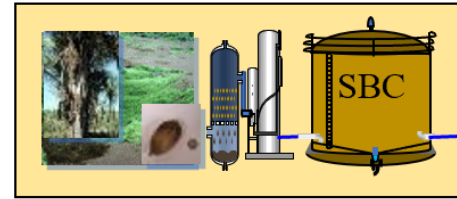
November 2024

2<sup>nd</sup> edition Feb 2025

3<sup>rd</sup> edition Q2 2027

# Supply Chain Fuel Quality Sub-Committee

## SBC Production Unit



Refinery Direct supply to airport

.....EI/JIG 1530.....EI 1535.....HM 50.....HM59.....HM93.....

.....JIG 2.....

.....JIG 1.....

.....SAF Supplement EI 1533.....

.....EI 1540.....EI 1560.....

.....API 1543.....API 1595.....

.....ATA 103.....

# EI/JIG 1530 - Philosophy of the Standard



## Some key points

- EI/JIG 1530 is not a detailed Operating Manual, focused on product quality integrity
- EI/JIG 1530 describes how to meet and maintain the requirements of the major international jet fuel specifications in terms of properties and “fit for service” through the supply chain.
- Incorporate requirements of JIG 3 direct supply to airport service tanks
- Content was also aligned with those in API 1595 (*for pre-airfield storage terminals*) and API 1543 (*Documentation and laboratory testing*)
- **A global standard that defines minimum requirements and provides good practice from point of manufacture to delivery to airport.**
  - Conformance recognises the concept temporary variations (*Alternative Means of Conformance*) and permanent variations (*Derogations*) with 1530 requirements and provides a definition of the process to be followed.
  - EI/JIG 1530 is currently supported by the EI 1533 Supplement on Semi-synthetic jet fuel and synthetic blending components

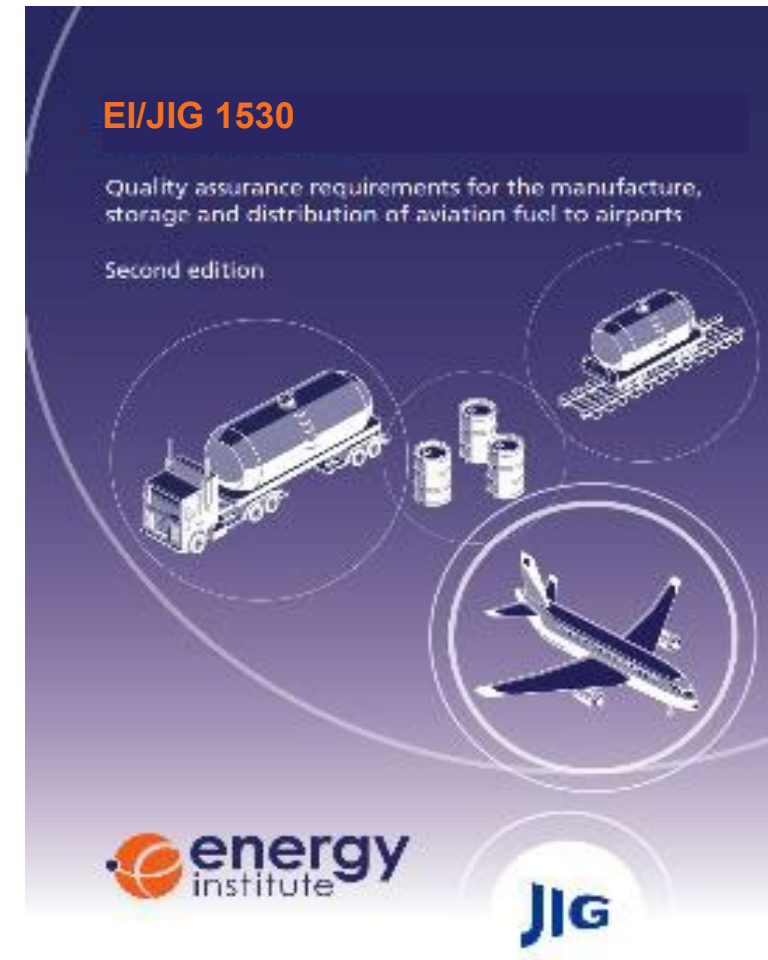
# EI/JIG 1530, History and 3<sup>rd</sup> Edition Status

1<sup>st</sup> Edition published in 2013

- Consultation for 2<sup>nd</sup> edition resulted in 1198 comments/ proposals for consideration for 2<sup>nd</sup> Ed. and a further 423 from the wider industry review of the draft.

2<sup>nd</sup> Edition published in May 2019.

- Consultation for 3<sup>rd</sup> edition has resulted in approximately 250 comments/ proposals for consideration for 2<sup>nd</sup> Ed.
- The Supply Chain Fuel Quality Sub-committee has reviewed and generated responses to these over the last 3 years in 29 meetings (15 F2F and 14 Virtual)



# EI/JIG 1530 Standard - 3<sup>rd</sup> edition

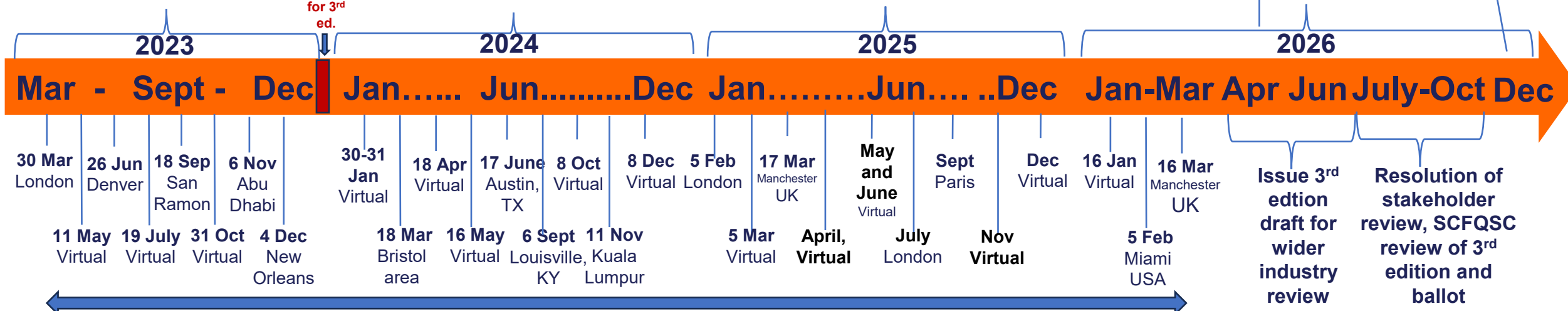


## EI/JIG outreach seeking feedback

- UK MoD AFC (London, 29 March)
- CRC (Seattle, 2 May)
- IATA Energy Forum (Seattle, 18 May)
- JIG Forum (Budapest, 13-14 June)
- ASTM (Denver 26 June)
- JIG JV Managers workshop (Singapore, Oct)
- IATA Energy Forum (Abu Dhabi, early-Nov)

- Over 230 initial feedback requests for update and change Vs 1200+ last time. 29 meetings so far.....
- EI SCFQSC has worked and or initiated resolutions to all of the new items raised. (Now ~250 items)
- Some issues are very challenging to get consensus

Stakeholder review period



Supply Chain Fuel Quality SC resolving feedback

Extended period due to EI1533 priority

# EI/JIG 1530 Standard - 3<sup>rd</sup> edition

Some revisions in draft of third edition (and by no means all!!!)

## General Introduction and Ch.1 –

- Primarily accommodating EI 1533 and the SAF story,
- CoQ replaces RCQ, use of “governing fuel standard.”
- Definition of fungible extended to cover comingled systems

## Ch 2 QA and Traceability

- revised 2.3 with tabulated certs requirements to help understanding
- new 2.5 all the document requirements in a single more logical place.

## Ch 3 MoC –

- edit to indicate that MoC doesn't just apply to refinery ops, although this Chapter does focus on that.

## Ch 4 Sampling and Testing

- primary focus here is on better definitions on recertification testing,
- CoA may be run, but variability shall be completed



EI/JIG Standard 1530

Quality assurance requirements for the manufacture, storage and distribution of aviation fuel to airports

~~Second Edition~~

**3rd Edition  
Planned for  
Q4 2026**



# EI/JIG 1530 Standard - 3<sup>rd</sup> edition

## Ch 6 Refineries

- New avgas grades,
- “new” Table 5 and
- major update on processing slops, returns, cracked stocks, salt driers and clay treaters

## Ch 7 Additives

- for SDA/MDA where initial dose not known assume max initial.
- Other changes involve FSII and reference to EI 1538 and EI 1566

## Ch 8 Receipt, Batching, Certification and Release

- Sampling of tanks (inert atmosphere),
- import/export alignment with EI 1533.
- sampling and testing prior to release - some focus on layered tanks.
- Avgas static stock may require more frequent testing.



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energy  
institute

JIG

# EI/JIG 1530 Standard - 3<sup>rd</sup> edition

## Ch 9 Design and Handling Major #

- revision on fine filtration section.
- update on greases,
- update on water management (cone-up tanks and QFTs), minimum suction height with floating suctions, positive segregation, tank cleaning.
- JIG TID#1 referenced.

## Ch10. Transportation, facilities and procedures.

- Alignment with EI 1533 on ship selection,
- clarification on materials and labelling requirements for rail tank cars and road tankers.
- ISO Tanks and IBCs defined vs Drums. Table 21 consolidated into Table 19 (Change of grade).
- Dead-legs and low points should be removed/ should be drained



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# EI/JIG 1530 Standard - 3<sup>rd</sup> edition

Some revisions in draft of third edition (and by no means all!!!)

## Ch11 Synthetic fuels.

- Complete rewrite indicating replacement by EI 1533 and summarising content.

## Annexes General

- reordering into logical groups to simplify reader access and facilitate expansion.
- Annex D adds soak testing of unlined systems....and attempts to clarify the reference to 275<sup>0</sup>C breakpoint for soak testing
- Annex E references Automatic Particle counting as the referee method (planned for DS19-091 Issue 19)
- Annex G and H major update to detail on salt dryers and clay treaters.
- Annex R – New annex on transloading.



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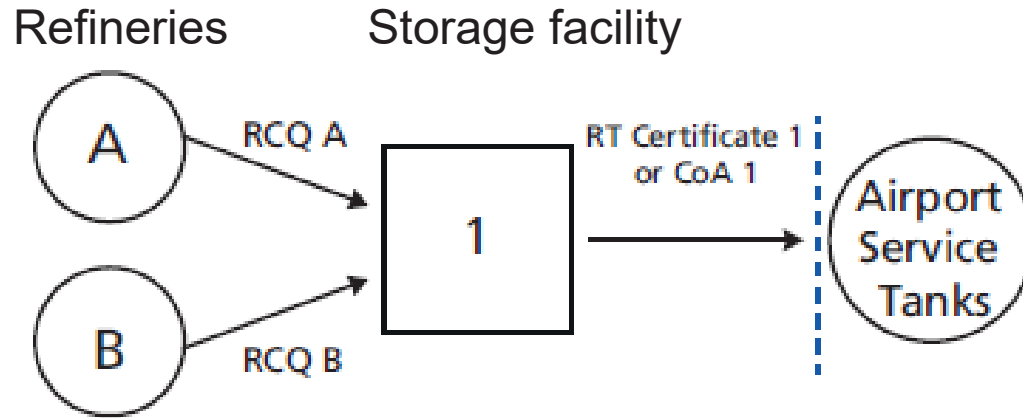


**3rd Edition  
Planned for  
Q4 2026**



# EI/JIG 1530 Standard - 3<sup>rd</sup> edition

## Scenario 1 Document Requirements

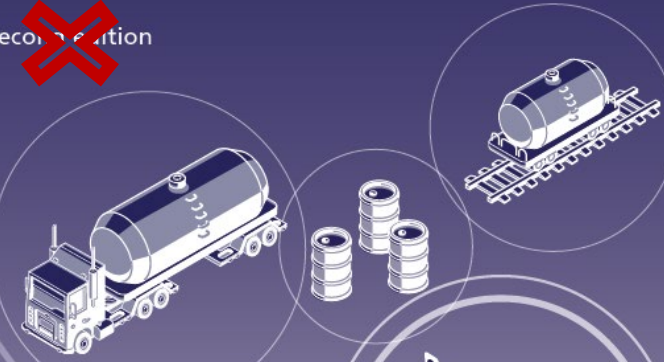


	Receives Document	Issues Document	Comment
<b>Refinery A</b>	NA (unless imports received)	COQ A + Tank Release Certificate	COQ mandated. No layered tanks
<b>Refinery B</b>	NA (unless imports received)	COQ B + Tank Release Certificate	COQ mandated. No layered tanks
<b>Terminal 1</b>	COQ A and COQ B and the Release Certificates	CoA/ RT + Tank Release Certificate	Apply 8.4.3.4 if tank layered
<b>Airport</b>	COA/RT from Terminal 1 and Release Certificate	Tank Release certificate	

### EI/JIG Standard 1530

Quality assurance requirements for the manufacture, storage and distribution of aviation fuel to airports

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# EI/JIG 1530 Standard - 3<sup>rd</sup> edition

## EI/JIG Standard 1530 CH.4 Example

### Recertification testing

- The test results shall be checked
  - to confirm that the specification limits are met, and
  - no significant changes have occurred in any of the properties, and
  - variability limits apply for CoA testing where recertification is permitted.
- Results of key properties shall be compared with the linear calculation of expected results.
  - Use the weighted average of the results from each fuel batch used to form the new batch. (Up to three new batches onto an existing heel.)
  - Note that but not all properties blend linearly.
- Where test results have changed significantly from their expected values (outside of the permitted variability limits)
  - an investigation into possible contamination should seek to identify cause and
  - may include but not necessarily be limited to CoA testing.
- New guidance on non-linear blending parameters in Ch. 8



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# EI/JIG 1530 Standard - 3<sup>rd</sup> edition

## EI/JIG Standard 1530 CH.8 Example

Where results of the upper, middle and lower samples do not fall within the limits defined in the Table, contamination may have occurred and the tank shall be quarantined. An investigation into the cause of the variation shall be performed and this may require resampling and also full testing of the problem sample(s).

Where results of the upper, middle and lower samples are within the limits defined in the Table, a single tank composite sample shall then be submitted for laboratory testing, i.e. CoA or recertification test.

All results shall be recorded including a declaration that a comparison against variability limits has been made where recertification testing is permitted.

Test <sup>1</sup>	Jet Fuel	Avgas	Blending Information of property
Density <sup>2</sup>	X	X	Linear blending
Distillation <sup>3</sup>	X	X	Non-linear blending
Freeze Point <sup>4</sup>	X		Non-linear blending
Flash Point <sup>5</sup>	X		Non-linear blending
RVP <sup>6</sup>		X	Non-linear blending
Octane rating (lean mixture) <sup>7</sup>		X	Non-linear blending

### Notes:

<sup>1</sup> All test results of the upper, middle and lower samples shall be within the limits of the governing specification.

<sup>2</sup> Densities shall be within the limits of the maximum and minimum batch densities of the composite batches, plus/minus test method repeatability.

<sup>3</sup> Final boiling points shall not exceed the highest final boiling point of the composite batches + 8°C

<sup>4</sup> Freeze point shall not be higher than the highest freeze point of the composite batches plus 3 °C

<sup>5</sup> Flash points shall not be lower than the lowest flash point of the composite batches minus 3°C

<sup>6</sup> RVP shall be within the limits of the maximum and minimum RVPs of the composite batches, plus/minus test method repeatability.

<sup>7</sup> Octane rating shall be within the limits of the maximum and minimum Octane ratings of the composite batches, plus/minus test method repeatability.

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Quality assurance requirements for the manufacture, storage and distribution of aviation fuel to airports

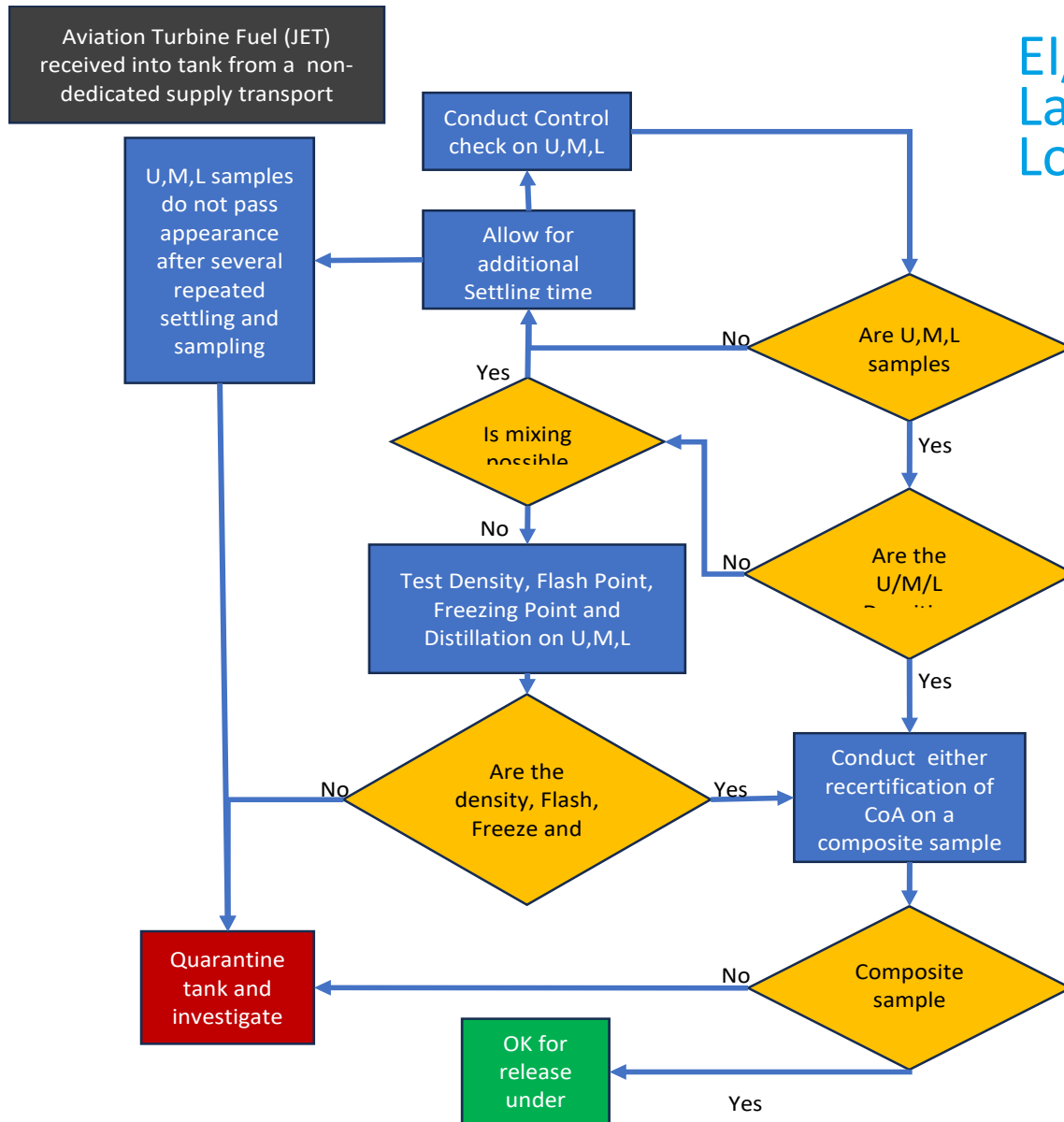
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# EI/JIG 1530 Standard - 3<sup>rd</sup> edition

## EI/JIG 1530 CH.8 Layered Tank Logic



EI/JIG Standard 1530

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# EI/JIG 1530 Standard - 3<sup>rd</sup> edition

## EI/JIG Standard 1530 CH.9 Example

### New Table XX – Sump Sample Guidance

Filter and sump sample point	Expected sump sample	Abnormal sump sample	Comment
Microfilter. Sample from inlet sump drain point	Clear and bright fuel and possibly some Particulate	Continuous hazy fuel. Water and/ or evidence of microbial contamination.	Investigate supply source/ transport system if abnormal samples are found.
Filter Water Separator. Sample from clean side sump (Between coalescer and separator)	Clear and bright fuel and possibly some coalesced water	Continuous hazy fuel Particulate Large quantity of free water	Continuous hazy may indicate coalescer disarming, element damage or bypass. Internal vessel inspection required. Particulate may indicate element damage or bypass or vessel damage. Internal vessel inspection required. Large quantity of free water indicates supply source/ transport issues. Investigation required.
Dirt Defence Filter Sample from inlet sump drain	Clear and bright fuel and possibly some Particulate	Continuous hazy fuel. Water and/ or evidence of microbial contamination.	Investigate supply source/ transport system if abnormal samples are found.
Water Barrier Filter. Sample from inlet sump drain	Clear and bright fuel and possibly some coalesced water /particulate	Continuous hazy fuel Large quantity of particulate or Large quantity of free water	Investigate supply source/ transport system if abnormal samples are found.

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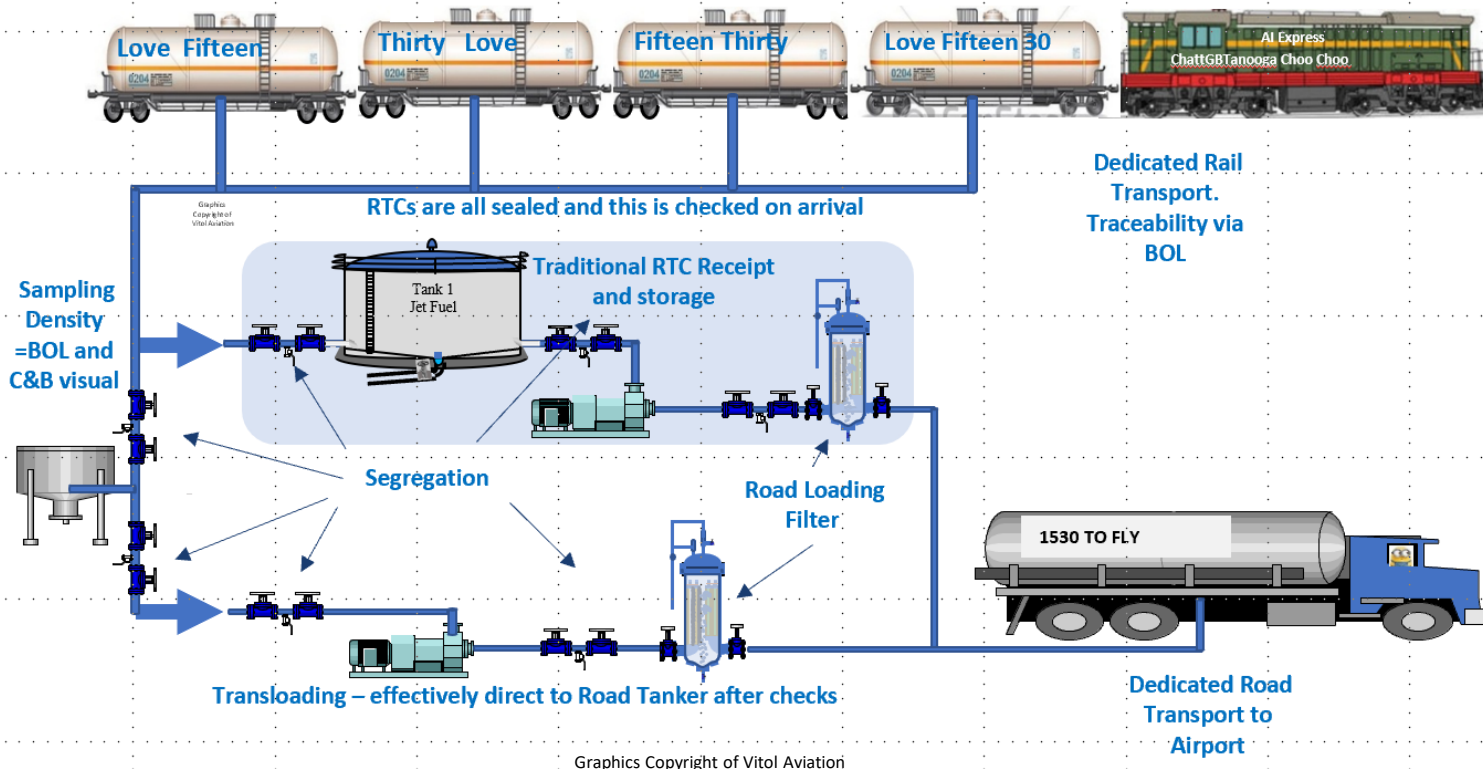

# EI/JIG 1530 Standard - 3<sup>rd</sup> edition

## EI/JIG Standard 1530 - Annexes

New annex R on transloading as per Phillips66 cross-referenced to 10.3 and glossary

A selection of issues identified so far.

Transloading needs to be added with some detail.



EI/JIG Standard 1530

Quality assurance requirements for the manufacture, storage and distribution of aviation fuel to airports

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# EI/JIG 1530 Standard - 3<sup>rd</sup> edition

## EI/JIG Standard 1530 - Annexes

Order of annexes really needs sorting out. Suggestion made below.

Justification for re-ordering the annexes. Trying to group the annexes in a more logical sequence

Annex	Title	Logic/ Grouping
A	<u>Glossary and Abbreviations</u>	<u>Key Information</u>
B	<u>Implementing 1530. AMC/Derogs</u>	<u>How to comply</u>
C1	<u>Authorised Signatories</u>	<u>Laboratories (mainly)</u>
C2	<u>Data Integrity Management</u>	<u>Laboratories (mainly)</u>
C3	<u>Example Certificates</u>	<u>Laboratories (mainly)</u>
D1	<u>Equipment Preconditioning</u>	<u>Key Operations</u>
D2	<u>Long term storage / return to use</u>	<u>Key Operations</u>
D3	<u>Pipeline Breakout / Staging Tankage</u>	<u>Key Operations</u>
D4	<u>Transloading</u>	<u>Key Operations</u>
E1	<u>Jet fuel conductivity</u>	<u>Product Characteristics</u>
E2	<u>Fuel cleanliness/ Particle Counting</u>	<u>Product Characteristics</u>
F1	<u>Salt Driers &amp; bulk water removal</u>	<u>Refinery Process</u>
F2	<u>Clay Treaters</u>	<u>Refinery Process</u>
G1	<u>Referenced Publications</u>	<u>Additional Information</u>
G2	<u>Summary of routine test frequencies</u>	<u>Additional Information</u>
G3	<u>Field Equipment Calibration</u>	<u>Additional Information</u>
G4	<u>Unit Conversion Factors</u>	<u>Additional Information</u>
H	<u>Requirements for segregation</u>	<u>Probably needs to be last for printing</u>

EI/JIG Standard 1530

Quality assurance requirements for the manufacture, storage and distribution of aviation fuel to airports

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# EI/JIG 1530 Standard - 3<sup>rd</sup> edition

- EI/JIG Standard 1530 Major Issues to agree

## A selection of issues identified with ongoing discussion.

- Challenges to the max 7 compartments for a ship's MTC. We are currently reviewing the history of this requirement (JIG 3 had a maximum of 5 compartments). There is pressure to go to 8 or 10 or unlimited on business risk.
- More clarification needed on mandatory positive segregation requirements and also separation of thermal relief spill lines on pipework
- Clarification of the difference between a "Tank Release Certificate" and a "Transport system Release Certificate" and challenging to get full compliance
- Refineries releasing hot product which results in water precipitation downstream. Very difficult to control due to supply timing and mandates
- Derrogations in Annex M. Extremely difficult to understand, so there is a need for some simplification and perhaps some more examples.



EI/JIG Standard 1530

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Q3 2026**



# EI 1533 QA for semi-synthetic jet fuel



3rd Edition ?



# EI 1533 SAF Blending – Some thoughts

## 2 components – conventional kerosene and synthetic kerosene

### Conventional kerosene

- Multiple types of crude so kerosene soup. (Chemically diverse)
- Contains sulphur, aromatics, smooth distillation typically between 140-280<sup>0</sup>C
- In general terms, a well known and defined performance specification with over 70 years experience

### Synthetic kerosene (SBC)

- Currently 8 annexes.....in D7566 and Co-processing are approved.
- No sulphur, main approvals are paraffinic, some have very narrow distillation range
- Very tightly controlled specification to control feedstocks and production “so no surprises!”

### The SAF Blend (mix of the above two components)

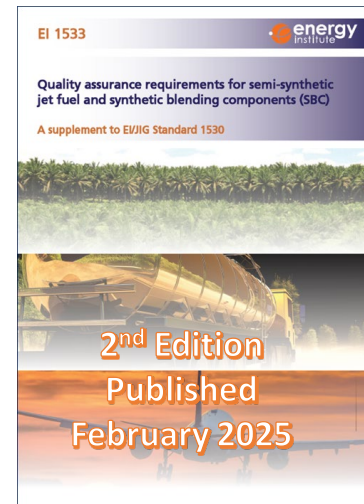
- Maximum of 50% SBC, but some 10% Max and Co-processing currently 10%
- The mixture has to meet an extended current Jet fuel specification – based on 70 years of expertise. So simple. Yes?



# EI 1533 SAF Blending – Some thoughts

## Some key concerns

- Impossible to predict some properties of the blend due to non-linear aspect of many specification properties – flash point, freezing point, distillation, thermal stability..... So trial blends essential
- Currently shipping small quantities of SAF and SBC in chemical carriers, so potential for unusual/ unexpected contamination / impact on properties
- Point of blending is the manufacturing location and can be anywhere from refinery to airport. Manufacturing expertise is at refinery, and disposition of non-conforming product becomes difficult close to/ on airport
- Facilities used for SAF blending have some prescribed design considerations to protect product quality of the SBC and SAF
- Certification requirements for SAF are more stringent – laboratories need to be capable
- Education is one of the keys – EI1533, EI/JIG 1530 and the EI animations



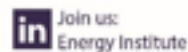
# Some thoughts on EI 1533 3<sup>rd</sup> edition

Work has already started. What might be in the pipeline?

- In-line blending proposals (next presentation)
- Definitions around dedicated vessels, change of grade – need to harmonise with residual heels
- More on co-processing and (hopefully) later this year a new animation
- New annexes from ASTM D7566 (probably) to be included
- Harmonisation with EI/JIG 1530 on refinery reprocessing of semi-synthetic stocks and SBCs
- Updates to FAQs (probably)

**We need your input - [mhunnybun@energyinst.org](mailto:mhunnybun@energyinst.org)**

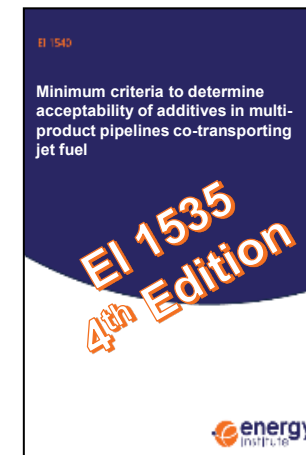
[www.energyinst.org](http://www.energyinst.org)



# QUESTIONS?



Thank you  
for your attention





# JIG Issue 14

Ibon Ibarrola-Armendariz- JIG Technical Manager

Work in Progress, Nairobi 2026

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# Standards Working Group (SWG)

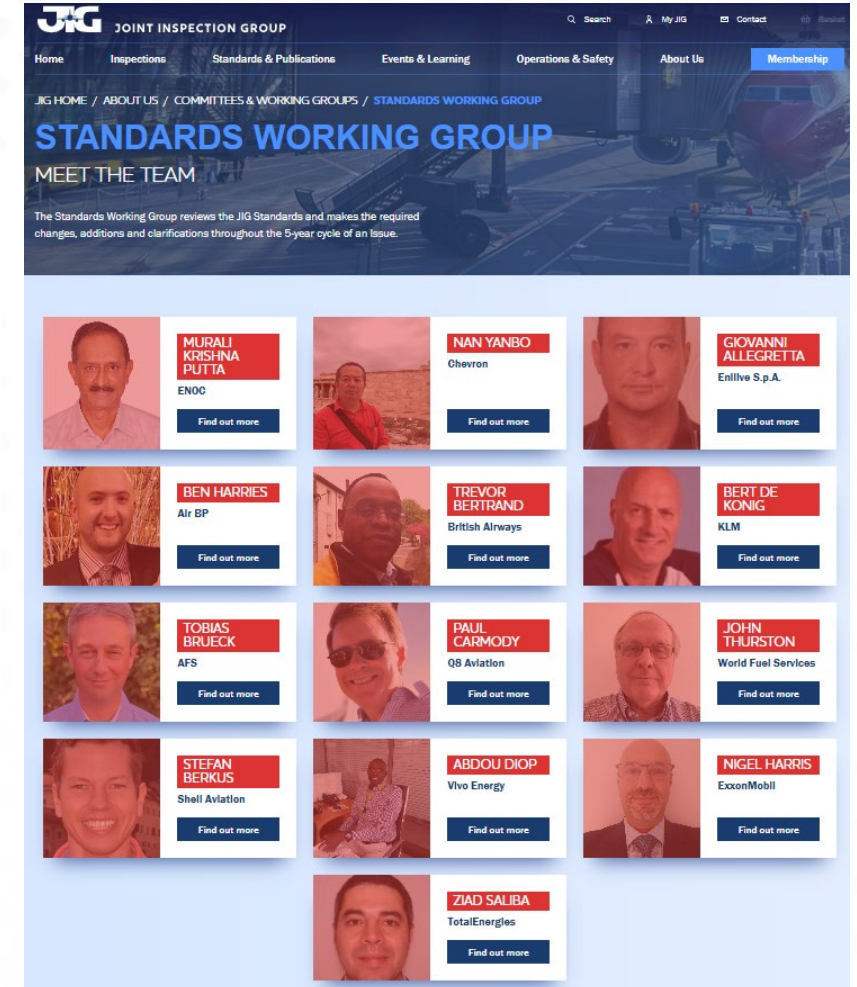
## SWG Key Responsibilities

- Review and develop suggested changes to the JIG Standards as received from the Operations Committee, the Technical Forum and the JIG membership
- Review and update the JIG Inspection Checklist, to reflect the current JIG Standards
- To draft/review JIG Operations Bulletins and other technical issues and publications if requested by the OC



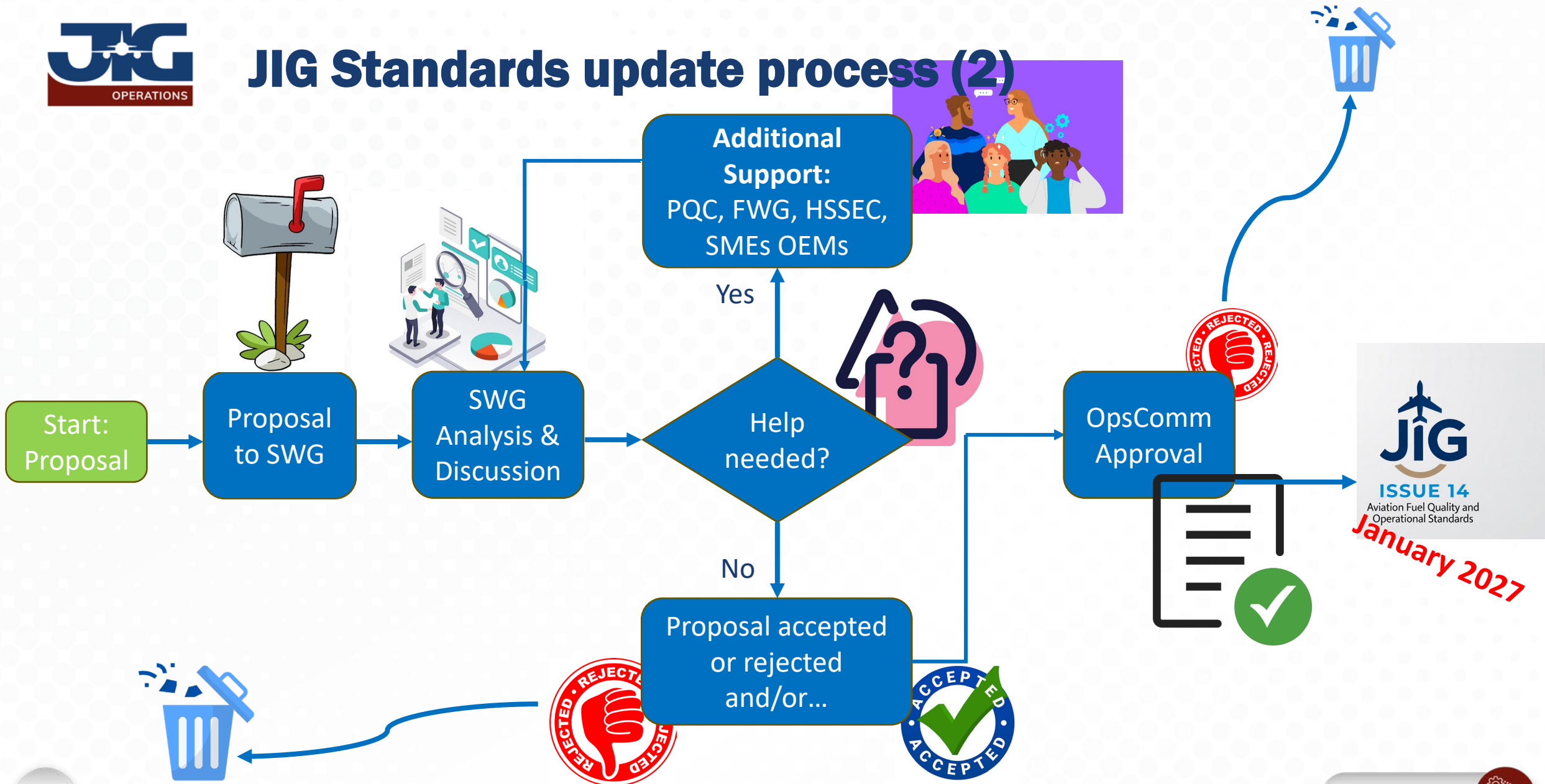
# Standards Working Group (SWG)

Name	Co	Name	Co
Ben Harries (Chair)	BP	Abdou Diop	Vivo Energy
Nan Yanbo	CHV	Tobias Brueck	AFS
Gianni Allegretta	ENI	John Thurston	WFS
Nigel A Harris	XOM	Murali Krishna Putta	ENOC
Paul Carmody	KPIAC	<i>Bert de Kong *</i>	<i>IFQP (KLM)</i>
Stefan Berkus	SH	<i>Trevor Bertrand *</i>	<i>IFQP (BA)</i>
Ziad Saliva	TO	<i>* invited</i>	
<b>JIG Support</b>			
Ibon Ibarrola Armendariz		Lee Taylor	
Luke Hutson			
Andrea Wixey			

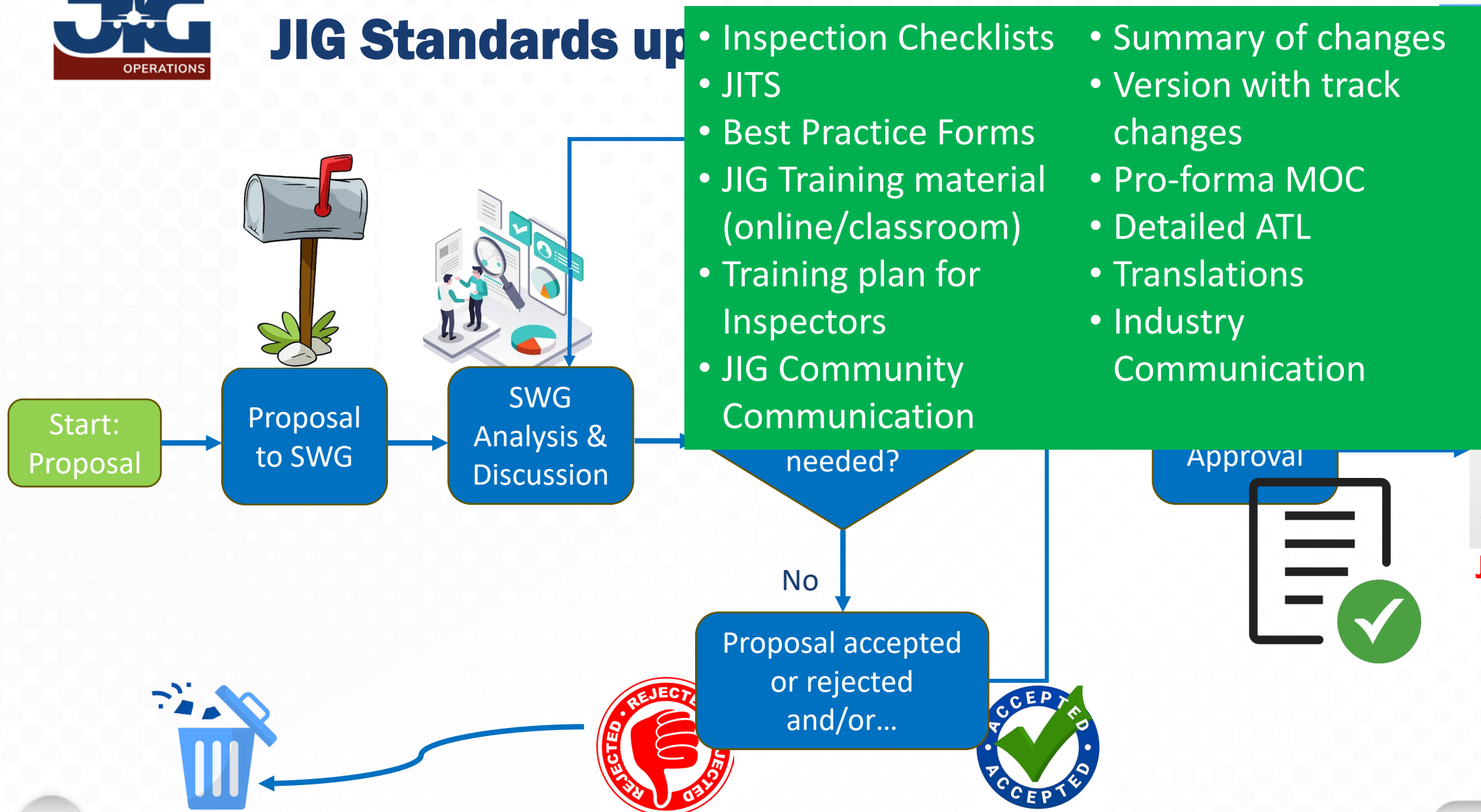


Additional representatives of the members or other external parties may attend meetings (as visitors), if invited by the Chair, to add expertise to a specific topic (but have no voting rights).

# JIG Standards update process (2)



# JIG Standards up



**ISSUE 14**  
Aviation Fuel Quality and Operational Standards  
**January 2027**

# JIG SWG – Action Tracking List (Interactions)





# JIG update & Roll out plan

Year	Plan
2021-2025	SWG ATL / review of items
End of 2025	<b>SWG ATL closed to new items (Close Form on the website)</b>
1Q → 3Q 2026	<b>Issue 14 DRAFT</b> , Initiate MOC, Stakeholders/Industry review
4Q 2026	Review and Sign-off
<b>2027 (Jan)</b>	<b>Launch (via JIG Bulletin)</b>
2027	Inspector training, Manager Workshops, Inspection Checklist, Communications
<b>2028 (by Jan)</b>	<b>Sites to be compliant</b>



# JIG Issue 14 - SWG

## SWG Meetings for Issue 14/5

Meetings in 2022 (2): Total Working Hours 143

Meetings in 2023 (4): Total Working Hours 286

Meetings in 2024 (4): Total Working Hours 286

Meeting in 2025 (+4): Total Working Hours ↑↑ 584

Meeting in 2026 (+6): Total Working Hours ↑↑ 750  
 SWG Issue 14 development WORKING HOURS:

↑↑↑ 1,800

	J1	J2 & J4	TOTALS
Approved by OpsCom	119	64	183
Agreed SWG	17	13	30
Rejected	50	63	113
No Action	21	25	46
Pending	5	30	35
<b>TOTALS J1</b>	<b>212</b>		
<b>TOTALS</b>	<b>407</b>		407



# JIG SWG – Action Tracking List (ATL)

- Document all inputs, discussions and agreements and with the **proposed updates by the SWG** for approval by the Ops Committee
- Document reasons why some suggestions not supported (no change in the Standard)
- Tracker for progress (drafting/reviews/ approvals)

ue 14: Proposed updates	Subject matter	Date Reviewed	Action by	ACTIONS OUTSTANDING	PD	CH	VI	WT	AF	WF	DA	SH	EX	TO	EN	FAH	Status Date SWG	STATUS	NO
then guidance on exactly what minimum checks are required JIG 1530.	PQ control & certs	#####	IIA	Check against Def Stan ASTM -1530			A		D					R					
<b>1.15.2):</b> The test results shall be checked to confirm that the significant changes have occurred in any of the properties. To ation Test results on flash point, freeze point, distillation and linear calculation of expected results from a weighted average on each fuel batch used to form the new batch (e.g. CoQ, COA s – note only a maximum of three new batched and the tank heel rting). Where test results have changed significantly from their ito possible contamination should seek to identify cause and limited to CoQ & testion the conversion of the density to standard temperature and the n on pipeline Release Certificate.	Receipt	#####	IIA	In discussion in PQC Check wording 1530 and adjust accordingly										A					
add further wording? Control Check should be good enough to	PQ control &	#####	To Master	To Master Document													19/09/2024	Approved by DpsComm	
quality issues.	Filtration	#####	NO ACTION	Rejected by FWG													04/02/2025	Rejected	
sought.	PQ control & certs	#####	To Master Document	To Master Document			A		A					A			19/09/2024	Approved by DpsComm	
ial (adjust wording as detailed in red): Where confirmed as being above acceptable levels (see section d. As a minimum, this shall include on-site assay tests for : on Drain Line Samples of Jet fuel using <del>IATA recommended</del> latest edition, at least every 6 months for a period of 2 years.	Filtration	#####	SWG	Agreed FWG	A		A		D					A			04/03/2025	Approved by DpsComm	
orning filter vessels shall be drained of any free water while	Storage	#####	SWG	PENDING ON WG (Wording in principle agreed) See item J2-018A (WG: BHNH)	A		A												
<b>1 (deleted in red):</b> positively segregated or separated system e tank sump/low point drain line content and take a -drain line ee of suspended water and sediment, a Control Check and y hydrant) shall be performed.	Storage	#####	SWG	Reject SWG	D		D		D					D			06/11/2024	Rejected	TB: since then SCA equi BH: not

Section	Description
<b>JIG 1</b>	
General	All references to filter monitors and EI 1583 have been d
General	Requirement for 'trained and competent person(s) define 'trained and competent' clarification not required in subs 'trained and competent' clarification has been deleted in :
General	Terminology 'hydrant pit', 'hydrant pit coupler' and 'hydrant consistent.
General	Use of terms drain/draining, flush/flushing and sample/s with Glossary definitions.
General	Clarified use of terms 'Operator' as an entity and 'operat
General	Clarified use of term 'may'. 'May' designates an option.
Glossary – Drain / Draining	Definition of Drain / Draining added.
Glossary – Flush / Flushing	Definition of Flush / Flushing added.
Glossary – Function test	Added reference to proof test.
Glossary – Hydrant pit	Definition of hydrant pit added.
Glossary – Hydrant pit coupler	Definition of hydrant pit coupler added from EI 1540.
Glossary – Hydrant pit valve	Definition aligned with EI 1540.
Glossary – Hydrant system	Definition aligned with EI 1540.
Glossary - Incident	Definition of 'Incident' aligned with JIG HSSE-MS.
Glossary – Meter	Definition clarified and term changed from 'meter prover'

Section	Description	Change Type
Proving Tank	tank'. Terminology updated in section 4.9 to be consistent.	
Glossary – Proof test	Definition of 'Proof test' added.	Editorial
Glossary – Sample / Sampling	Definition of Sample / Sampling added.	Editorial
1.3	Deleted 'Recommendation' as part of definition for 'should'.	Editorial – Clarification
1.4	Clarification on application of JIG 4. 'Where an Avgas facility is operated within an operation handling jet fuel in accordance with the JIG 1 and / or JIG 2 standards the small Avgas facility may be operated to JIG 4, if the entity can effectively maintain compliance to the relevant standards.'	Editorial – Clarification
1.6	Readability improved. Variance review process clarified. Requirement for all sites participating in the JIG Inspection Programme to upload Variance on JIG Dashboard now <b>shall</b> (was should).	Mandatory – Existing Procedure
2.2	Requirement now 'If an employee cannot correctly identify the colour of aviation fuel and its related identification colour code, they shall <i>not perform tasks that require correct colour identification.</i> '	Mandatory – Existing Procedure
2.2.1	Clarified that flushing three times is for laboratory/retention samples.	Editorial – Clarification
2.3.3.2	Deleted 'Where further testing is required this may be performed on the sample drawn into the "visjar", but any equipment or accessories needed to complete the test shall only be inserted after the completion of the Visual Appearance Check.'	Editorial
2.3.3.5	Deleted 'and the pressure should be maintained at 30 to 35 psi'.	Simplification
2.3.3.5	Deleted 'All results shall be recorded and the membranes retained in accordance with retention requirements.'	Editorial
2.3.3.9	Refractometer method for FSII detection text simplified to improve readability.	Editorial
2.3.3	Table 2.3.3 - Clarified that CWD Check is only for Jet fuel.	Editorial – Clarification
3.1	Deleted reference to Appendix A18.	Editorial
3.1.1	Text simplified to clarify fuelling vehicle requirements. Deleted the statement 'meet the most stringent requirements of this Standard and applicable	Simplification

Item	Description	Change Type
1000	...	Editorial
1001	...	Editorial
1002	...	Editorial
1003	...	Editorial
1004	...	Editorial
1005	...	Editorial
1006	...	Editorial
1007	...	Editorial
1008	...	Editorial
1009	...	Editorial
1010	...	Editorial
1011	...	Editorial
1012	...	Editorial
1013	...	Editorial
1014	...	Editorial
1015	...	Editorial
1016	...	Editorial
1017	...	Editorial
1018	...	Editorial
1019	...	Editorial
1020	...	Editorial
1021	...	Editorial
1022	...	Editorial
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1026	...	Editorial
1027	...	Editorial
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1090	...	Editorial
1091	...	Editorial
1092	...	Editorial
1093	...	Editorial
1094	...	Editorial
1095	...	Editorial
1096	...	Editorial
1097	...	Editorial
1098	...	Editorial
1099	...	Editorial
1100	...	Editorial

## Summary of Changes made to JIG 1 Issue 14

### Summary of Changes:

Mandatory – All Equipment, i.e. a mandatory requirement for all existing and new equipment

Mandatory – New Equipment, i.e. a mandatory requirement for new equipment

Mandatory – Existing Procedure, i.e. a mandatory change to an existing procedure

Mandatory – New Procedure, i.e. a mandatory new procedure

Good Practice, i.e. an industry good practice that may improve the operation

Editorial – Clarification, i.e. additional information to explain the requirements

Editorial, i.e. a change in the text that has no material change on a requirement

Simplification, i.e. a change in a requirement that makes the requirement easier to comply with



# Issue 14 Key Changes

## Out of JIG scope items (removed)

- ✓ Spark arrestors; requirements removed from JIG
- ✓ Tyres; requirements removed from JIG

## Filtration Agreed items (all JIGs)

- ✓ Remove all references to **Filter Monitors**
- ✓ **Filter Inspection Form (A15/A16)**, reviewed & updated (FM removed, new technologies updates **B147**)
- ✓ **Filtration Appendix A5 reviewed**: filter flow rates, annual inspection, new filtration technologies and filtration updates - **B160**
- ✓ Clarification that **new separators elements DO NOT** need to be water tested before installation
- ✓ Clarification about using filter elements from different OEM (coalescer & separators – interchangeability, if they are qualified)



# Issue 14 Key Changes

## Agreed items with capex impact (only first one)

### JIG 2, 3.5.7

*3.5.7* Low point valves should be of the quick disconnect dry break coupling type with an isolating ball valve directly below them with each valve rated in accordance with the hydrant pressure rating. The dry break coupling arrangement shall be designed to relieve trapped pressure to allow easy connection and disconnection of the hose coupling. Where such valves are not installed, they should be fitted. For added safety, consideration should be given to the installation of air-operated control valves on the low and high point valve risers.

Flushing and draining without the dry break coupling, is a high-risk operation. Due to this, we will state in JIG 2 Issue 14 as follows:

- ✓ All low point valves **shall** be of the quick disconnect dry break coupling type

### JIG 2, 3.5.4

*3.5.4* All hydrant pit covers shall be tethered or permanently connected to pits. Hinged pit lids shall be designed to lay flat on the apron when opened. Tethers should be manufactured from a suitable material of adequate strength that does not easily degrade, e.g. a metallic chain.

This is to add clarification, that all pit covers shall be tethered. No change, just avoiding misinterpretation of the JIG Standards.

- ✓ All hydrant **low point, vent and pit covers** shall be tethered



## JIG 2 UPDATES

- ✓ Variance approval process wording reviewed (JIG 1, 2 & 4)
- ✓ JIG 2, 2.3.2 e) Release Certificate – wording reviewed and AFQRJOS reference removed
- ✓ JIG 2, 3.2.4, added clarification about **settling times for tanks WITHOUT floating suction**
- ✓ JIG 2, 3.7 All pipework, fittings and filter membrane test points **shall** be stainless steel, aluminium or epoxy lined carbon steel.’ was ‘should’
- ✓ JIG 2, 10.8 Emergency shutdown (in fuel farms) buttons testing clarified; **shall** be proof tested
- ✓ JIG 2, 10.10: Tank bund areas **shall** be kept free of vegetation, for earth bunds any vegetation **shall be kept short** and bund drain valves shall be kept closed and secured
- ✓ **Pit lids:** Ensure the pit lid is in sound condition and if the lid is of hinged type, **ensure it lays flat**
- ✓ Added details (an example, with a drawing) for the **Hydrant pit/inlet hose identification and protection**
- ✓ Add reference in JIG 2 to cover procedures for **Aircraft incidents** where fuel quality could be a contributory factor (as JIG 1, 6.17)



## JIG 1 UPDATES

- ✓ **Variance approval process** wording reviewed (JIG 1, 2 & 4)
- ✓ Remove reference to “**IATA recommended MBG test kits**” – IATA is reviewing “the list”
- ✓ “**Trained and competent**” reviewed several references, simplification (JIG 1, 2 & 4)
- ✓ **Elevating Platforms in fuelling vehicles requirements:** reorganise the order, all SHALLs together
- ✓ All **hydrant couplers used with CLADs** shall be compliance with EI 1576 (updated)
- ✓ Clarification for sensing devices (wand sensors on moving platforms) **design/testing requirements**
- ✓ Clarification the underwing nozzles DO NOT require **an annual wear check**
- ✓ **Defuelling section:** Reviewed for consistency and clarity
- ✓ **JIG 4,** will be reviewed and updated with all new updates agreed for JIG 1 & 2





# Issue 14 Key Changes

## JIG 4 UPDATES

- ✓ **JIG 4, 7.3.1** Fuelling vehicle commissioning requirements and procedures **shall** be clearly defined.
- ✓ **JIG 4**, items for **JIG 1 & 2** previously mentioned



# Issue 14 Key Changes - Items still under review

- ✓ **JIG 1 Deadman closing time** and test requirements
- ✓ **DDF + EWS Filtration:** Additional work to assess further changes:
  - ✓ EWS configuration (connected to deadman/meter, delay of 5 secs, etc.)
  - ✓ Performance Level (PL) of PL(b), in accordance with EN ISO 13849-1
- ✓ Fueller loading pre-check test during loading (automatic vs manual systems)
- ✓ Reviewing EI 1540 to assess impact on:
  - ✓ **Hydrant system ESB**
  - ✓ **Wireless ESB**
- ✓ **Reviewing HM20 new edition** to adjust JIG Standards (meter calibration JIG 1, 2 & 4)



# Issue 14 Key Changes – The big Photo



## JIG 1

- ✓ 90 Editorial
- ✓ 29 Simplification
- ✓ 28 Mandatory



# Issue 14 Key Changes – The big Photo

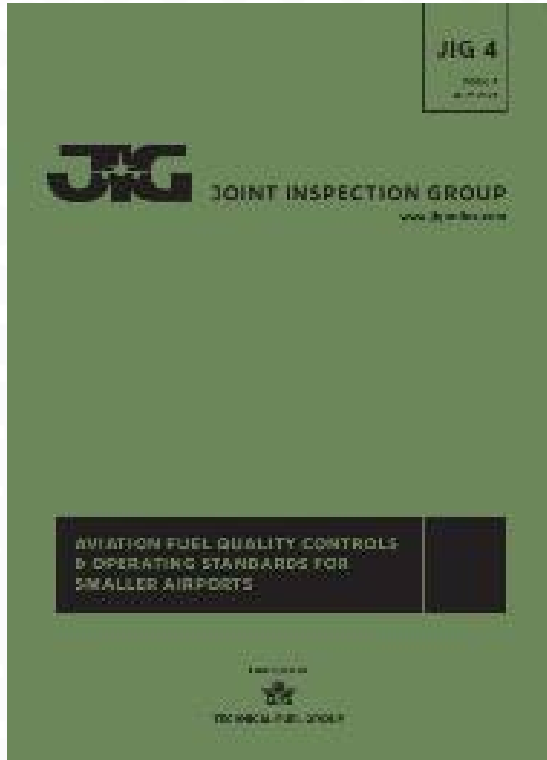


## JIG 2

- ✓ 60 Editorial
- ✓ 17 Simplification
- ✓ 24 Mandatory



# Issue 14 Key Changes – The big Photo



## JIG 4

- ✓ 95 Editorial
- ✓ 33 Simplification
- ✓ 33 Mandatory



# Issue 14 – Action for you

Summary of Changes made to JIG 1 Issue 14

Section	Description	Change Type
<b>JIG 1</b>		
General	All references to filter monitors and EI 1583 have been deleted.	Simplification
General	Requirement for 'trained and competent person(s)' defined in section 1.5, 'trained and competent' clarification not required in subsequent sections and 'trained and competent' clarification has been deleted in subsequent sections.	Editorial
General	Terminology 'hydrant pit', 'hydrant pit coupler' and 'hydrant pit valve' made consistent.	Editorial
General	Use of terms drain/draining, flush/flushing and sample/sample made consistent with Glossary definitions.	Editorial
General	Clarified use of terms 'Operator' as an entity and 'operator' as individual.	Editorial
General	Clarified use of term 'may'. 'May' designates an option.	Editorial
Glossary – Drain / Draining	Definition of Drain / Draining added.	Editorial
Glossary – Flush / Flushing	Definition of Flush / Flushing added.	Editorial
Glossary – Function test	Added reference to proof test.	Editorial
Glossary – Hydrant pit	Definition of hydrant pit added.	Editorial
Glossary – Hydrant pit coupler	Definition of hydrant pit coupler added from EI 1540.	Editorial
Glossary – Hydrant pit valve	Definition aligned with EI 1540.	Editorial
Glossary – Hydrant system	Definition aligned with EI 1540.	Editorial
Glossary - Incident	Definition of 'Incident' aligned with JIG HSSE MS.	Editorial
Glossary – Meter Proving Tank	Definition clarified and term changed from 'meter prover' to 'meter proving tank'. Terminology updated in section 4.9 to be consistent.	Editorial – Clarification
Glossary – Proof test	Definition of 'Proof test' added.	Editorial
Glossary – Sample / Sampling	Definition of Sample / Sampling added.	Editorial

January 2027



January 2027



JIG INSPECTION TRACKING SYSTEM



# Questions?





# COFFEE BREAK

FOR SPECIFICATIONS  
SEE FLIGHT MANUAL  
JET FUEL PRESSURE  
MAX 3.5 BAR  
50 P.S.I.  
MAX SUCTION  
0.8  
11 P.S.I.

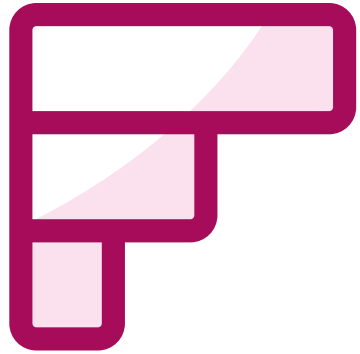


# Management Tools for Site Managers

JIG Workshops, Nairobi – April 2026

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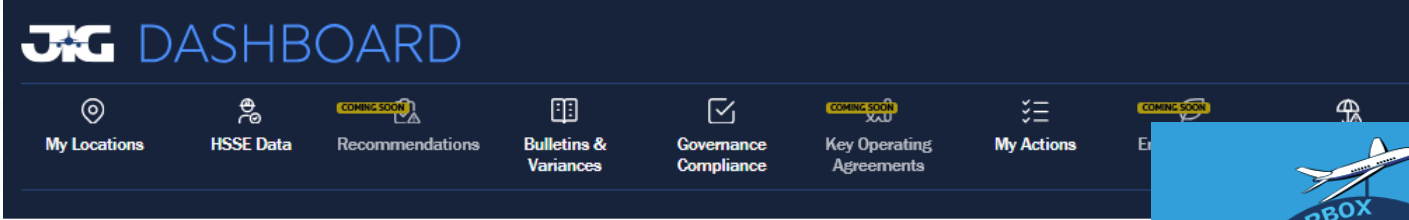




Please rank how well you know these  
JIG Tools for Managers ?

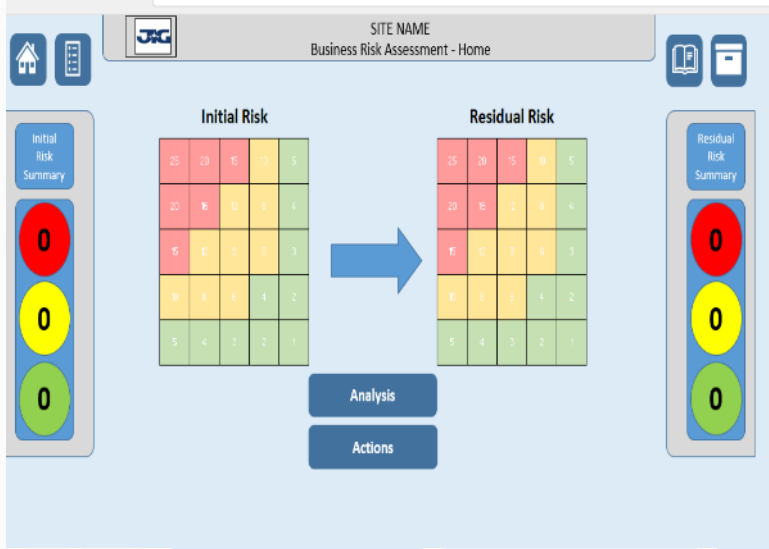


How often do you use any of these tools ?



### TARBOX - AVIATION REFUELLING INDEMNITY PORTAL

This Free Portal is available for use by anyone in the Aviation Fuel handling industry who want to learn more about the principles of TARBOX, or manage their existing Agreements. Aircraft Refuelling Indemnification Agreements ("Tarbox") are a key element to ensure that you are fully covered by your Aviation Refuelling Liability Insurance cover when using joint facilities.



Are you looking for data still a...  
[Go to old Dash](#)

COMING SOON

AT A GLANCE

- 1 Locations are using HSSE data
- 0 Locations are using HSSE
- 0/1 Locations overdue bu action
- 1/1 Locations overdue bu action
- 0 Variances review in date

COMING SOON

ENVIRONMENTAL DATA (CSR)

MY ACTIONS

COMING SOON

Advise JIG of Errors



MENU

- TARBOX HOMEPAGE
- CENTRAL AGREEMENTS
- LOCAL AGREEMENTS
- View
- Add
- Resources & Information
- FILTER
- EXPORT
- HELP

You have some incorrect Tarbox Agreement Types

Showing Tarbox Agreements for: All your locations

Location	Structure	Agreements	Version	Date	Signed	Managed by
Aberdeen ABZ-NORTHAIR:ADIP	IncJV	Exhibit 2A	Pre 2015	02/10/2014	4/7	Site Manager
Abidjan ABJ-POOL:ADHIP	NonIncJV	Exhibit 4A	-	-	0/4	Site Manager
Accra ACC-JUHI:ADIP	NonIncJV	Exhibit 4A	-	-	0/4	Site Manager
Adelaide ADL-AAFF:ADH	Throughput	Exhibit 2B	-	-	0/3	Site Manager
Adelaide ADL-HRS JOSF:ADH	Throughput	Exhibit 2B	Post 2015	21/11/2021	3/3	Site Manager
Agadir AGA-GSFS:ADHIP	IncJV	Exhibit 3A	-	-	0/4	Site Manager
Al Hoceima AHU-MAFS:ADIP	IncJV	Exhibit 3A	-	-	0/4	Site Manager
Albacete ABC-SLCA:ADIP	IncJV	Exhibit 3A	Post 2015	25/08/2016	5/5	Site Manager

**JIG DASHBOARD**

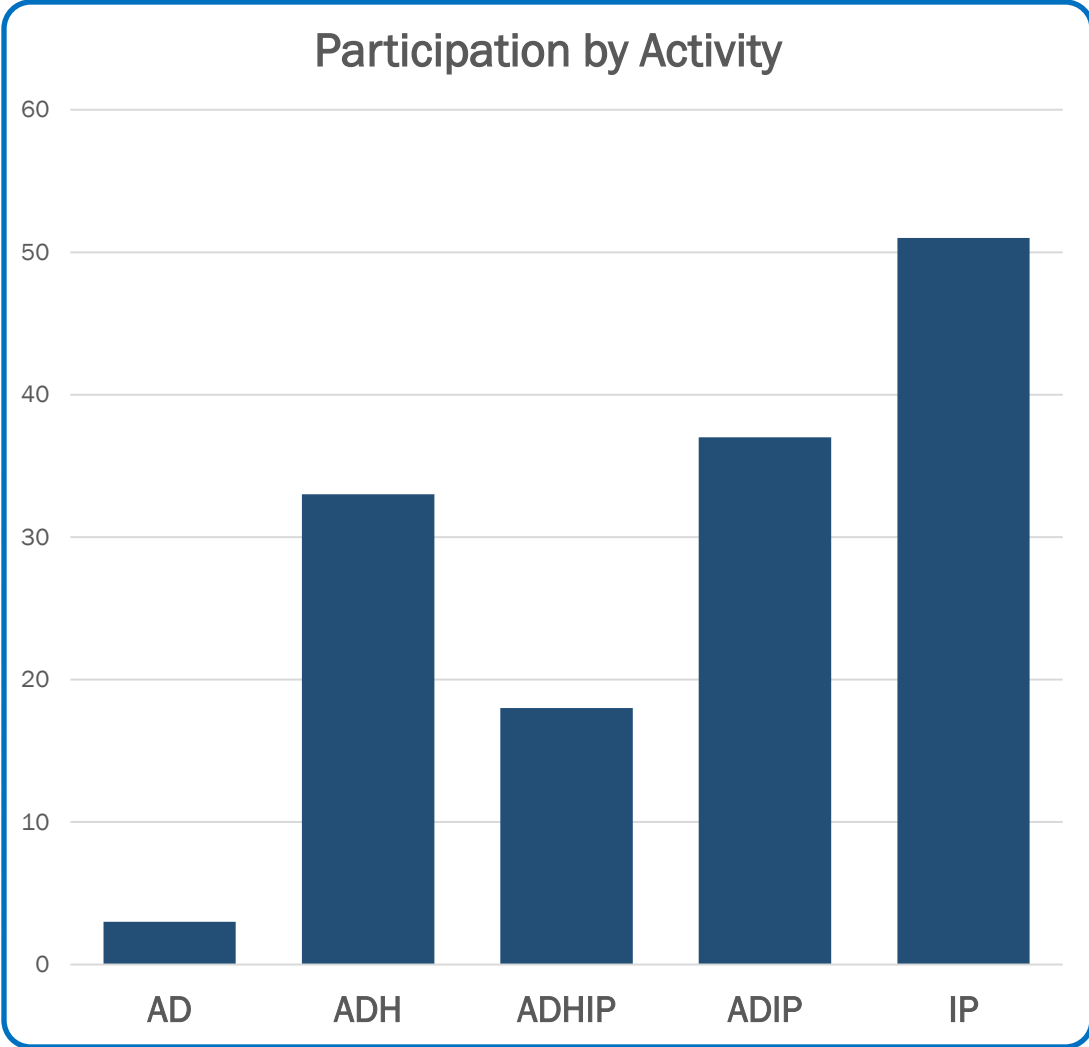
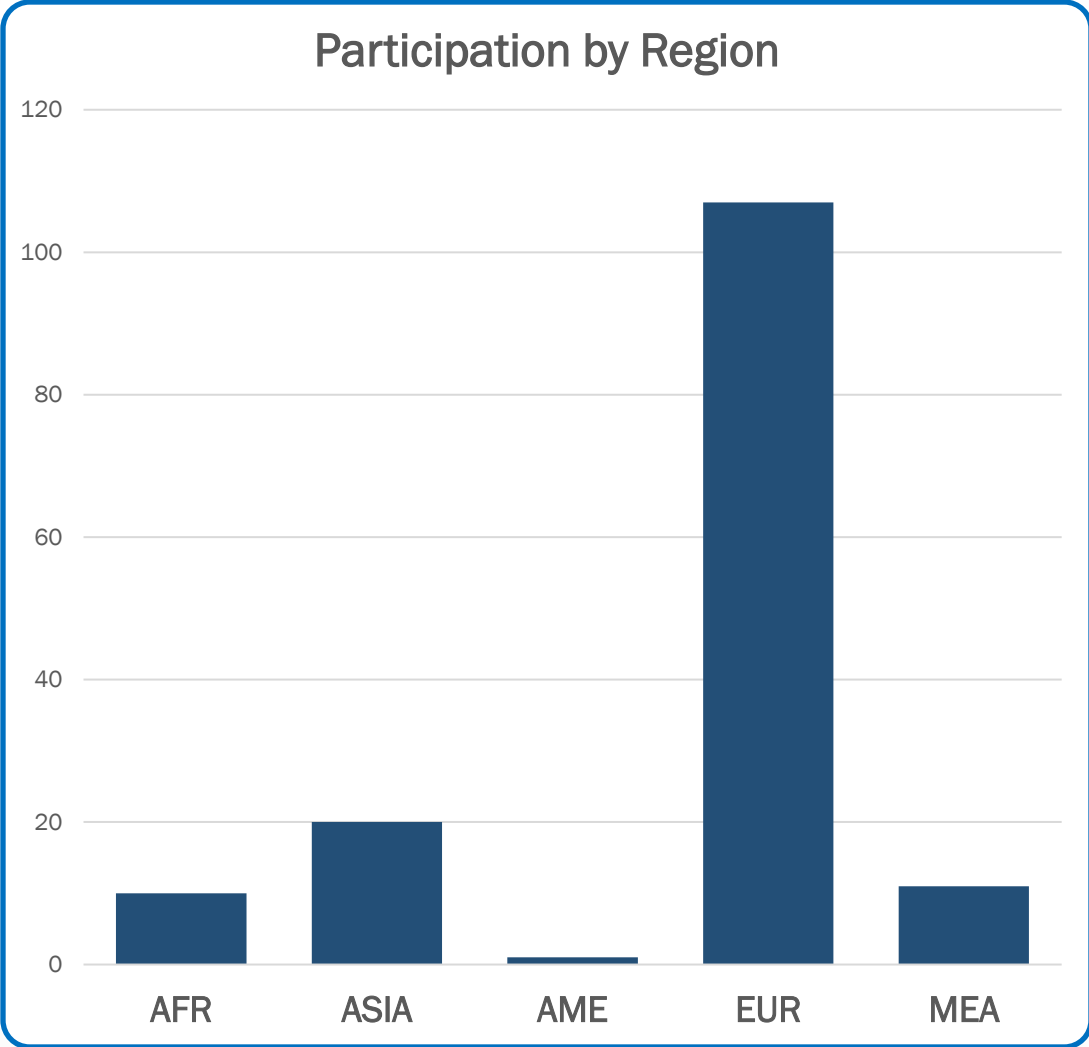
- My Locations
- HSSE Data
- Recommendations COMING SOON
- Bulletins & Variances
- Governance Compliance
- Key Operating Agreements COMING SOON
- My Actions
- Environmental Data (CSR) COMING SOON
- Tarbox

? Are you looking for data still available in [old Dashboard?](#)  
[Go to old Dashboard](#) →

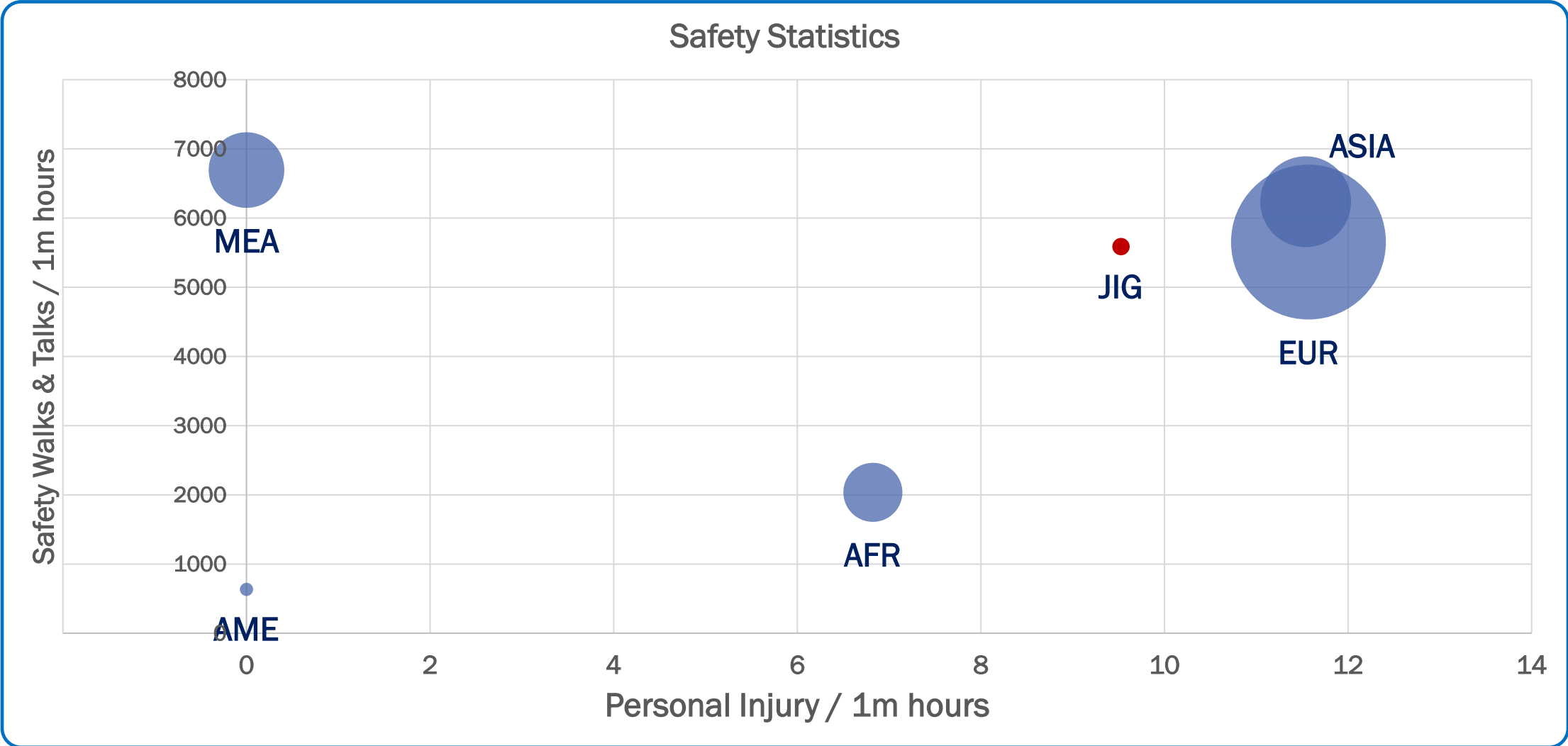
AT A GLANCE		
<b>1</b> Locations are using HSSE data	<b>0</b> Locations are not using HSSE data	<b>1/1</b> Locations have completed data
<b>0/1</b> Locations using checklists are up to date	<b>0/1</b> Locations are not using checklists	<b>0/1</b> Checklists with POOR Governance Rating
<b>0/1</b> Locations with actions due this month	<b>1/1</b> Locations with overdue bulletin actions	<b>1</b> Closed actions in last 12 months
<b>1</b> Variances are overdue for review	<b>0</b> Variances require review	<b>1</b> Active Variances in date

1

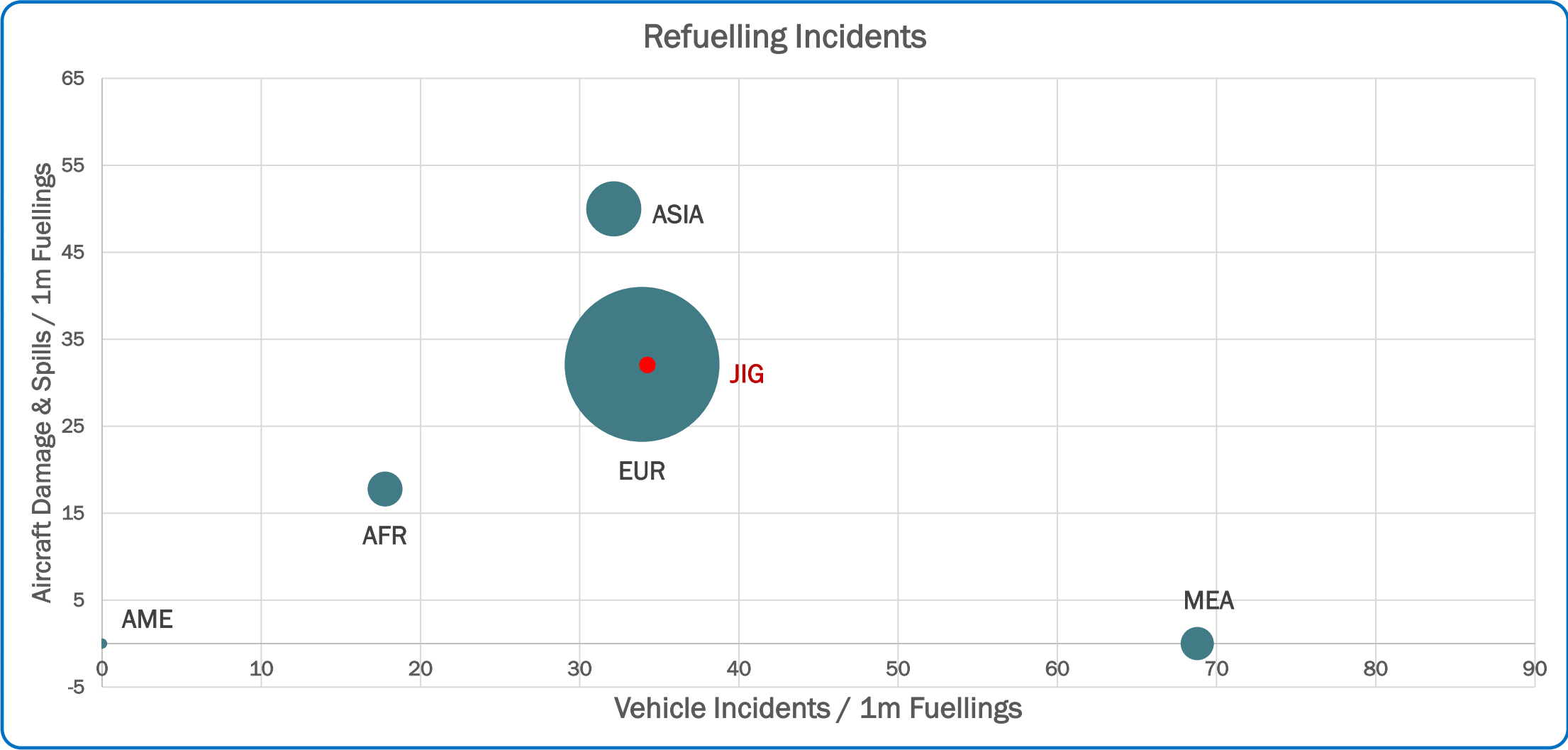
# HSSE Data : Participating Sites



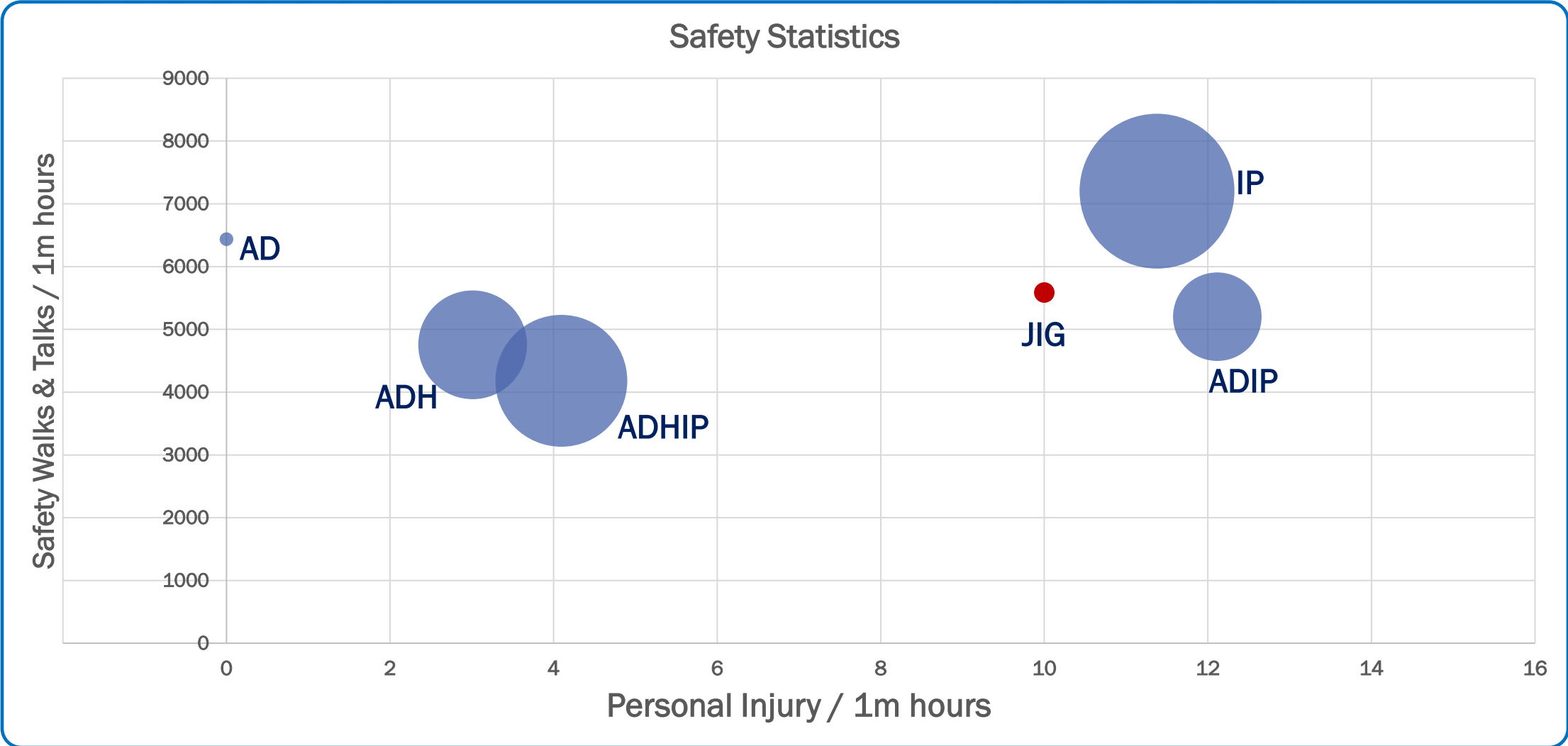
# HSSE Data : Safety Stats by Region



# HSSE Data : Refuelling Stats by Region



# HSSE Data : Safety Stats by Activity



# Benchmarking on Dashboard



**MENU**

- My Locations
- HSSE Data**
  - Graph View
  - Table View
  - Location List View
- Recommendations
- Bulletins & Variances
- Governance Compliance
- Key Operating Agreements
- Environmental Data (CSR)
- Tarbox
- FILTER**
- EXPORT**
- HELP**



**MENU**

- My Locations
- HSSE Data**
  - Graph View
  - Table View
  - Location List View
  - Data Entry
  - Target Entry
  - Good Practice
- Recommendations
- Bulletins & Variances
- Governance Compliance
- Key Operating Agreements
- My Actions
- Environmental Data (OSR)
- Tarbox
- FILTER**
- EXPORT**
- HELP**
  - FAQs
  - User Guide**
  - Contact Us

Your HSSE Data for the current year is not up to date [Upload data here](#) →

Showing data for: All your locations | Previous 12 months

View: 📊 📄 📍 ✓ Show raw data

Showing Raw Data

	2026			2025			2024		
	JIG Annual Average	Target	Actual	JIG Annual Average	Target	Actual	JIG Annual Average	Target	Actual
<b>Health Impact</b>									
Illness with irreversible health effects	-	-	-	0	0	0	-	-	-
<b>Personal Injury</b>									
Fatality	-	-	-	-	-	-	0	0	0
Lost Workday Case (LWC)	-	-	-	-	-	-	0	0	0
Restricted Work Case (RWC)	-	-	-	-	-	-	0	0	0
Medical Treatment Case (MTC)	-	-	-	-	-	-	0	0	0
First Aid Case (FAC)	-	-	-	-	-	-	0	0	0
<b>Operational Incidents</b>									
Fires	-	-	-	-	-	-	0	0	0
Non-refuelling vehicle incidents	-	-	-	-	-	-	1	0	0
Loss of Primary Containment (LOPC) less than 20 litres	-	-	-	-	-	-	0	0	0
Loss of primary containment (LOPC) between 20 and 150 litres	-	-	-	-	-	-	0	0	0
Loss of primary containment (LOPC) greater than 150 litres	-	-	-	-	-	-	0	0	0










58

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# Other Features

 <b>MY LOCATIONS</b>	 <b>HSSE DATA</b>	 <small>COMING SOON</small> <b>RECOMMENDATIONS</b>
 <b>BULLETINS &amp; VARIANCES</b>	 <b>GOVERNANCE COMPLIANCE</b>	 <small>COMING SOON</small> <b>KEY OPERATING AGREEMENTS</b>
 <b>MY ACTIONS</b>	 <small>COMING SOON</small> <b>ENVIRONMENTAL DATA (CSR)</b>	 <b>TARBOX</b>

Coming Next

Now Live for All Users

Now Live for Site Managers

My Locations

HSSE Data

Recommendations

**Bulletins & Variances**

Summary

Summary By Bulletin

**Bulletin Actions**

Variance Library

Register a Variance

Governance Compliance

Key Operating Agreements

My Actions

Environmental Data (CSR)

Tarbox

**FILTER** +

**EXPORT** +

**HELP** +

Showing Bulletin Actions for your applied filters

[← back to summary](#)

Outstanding tasks only  
 Overdue tasks only

Sort by  

Status ▾

**ACTION REQUIRED**

**RP BULLETIN 157 - GOVERNANCE ANNUAL CHECKLISTS** [↓](#)

(3rd April 2025)

London ABC-JIG TEST:ADHIP

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Consider Good Practice to complete Annual Governance Checklists on the JIG Dsahboard.

🔔 26/06/2025

**RA BULLETIN 158 - PARKER VELCON FILTRATION SAFETY AWARENESS** [↓](#)

(7th July 2025)

London ABC-JIG TEST:ADHIP

---

Sites with PARKER VELCON elements in stock, listed in Table 1 of this Bulletin, shall check the manufacturing dates and shall inspect all elements manufactured between 1st January and 20th June 2025, before installation.

🔔 07/07/2025

**RA BULLETIN 158 - PARKER VELCON FILTRATION SAFETY AWARENESS** [↓](#)

(7th July 2025)

London ABC-JIG TEST:ADHIP

**COMPLETED**

**RP BULLETIN 156 - AFQRJOS CHECKLIST ISSUE 36** [↓](#)

(21st February 2025)

London ABC-JIG TEST:ADHIP

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Locationswith contractual references to AFQRJOS have to adopt latest edition by 28/3/2025

✅ 28/03/2025

**JS BULLETIN 155 - WATER BARRIER FILTERS** [↓](#)

(13th December 2024)

London ABC-JIG TEST:ADHIP

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Remove from stock WBF made before 1/1/2024

✅ 01/01/2025

**JS BULLETIN 155 - WATER BARRIER FILTERS** [↓](#)

(13th December 2024)

London ABC-JIG TEST:ADHIP

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Implement testing protocol of all WBF prior to use.


✅ 01/01/2025

### Reminders:

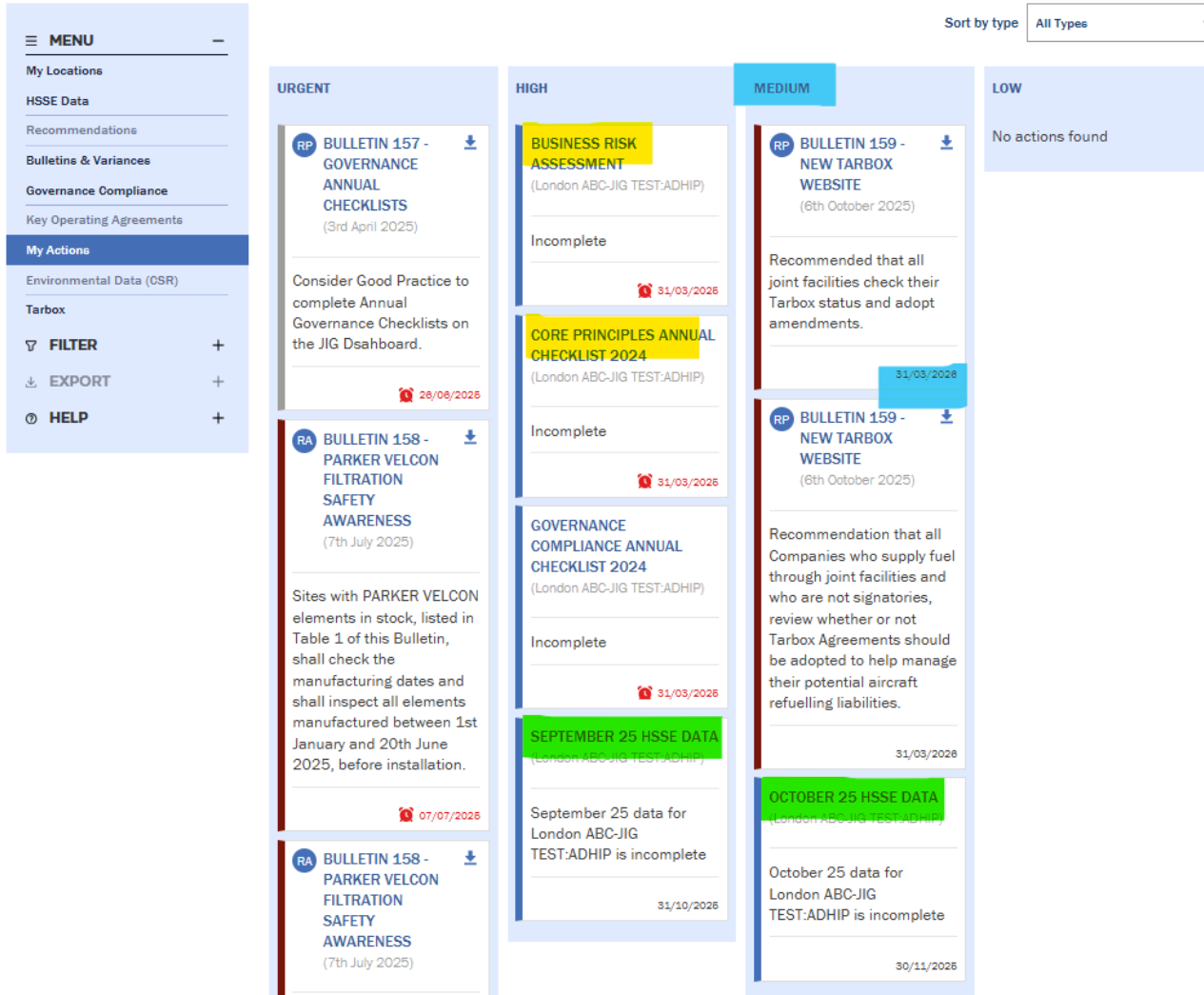
1. Bulletins only appear in the list if they apply to your site type (IP, ADH...) and structure (JV...).
2. You can download bulletin from this screen.
3. If Bulletins are “Recommended Action” you still have to mark them as closed when you have read the bulletin.

60

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Sort by type: All Types

**URGENT**

- BULLETIN 157 - GOVERNANCE ANNUAL CHECKLISTS** (3rd April 2025)  
Consider Good Practice to complete Annual Governance Checklists on the JIG Dashboard. 28/08/2026
- BULLETIN 158 - PARKER VELCON FILTRATION SAFETY AWARENESS** (7th July 2025)  
Sites with PARKER VELCON elements in stock, listed in Table 1 of this Bulletin, shall check the manufacturing dates and shall inspect all elements manufactured between 1st January and 20th June 2025, before installation. 07/07/2026
- BULLETIN 158 - PARKER VELCON FILTRATION SAFETY AWARENESS** (7th July 2025)

**HIGH**

- BUSINESS RISK ASSESSMENT** (London ABC-JIG TEST:ADHIP)  
Incomplete 31/03/2026
- CORE PRINCIPLES ANNUAL CHECKLIST 2024** (London ABC-JIG TEST:ADHIP)  
Incomplete 31/03/2026
- GOVERNANCE COMPLIANCE ANNUAL CHECKLIST 2024** (London ABC-JIG TEST:ADHIP)  
Incomplete 31/03/2026
- SEPTEMBER 25 HSSE DATA** (London ABC-JIG TEST:ADHIP)  
September 25 data for London ABC-JIG TEST:ADHIP is incomplete 31/10/2026

**MEDIUM**

- BULLETIN 159 - NEW TARBOX WEBSITE** (6th October 2025)  
Recommended that all joint facilities check their Tarbox status and adopt amendments. 31/03/2026
- BULLETIN 159 - NEW TARBOX WEBSITE** (6th October 2025)  
Recommendation that all Companies who supply fuel through joint facilities and who are not signatories, review whether or not Tarbox Agreements should be adopted to help manage their potential aircraft refuelling liabilities. 31/03/2026
- OCTOBER 25 HSSE DATA** (London ABC-JIG TEST:ADHIP)  
October 25 data for London ABC-JIG TEST:ADHIP is incomplete 30/11/2026

**LOW**

No actions found

## Key Features:

1. All actions appear here.
2. Lists Actions by priority.
3. Includes Governance Checklist actions
4. Reminder that HSSE statistics are not uploaded.
5. Each Action has click-through to the action page.
6. Under development: optional email reminders.

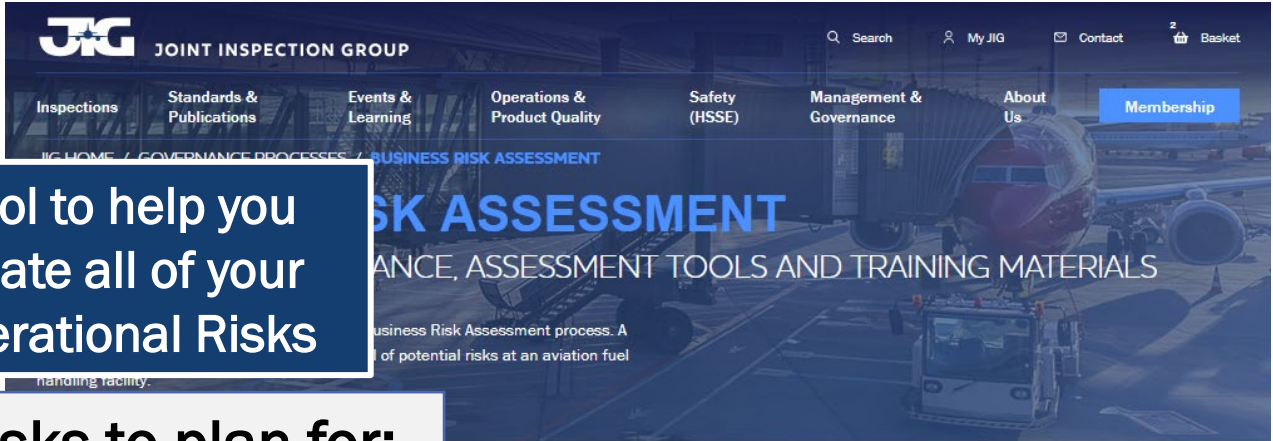


<https://www.jig.org/governance-processes/business-risk-assessment/>



An Excel-based tool to help you identify and evaluate all of your Business and Operational Risks

- Examples of Risks to plan for:
- Loss of infrastructure
  - Equipment failure
  - Product Shortage
  - Cyber-attacks
  - Change in legislation



(A) plays a fundamental role in the effective management of risks that are inherent to an Aviation Fuel Handling Organisation.

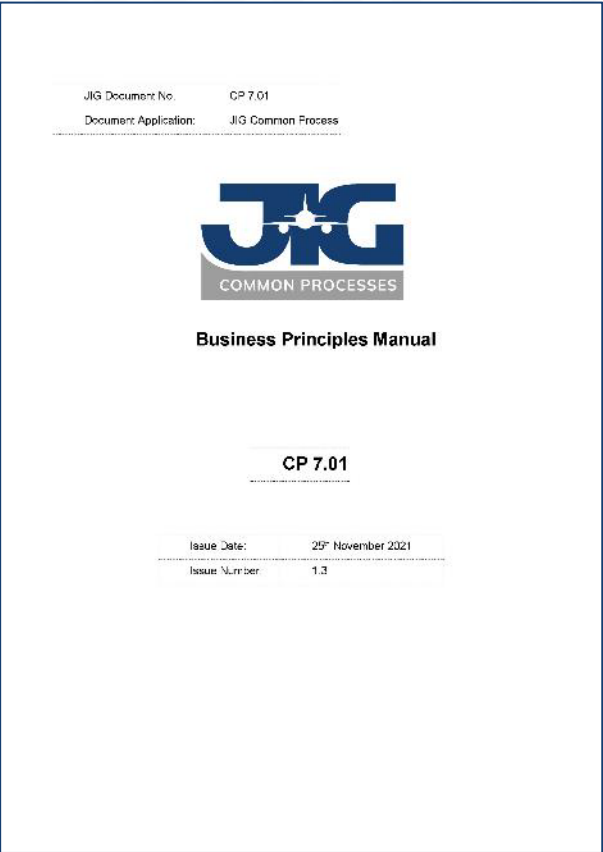
ers, to give guidance on how to approach the subject and how to use the "BRA Tool" created to manage the risks for JIG JVs since 2011.

been expanded with more practical details and hints, as well as a new user-friendly "BRA 2.0" Assessment tool. The update has been designed to make it applicable to all sites that handle jet-fuel, and a good practice that can be

management to prevent or offset certain risks or hazards by implementing "barriers". Many barriers can already exist in an organisation and operating procedures designed to minimise the risks inherent to the activity. However, barriers do get weaker with time, and procedural barriers in particular need to be observed and supervised to ensure they remain effective. The BRA Process encourages organisations to record all of their potential risks and existing barriers to have a full picture of what their risks are, and which barriers may be getting weaker.

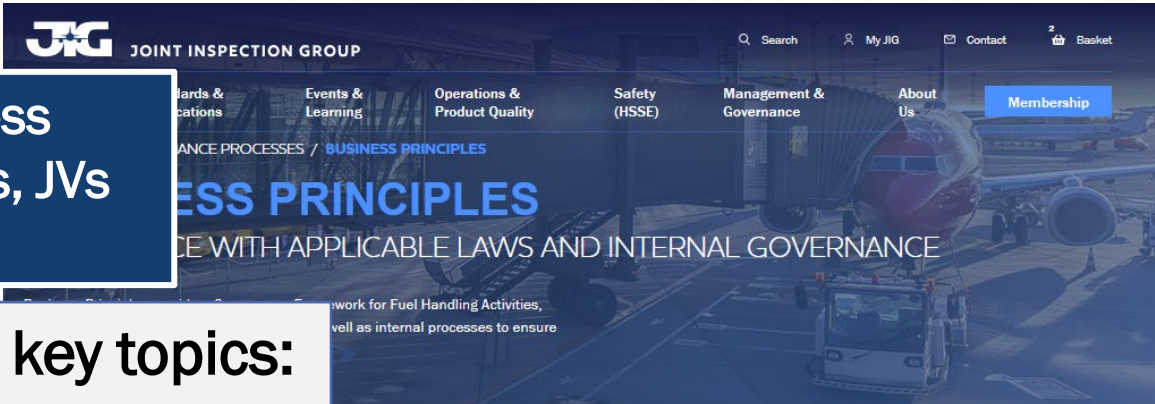
**Business Principles Manual**

<https://www.jig.org/governance-processes/business-principles/>



A guide to good business practice for Companies, JVs and Pools

- Guidance on these key topics:**
- Employees & People
  - Business Relationships
  - Integrity and Corruption
  - Asset Protection
  - Financial Controls
  - Cyber Security
  - Trade Compliance



...originally developed to improve Governance in Joint Ventures. They now include operators to remain compliant with internationally recognised laws and practices any User wishing to implement a governance framework.

...derived from the Policies tab of the [Standards and Publications](#) page.

...document containing key guidelines and principles for adoption by operators who wish to ensure they remain compliant with but not limited to Employment, Discrimination, Business Ethics, Financial Control, Corruption, Cyber Security to ensure that reputational damage.

...Updated clauses and new additions for locations using the JIG Template Operating Agreements.

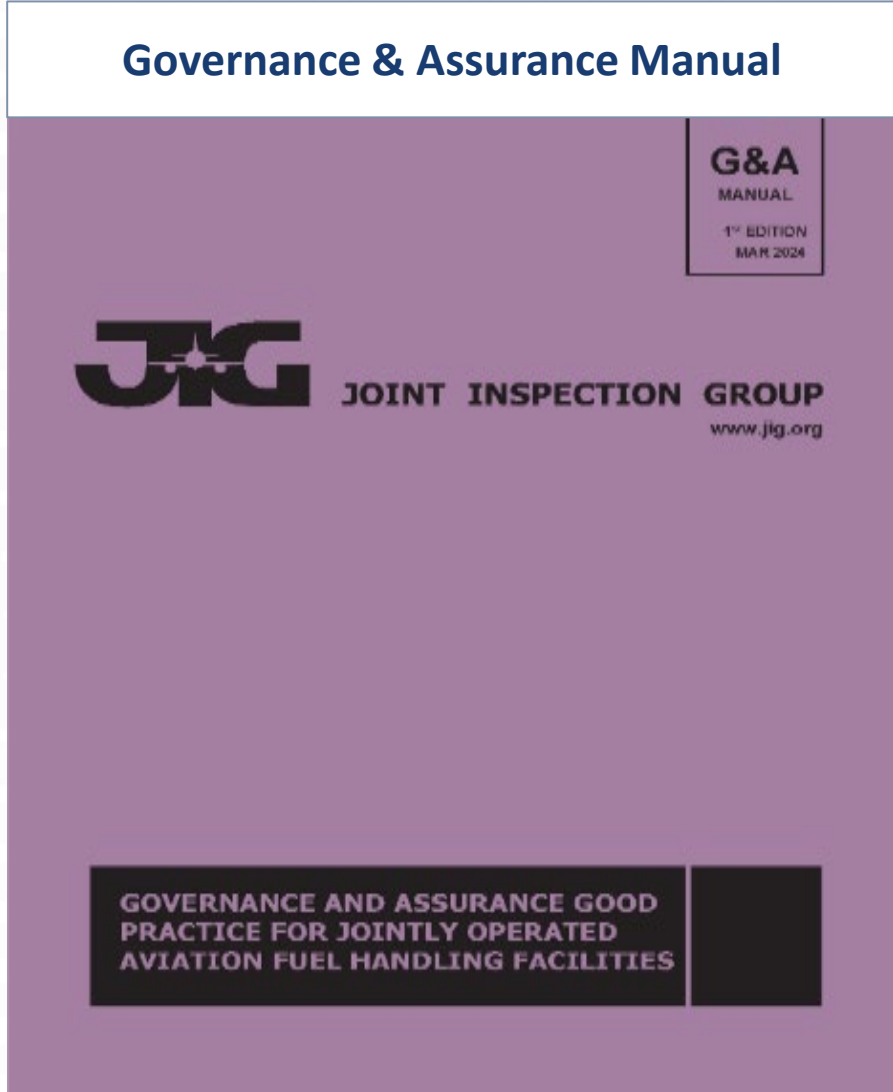
**[1B]:** Guidance document for site managers who adopt the Business Principles.

**[1C]:** Self Assessment document for sites and site managers. Available in Word or Excel format.

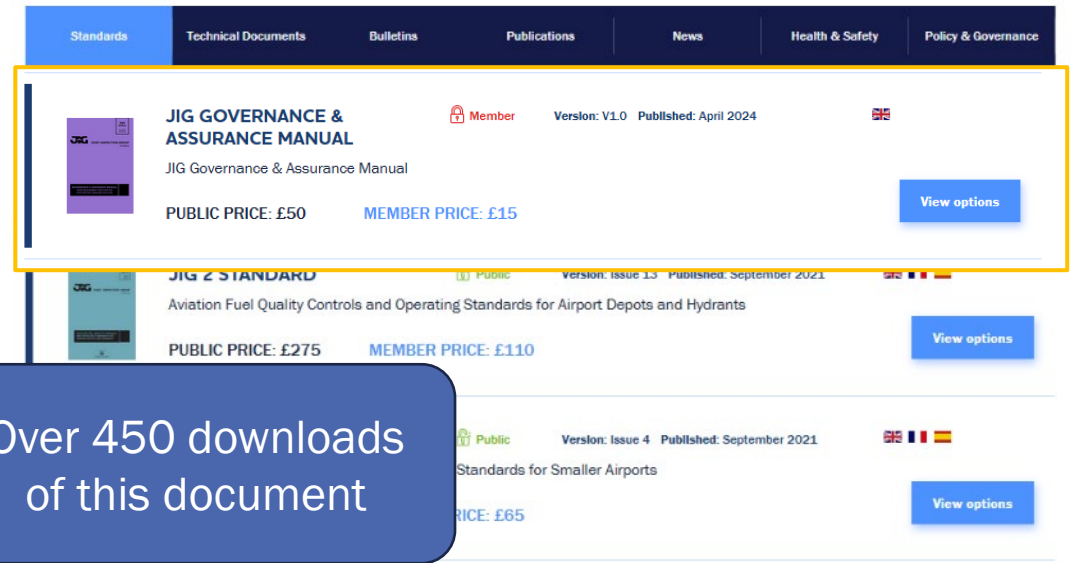
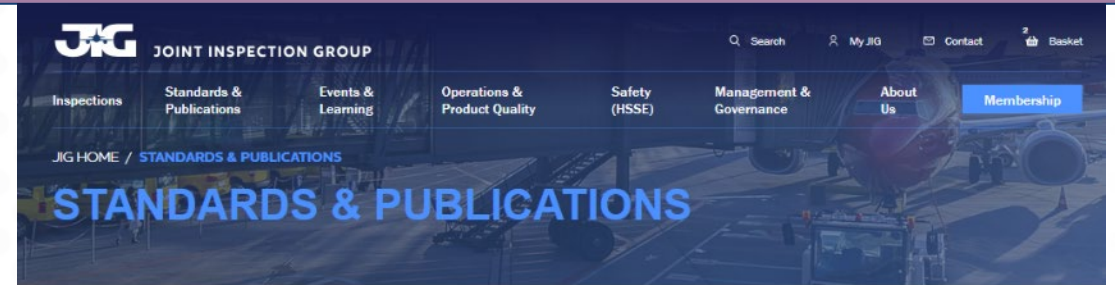
**[CP 7.01D]:** Self Assessment / Gap Analysis check list for sites to help them ensure they have internal procedures and/ Principles they have adopted.

...Business Principles is available [here](#).

## Governance & Assurance Manual



Find all the JIG Governance guidance and good practices in one place !



Over 450 downloads of this document





## NAVIGATING THE WEBSITE

*Note: The procedures and practices presented in this document are best practice recommendations only. JOINT INSPECTION GROUP Ltd and/or the JIG Member presenting this document makes no claim or warranty whatsoever as to their completeness or suitability. JOINT INSPECTION GROUP Ltd and its Members shall have no liability to third parties in relation to following, or not following the recommendations contained herein.*





Inspections

Standards & Publications

Events & Learning

Operations & Product Quality

Safety (HSSE)

Management & Governance

About Us

Membership

THE WORLD-LEADING ORGANISATION FOR THE DEVELOPMENT OF AVIATION STANDARDS

Covering the entire Aviation Fuels supply chain, from refinery to Wing-tip

INSPECTION DATABASE  
INSPECTOR REGISTER

PUBLICATION SEARCH FEATURES

OPERATIONS & PRODUCT QUALITY

SAFETY (HSSE)

MY JIG COMMITTEE INFORMATION

EVENTS LEARNING PLATFORM

MANAGEMENT & GOVERNANCE

Find out more →

# Inspection Database

AFRICA	
Angola	Benin
Botswana	Burkina Faso
Burundi	Cameroon
Chad	Egypt
Eritrea	Eswatini
Ethiopia	Gabon
Ghana	Kenya
Malawi	Mali
Mauritius	Morocco
Mozambique	Namibia
Niger	Nigeria
Senegal	South Africa
Tanzania	Togo
Tunisia	Uganda
Zambia	Zimbabwe

Public database of participating locations and latest inspection dates for airports and fuel facilities active in the JIG Inspection Programme

Filterable by region then country



# Find your location...

1. Click on your continent

2. Drill down to location by clicking on the country

3. Click on your location

AFRICA	
Angola	Benin
Botswana	Burkina Faso
Burundi	Cameroon
Chad	Egypt
Eritrea	Eswatini
Ethiopia	Gabon
Ghana	<b>Kenya</b>
Malawi	Mali
Mauritius	Morocco



**Nairobi NBO-KPC LTD PS9:ADH** [X]

Operator: KPC	Inspection Date: October 18, 2024
Inspection Company: VIVO	

**Nairobi NBO-OLA ENERGY:IP** [X]





# Inspector Directory

List of qualified Inspectors, filterable by their name, region and level.



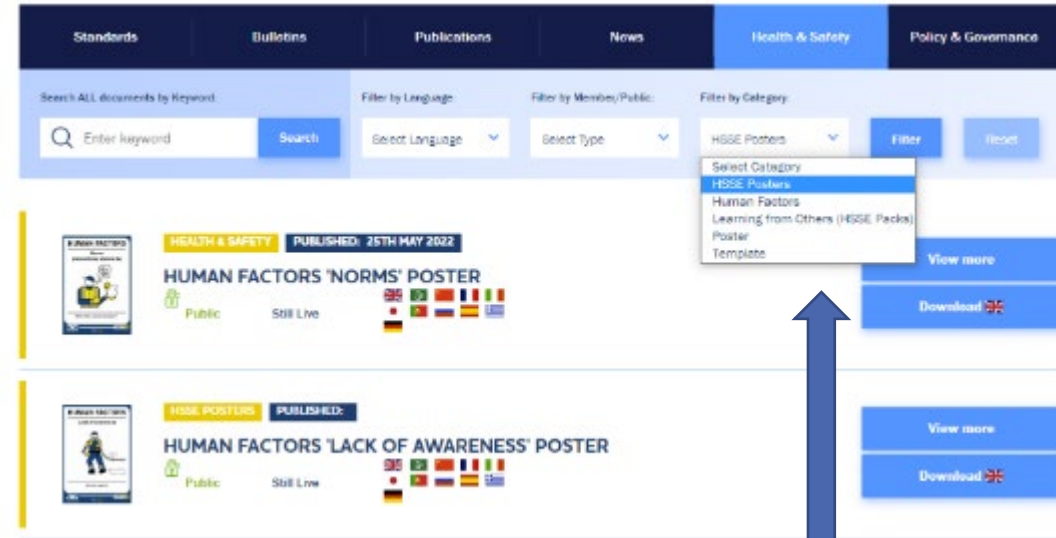
Search by Inspector Name:   Filter by Region:  Filter by level:  Independent?:

Inspector Name	Member Company	Region	Level	Email
Abdou Diop	Vivo Energy Investment B.V.	Africa	Senior Inspector	<a href="#">✉</a>
Annie Bekombo	Independent	Africa	Inspector	<a href="#">✉</a>
Eddie Moura	Puma Energy Aviation S.A.	Africa	Senior Inspector	<a href="#">✉</a>
Elhadji Seyni DIOUF	OLA Aviation Fuels Supply DMOC	Africa	Senior Inspector	<a href="#">✉</a>
Justus Mutunga	Vivo Energy Investment B.V.	Africa	Inspector	<a href="#">✉</a>
Olukinni Wole	TotalEnergies	Africa	Inspector	<a href="#">✉</a>
Vaughan Young	Independent	Africa	Inspector	<a href="#">✉</a>
Washunegn Zeteke	OLA Aviation Fuels Supply DMOC	Africa	Inspector	<a href="#">✉</a>

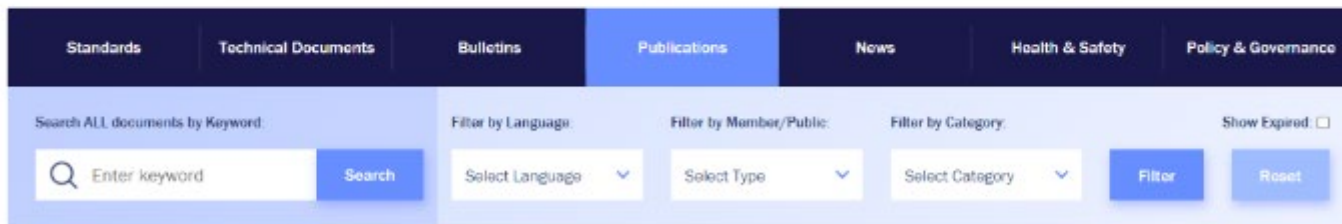
With email contact details available via hyperlink



# Standards & Publications



Only the categories relevant to the publication type will display

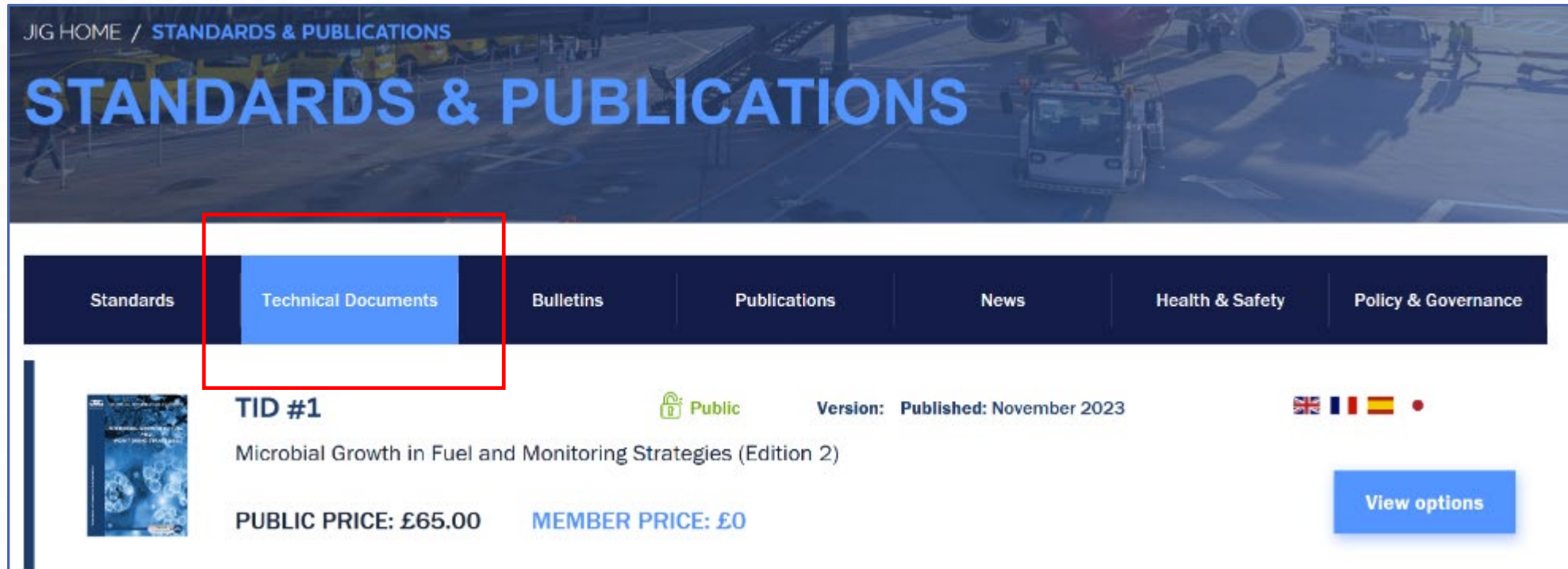


All publication types filterable by keyword (singular), language, member/public access and category



# Standards & Publications: What's in each tab?




## New Technical Documents Tab



JIG HOME / STANDARDS & PUBLICATIONS

# STANDARDS & PUBLICATIONS

Standards **Technical Documents** Bulletins Publications News Health & Safety Policy & Governance

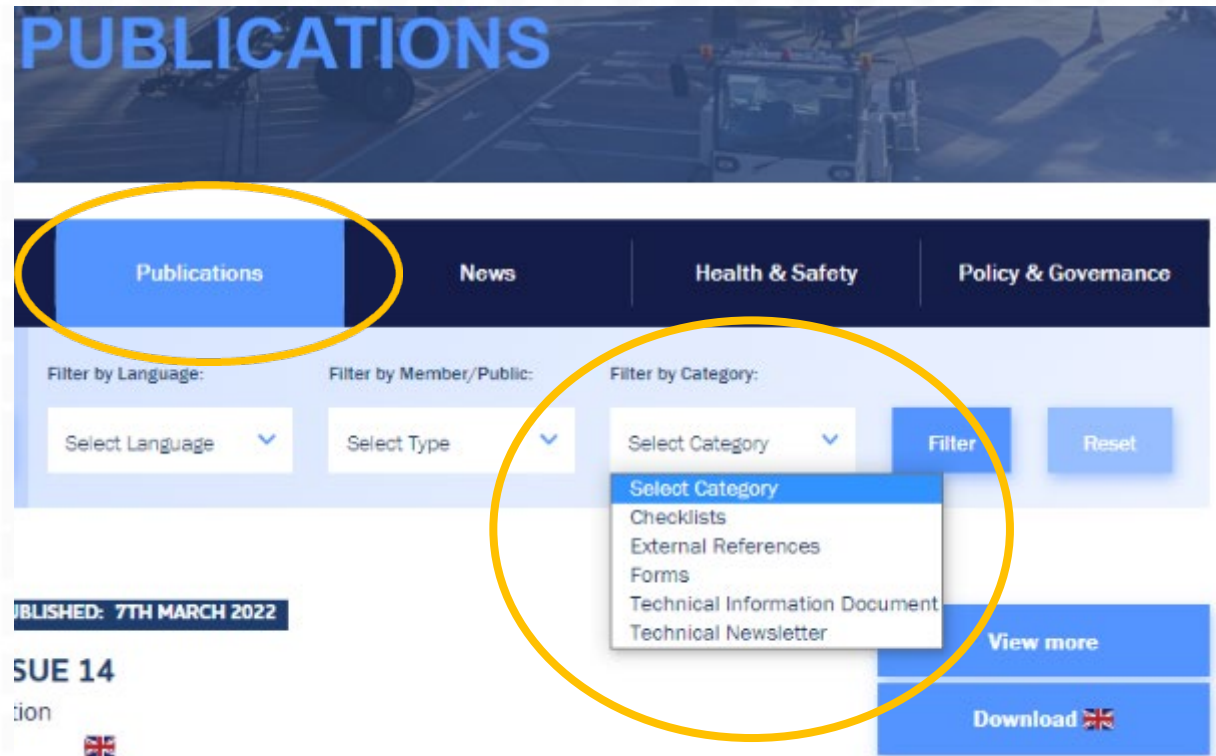
 **TID #1**  **Public** Version: **Published: November 2023** 

Microbial Growth in Fuel and Monitoring Strategies (Edition 2)

**PUBLIC PRICE: £65.00** **MEMBER PRICE: £0** [View options](#)



# Standards and Publications: What's in each tab?




**PUBLICATIONS**

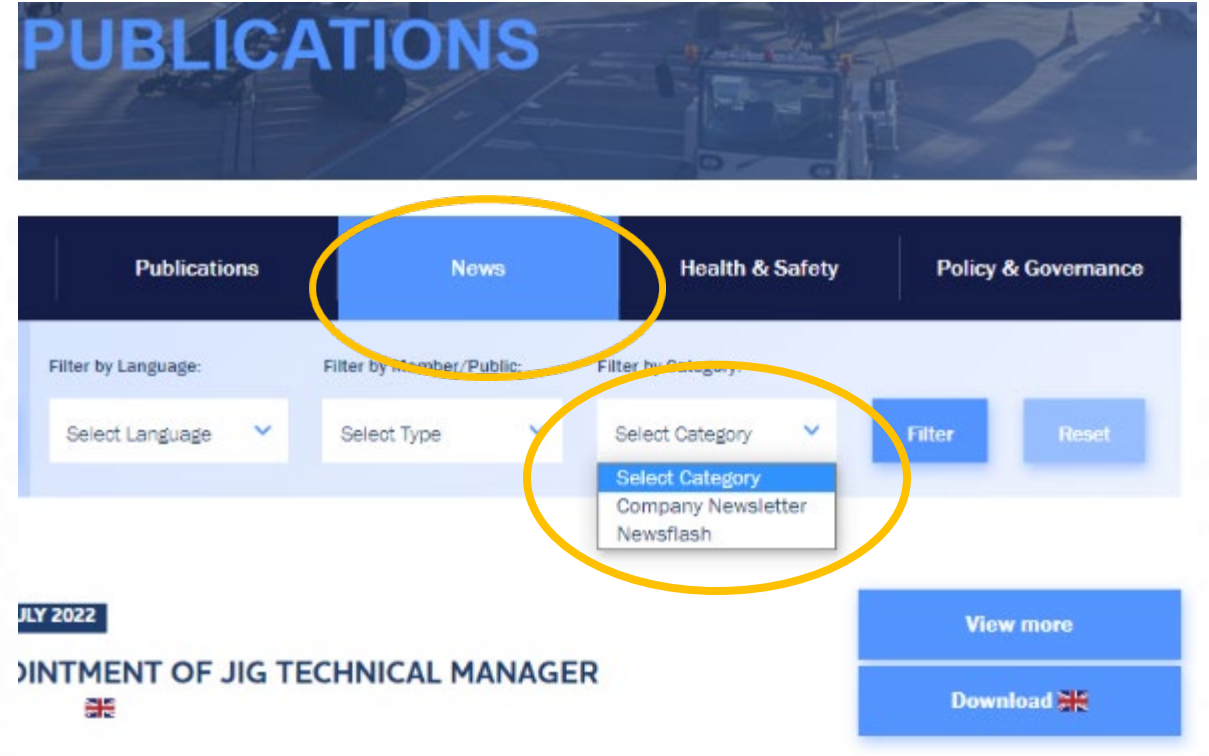
Publications | News | Health & Safety | Policy & Governance

Filter by Language: Select Language  
Filter by Member/Public: Select Type  
Filter by Category: Select Category (dropdown open)  
Filter | Reset

PUBLISHED: 7TH MARCH 2022

SUE 14

View more  
Download 




**PUBLICATIONS**

Publications | News | Health & Safety | Policy & Governance

Filter by Language: Select Language  
Filter by Member/Public: Select Type  
Filter by Category: Select Category (dropdown open)  
Filter | Reset

PUBLISHED: 7TH JULY 2022

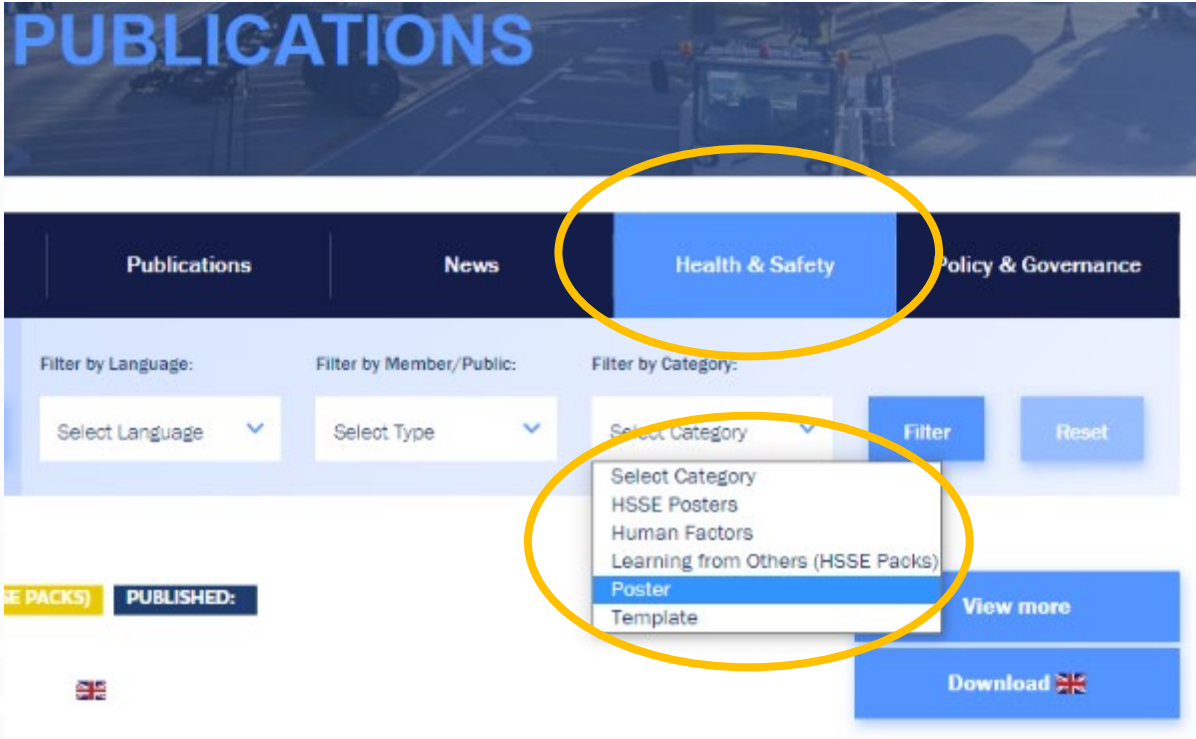
APPOINTMENT OF JIG TECHNICAL MANAGER

View more  
Download 





# Standards and Publications : What's in each tab?



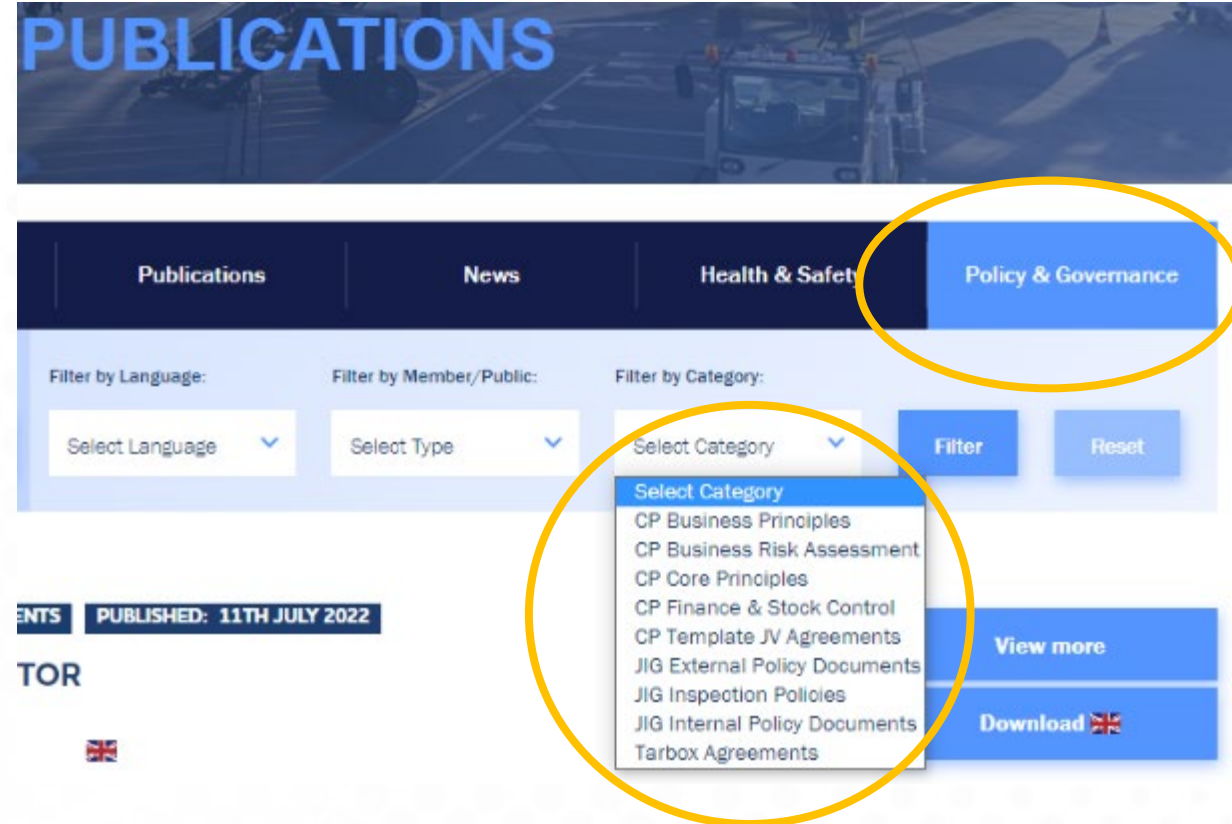
**PUBLICATIONS**

Publications | News | **Health & Safety** | Policy & Governance

Filter by Language: Select Language | Filter by Member/Public: Select Type | Filter by Category: Select Category | Filter | Reset

- Select Category
- HSSE Posters
- Human Factors
- Learning from Others (HSSE Packs)
- Poster**
- Template

**HSSE PACKS** | **PUBLISHED:** | **View more** | **Download**



**PUBLICATIONS**

Publications | News | Health & Safety | **Policy & Governance**

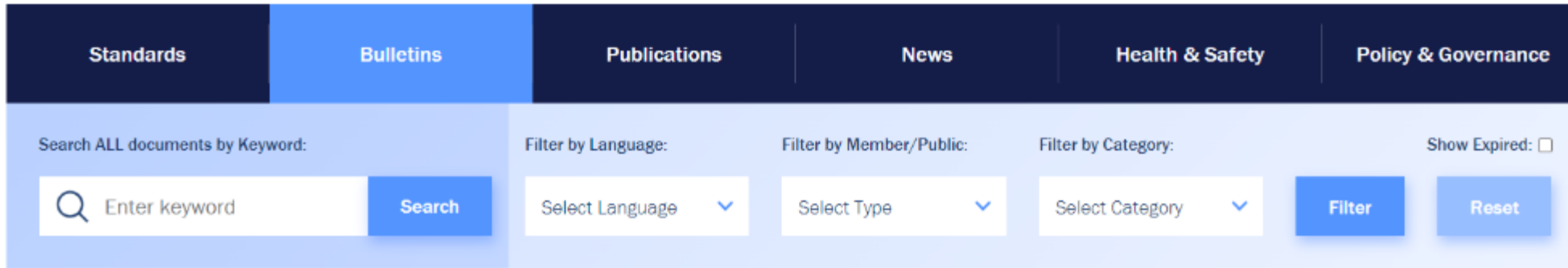
Filter by Language: Select Language | Filter by Member/Public: Select Type | Filter by Category: Select Category | Filter | Reset

- Select Category
- CP Business Principles
- CP Business Risk Assessment
- CP Core Principles
- CP Finance & Stock Control
- CP Template JV Agreements
- JIG External Policy Documents
- JIG Inspection Policies
- JIG Internal Policy Documents
- Tarbox Agreements

**MENTS** | **PUBLISHED: 11TH JULY 2022** | **View more** | **Download**



# Standards & Publications: Bulletins



Standards | **Bulletins** | Publications | News | Health & Safety | Policy & Governance

Search ALL documents by Keyword:

Filter by Language:

Filter by Member/Public:

Filter by Category:

Show Expired:

Ability to display 'expired publications'




**BULLETIN 128 - 03/2020**  
PLACING EQUIPMENT INTO CARE AS PART OF PANDEMIC RESPONSE

The Bulletin gives guidance to users on the measures they are recommended to take in finally placing any equipment in their custody under government or other controlling authority to prevent its use in a way that may present a risk for extended periods of time.

Category: Operations & Safety | Page: PUBLIC | 3001/UK | Published Date: 20th March 2020

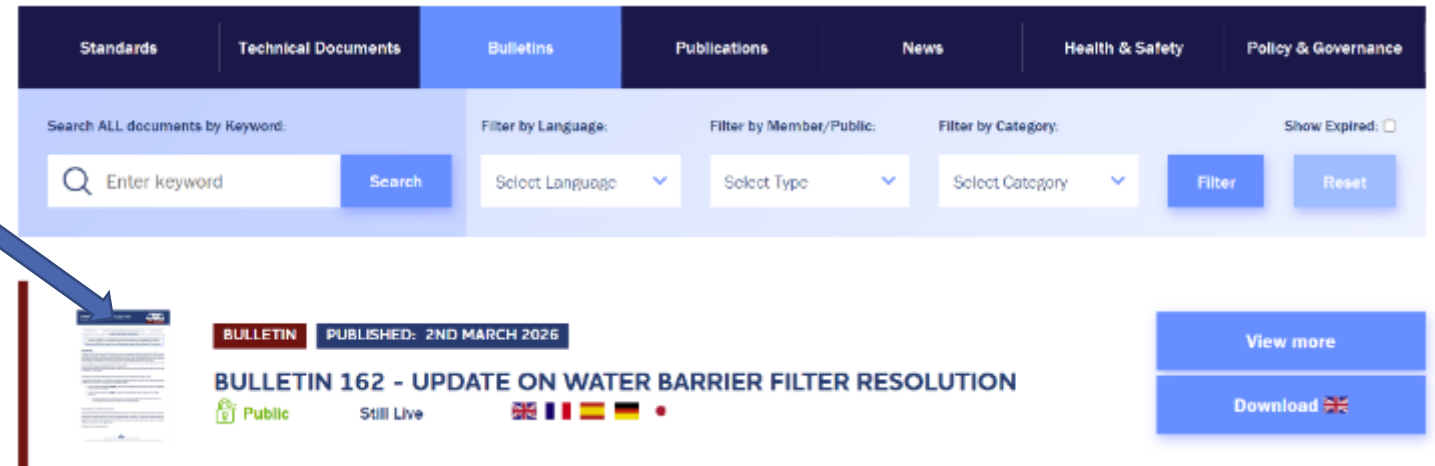
- 
- 
- 
- 

'View more' offers a summary and the available language downloads



Type, published date, member / public, status and available languages shown by each publication.

Option to either 'view more' or download a version immediately.



Standards | Technical Documents | **Bulletins** | Publications | News | Health & Safety | Policy & Governance

Search ALL documents by Keyword:

Filter by Language:

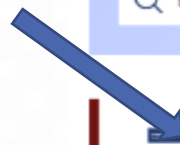
Filter by Member/Public:

Filter by Category:

Show Expired:

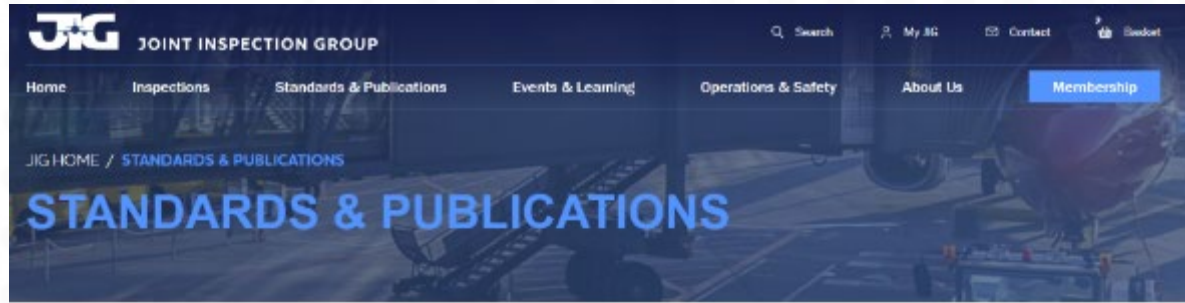
**BULLETIN** PUBLISHED: 2ND MARCH 2026

**BULLETIN 162 - UPDATE ON WATER BARRIER FILTER RESOLUTION**





# Active Bulletins



Standards Technical Documents **Bulletins** Publications News Health & Safety Policy & Governance

Search ALL documents by Keyword: Enter keyword Search


Filter by Language: Select Language Filter by Member/Public: Select Type Filter by Category: Select Category Filter Show Export:


Reset

---

**BULLETIN** PUBLISHED: 3RD APRIL 2025

**BULLETIN 157 - GOVERNANCE ANNUAL CHECKLISTS**


Member **Still Live** 


View more Download 

---

**PQ BULLETIN** PUBLISHED: 21ST FEBRUARY 2025

**BULLETIN 156 - AFQRJOS CHECKLIST ISSUE 36**





Public Still Live 


View more Download 

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**OPERATIONS BULLETIN** PUBLISHED: 13TH DECEMBER 2024

**BULLETIN 155 - WATER BARRIER FILTERS**


Public Still Live    


View more Download 

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**OPERATIONS BULLETIN** PUBLISHED: 16TH AUGUST 2024

**BULLETIN 153 - WATER BARRIER FILTRATION UPDATED LIST**

Public Still Live 

View more Download 



**'expired publications' not selected**





# Expired Bulletins

**MEMBER COMPANIES SAVE OVER 50%**  
Registered member company users, login to unlock discounted prices and restricted items  
Non-member company users pay full price, or enquire about company membership by clicking 'Join JIG'

[Login](#) [Join JIG](#)

Standards **Bulletins** Publications News Health & Safety Policy & Governance

Search ALL documents by Keyword:  [Search](#)

Filter by Language:    [Filter](#) [Reset](#)

**Show Expired:**

**PQ BULLETIN** PUBLISHED: 5TH DECEMBER 2018

**BULLETIN 118 - 12/2018**  
Use of test method ASTM D1319 / IP156 for evaluation of aromatics in Jet fuel  
**Public** **Expired**

[View more](#)  
[Download](#)

**PQ BULLETIN**

**BULLETIN 57 - 09/2012**  
Biofuels  
**Public** **Expired**

[View more](#)  
[Download](#)

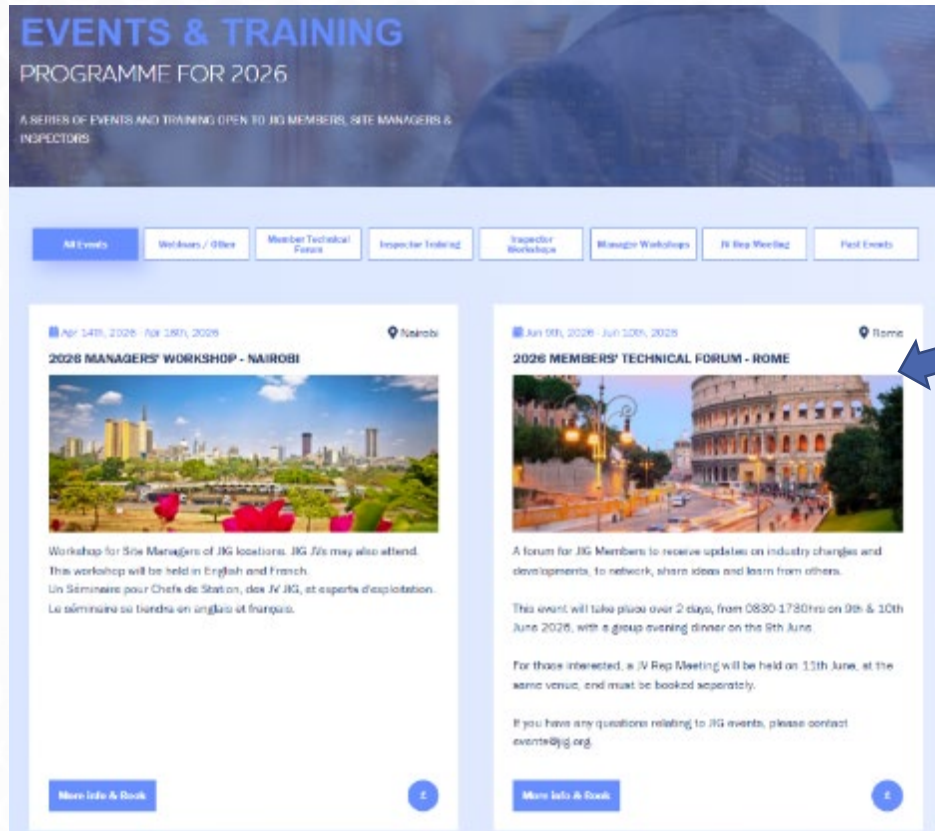


**Display 'expired publications'**





Filterable  
by event  
type



Calendar of future  
events listed at the  
bottom of the events  
page.

Once confirmed and  
open for registration,  
get moved here

## CALENDAR OF FUTURE EVENTS

To view provisional events and training planned for 2026 & 2027, click on the links below. Further details and registration instructions will be posted in the main body of this page as events are confirmed.

MANAGER AND INSPECTOR WORKSHOPS - OCTOBER 2026



MANAGER AND INSPECTOR WORKSHOPS - MARCH 2027



MEMBERS' TECHNICAL FORUM - JUNE 2027



MANAGER AND INSPECTOR WORKSHOPS - OCTOBER 2027

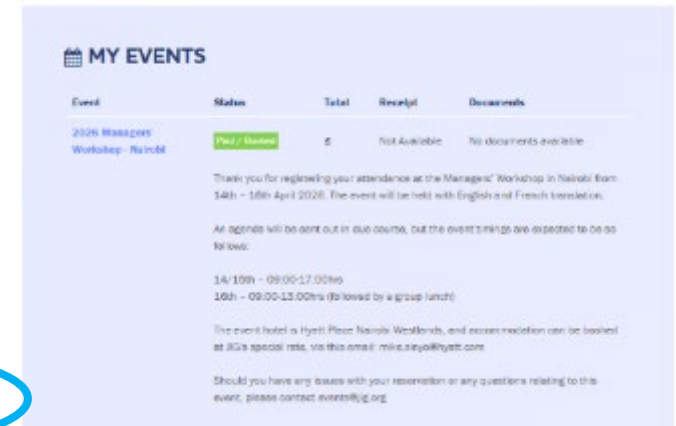
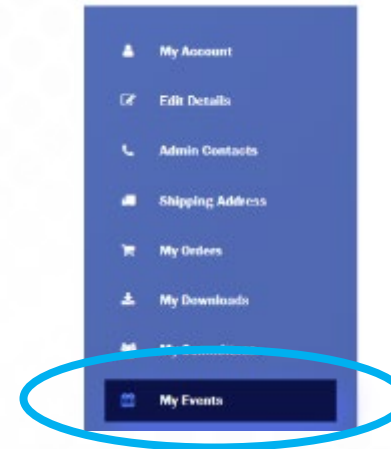
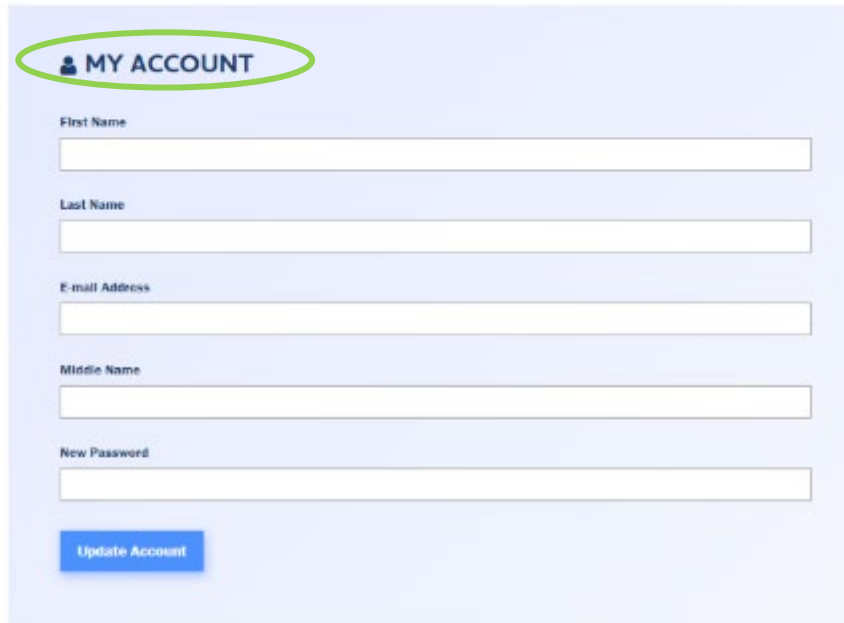
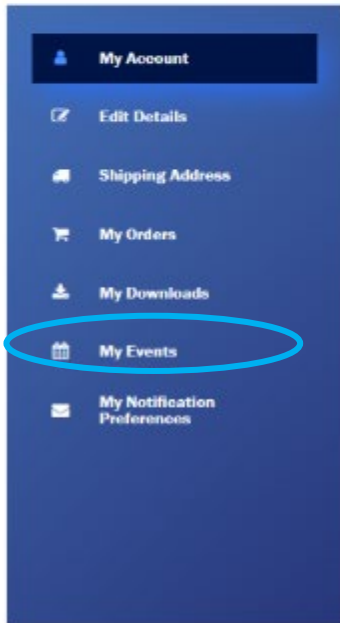
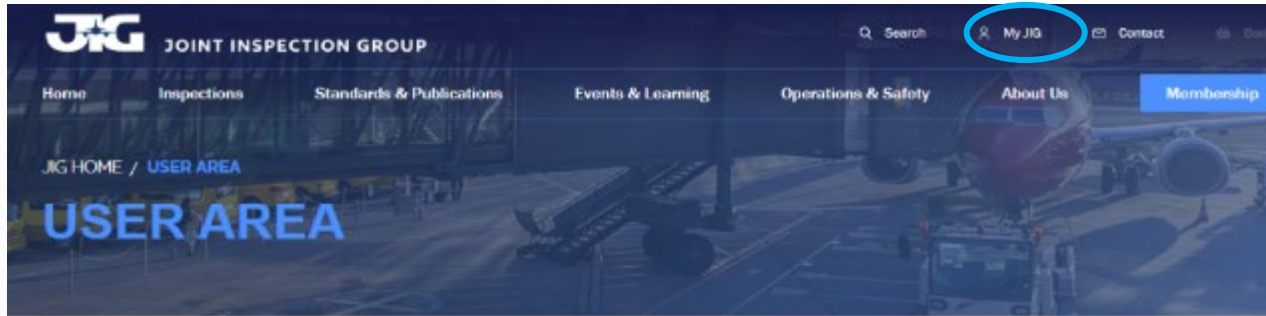




# Events in My JIG Account

**My Events displays events booked, upcoming and past attended, plus their status**

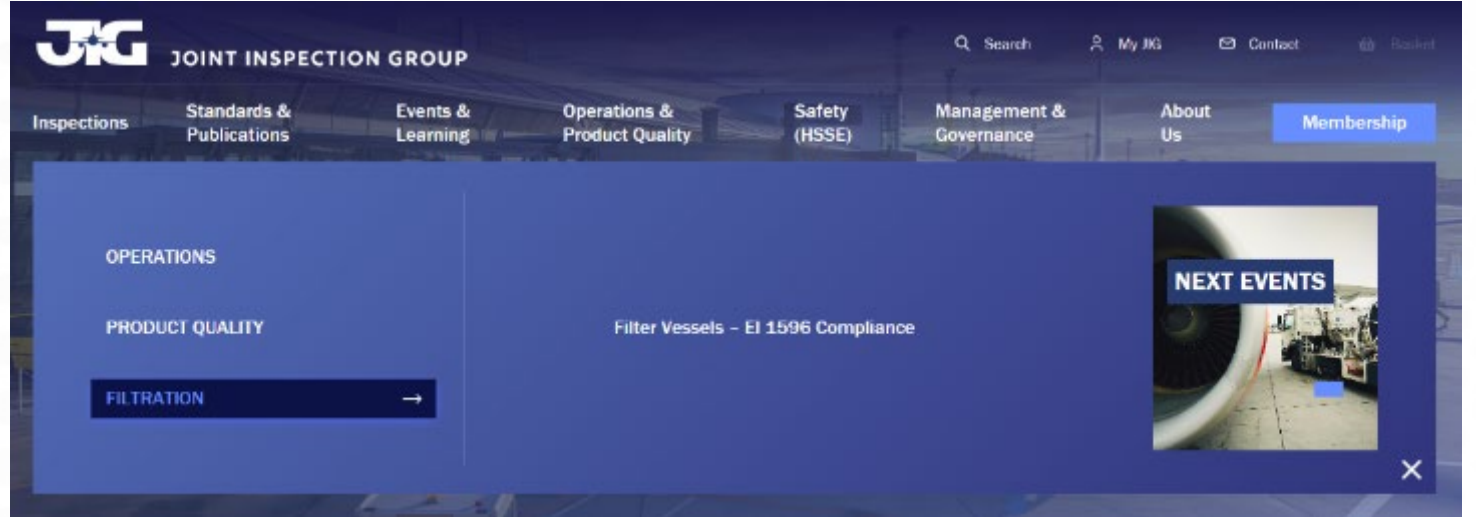
**Any associated event documents will also appear here i.e. agenda, presentations etc**



Key areas available for quick access in the drop-down list here



E.g. 'Filtration' is a sub-heading under 'Operations' which takes you to a separate page with further information available



Calls to Action (CTAs) available throughout the website for quick access to your interest areas



#### FILTRATION

All the expertise on JIG's work to share our SAPowered Filter Monitor technology from product handling applications. Starting with Bulletin 109 to the latest Field Test updates.

[Find out more](#)

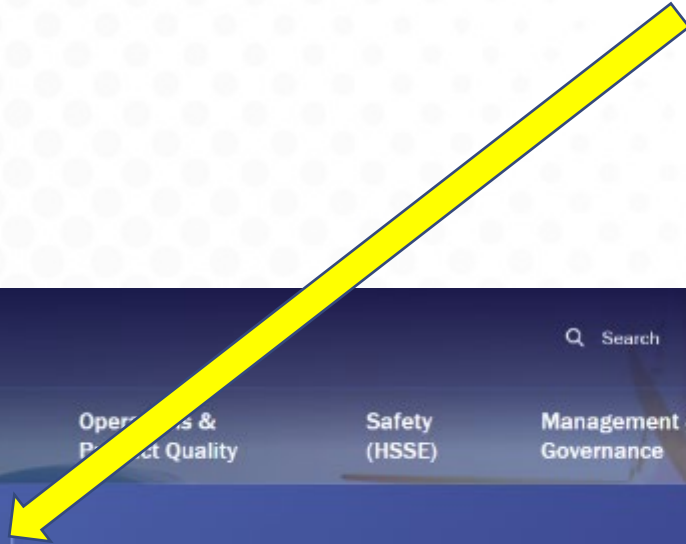


## Further subheadings

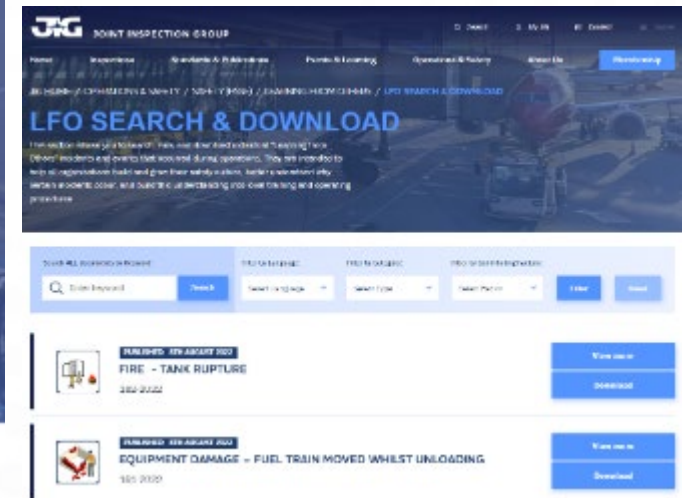
New feature under  
Operations / Safety

### LFO Search & Download

This section allows you to search, view and download individual "Learning from Others" incidents and events that occurred during operations.



The screenshot shows the JIG website navigation menu. The 'Safety (HSSE)' dropdown is open, displaying the following items: HUMAN FACTORS, LEARNING FROM OTHERS (highlighted with a right-pointing arrow), LFO Search & Download, Risk Assessment and MOC, Airport Safety Video - 2025, and HSSE Category Definitions - Dashboard. A 'View Airport Safety Videos' video player is also visible in the background.

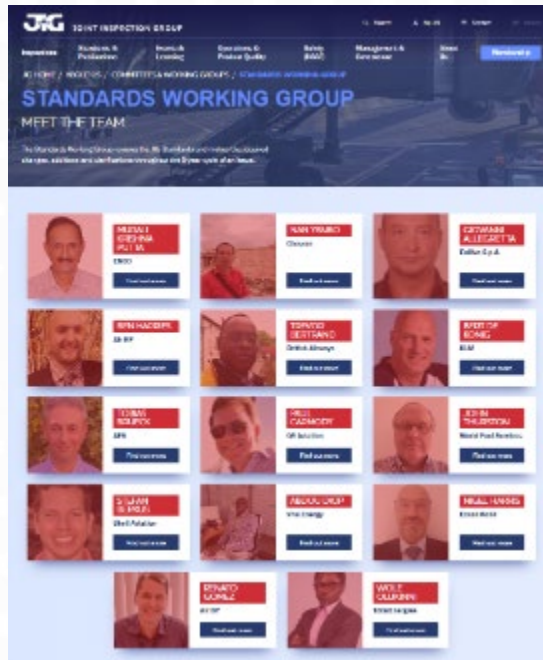


The screenshot shows the 'LFO Search & Download' page. It features a search bar with filters for 'Date Range', 'Search Type', and 'Search Region'. Below the search bar, there are two incident listings, each with a 'View more' and 'Download' button. The first listing is titled 'FIRE - TANK RUPTURE' and the second is 'EQUIPMENT DAMAGE - FUEL TRAIN MOVED WHILST UNLOADING'.

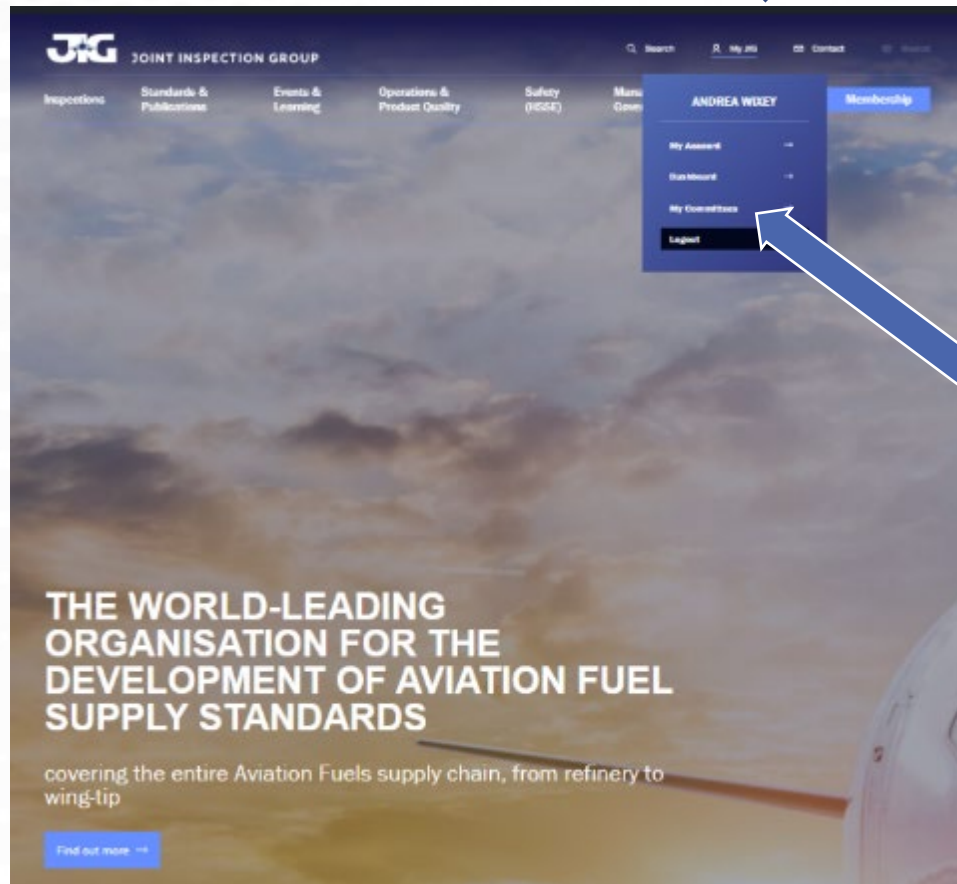


JIG's technical work is mainly undertaken by JIG Committees and Working Groups made up of JIG Member employees who volunteer for nomination or election to these groups

Find out more about our Committees & Working Groups



# Your JIG



Every registered user of the website has 'My JIG'

If a user is an employee of a Member company, and given Member company rights, access will be granted (on request via the Member Company Coordinator) to Member-only areas within the site, including publications.

Access is not automatically given to the Dashboard, Tarbox or JITS.

Depending on your access rights, you will see different options here, but everyone has 'My Account'



# My Account

Further accesses given here, if granted. A single sign-on is in the next stage of development, preventing the need to log in again to either of these sites.

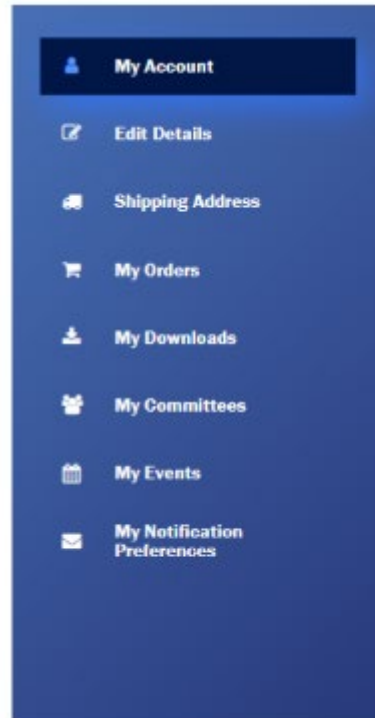


Manage your account here, and access information on events you are registered to, committees you are part of, and electronic Standards you have purchased.



Your 'Learning' successes will be available here.

You can also set your notification preferences here



### MY ACCOUNT

First Name

Last Name

E-mail Address

Middle Name

New Password

[Update Account](#)





# THE LEARNING HUB

*Note: The procedures and practices presented in this document are best practice recommendations only. JOINT INSPECTION GROUP Ltd and/or the JIG Member presenting this document makes no claim or warranty whatsoever as to their completeness or suitability. JOINT INSPECTION GROUP Ltd and its Members shall have no liability to third parties in relation to following, or not following the recommendations contained herein.*



Leave today having opened the door to JIG Learning...



## Your questions answered today

What is the **purpose** of the Learning Hub?

**Who** is it for?

**How** and **when** can it be accessed?






# Purpose: To support JIG Members



# Who Is It For: Accessible for Everyone

What's your learning style?

		
<b>Visual</b> Understands tasks and content by watching something before trying it themselves. This learner responds well to visual stimulus and uses visual elements to recall information.	<b>Auditory</b> Learn best when they talk things through with others or actively listen to others speaking. This can be through a lecture, discussion or presentation.	<b>Read and Write</b> Learn by reading content or instructions, then writing it in their own words. They're well organised, avid note-takers.

Accessible  
Engaging  
Interactive  
In your own time



# What can you expect to find on the Learning Hub?

## Course Categories

Core Principles

Governance

Human Factors

IJS

JIG Fundamentals



CP3 - Core Principles for Operators

GP7 - BRA 2.0 User Guide

HFI - AN INTRODUCTION TO HUMAN FACTORS

IJS 1 - Core Principles for JIG Inspectors

JF1 - Product Quality and Certificates



## How do I access the Learning Hub?

Course tiles automatically adjust to page/device.

Users can sort by category.

Courses included in company subscription, or free.

Paid for price is shown by clicking on **Learn More**.

If you have started a course, you see **Continue**.

Your account shows enrolled courses.


Course Categories

CORE PRINCIPLES Gold courses HB category HUMAN FACTORS JIG FUNDAMENTALS Test Category Test2

Search by Keyword

Clear Apply

HF1 - AN INTRODUCTION TO HUMAN FACTORS



This course is included in your company package. No payment necessary. Access here.

Free

JIG Fundamentals - Product Storage



Learn More

€

Core Principles for JV Reps



91

Learn More

Free

CP 3 [D] : JIG Core Principles - Grundlagen für operative Mitarbeiter



Continue Course



## Examples of course access

# THE WORLD-LEADING ORGANISATION FOR AVIATION FUEL HANDLING AND OPERATING STANDARDS

covering the entire supply chain for Aviation fuels from refinery to wing-tip

Find out more →

# How And When Can You Access It: [www.jig.org/learning](http://www.jig.org/learning)

Super Flexible!

24/7  
Registered website user  
FOC or £  
Discounts/bulk orders  
Card or invoice payment

- My Account
- Edit Details
- Shipping Address
- My Orders
- My Downloads
- My Committees
- My Events
- My Learning**
- My Notification Preferences

### MY ACCOUNT

Username

First Name

Last Name

Email Address

Middle Name

[Update Account](#)

### MY LEARNING

Course	Status	% Complete	Cost	Receipt
GP7 - BRA 2.0 User Guide	Enrolled	100%	Free	Free Course
GP6 - Business Risk Assessment Good Practice	Enrolled	0%	Free	Free Course
JF1 - Product Quality and Certificates	Enrolled	0%	Free	Free Course
JF2 - Product Quality and Fuel Receipts	Paid via Promo Code	0%	£50.00	<a href="#">View</a>
JF3 - Product Storage (Part 1)	Enrolled	0%	Free	Free Course

# Current Titles

Subject Area	Completed	In development	Planned	Notes
General				
Human Factors	1	3	9	Safety nets planned
Core Principles	3			EN, DE
JIG Fundamentals	13			The basic requirements of JIG Standards
IJS	3	1		Private access Inspector course only
Governance & Assurance	7		2	Includes BRA. Tarbox planned



- **Users need to be registered** on the JIG website to have access.
  - Can be done with personal email provided employer confirms list of names.
  - Registration allows JIG to provide employer with list of names that have taken the course.
  - Registration allows trainee to receive a printable Training Completion Certificate for each course.
- **Learning can be made available in other languages.**
  - Needs enough demand to justify development time.
  - Needs some help from a user to verify automatic translations and audio.
- **Operating companies should consider using some of the Standard training if appropriate to replace ad-hoc training required on subjects such as Human Factors, Core Principles.**





After you leave today... [jig.org/learning](https://jig.org/learning)



It's what you learn, after you know it all, that counts!





# AN INTRODUCTION TO SUSTAINABLE AVIATION FUEL



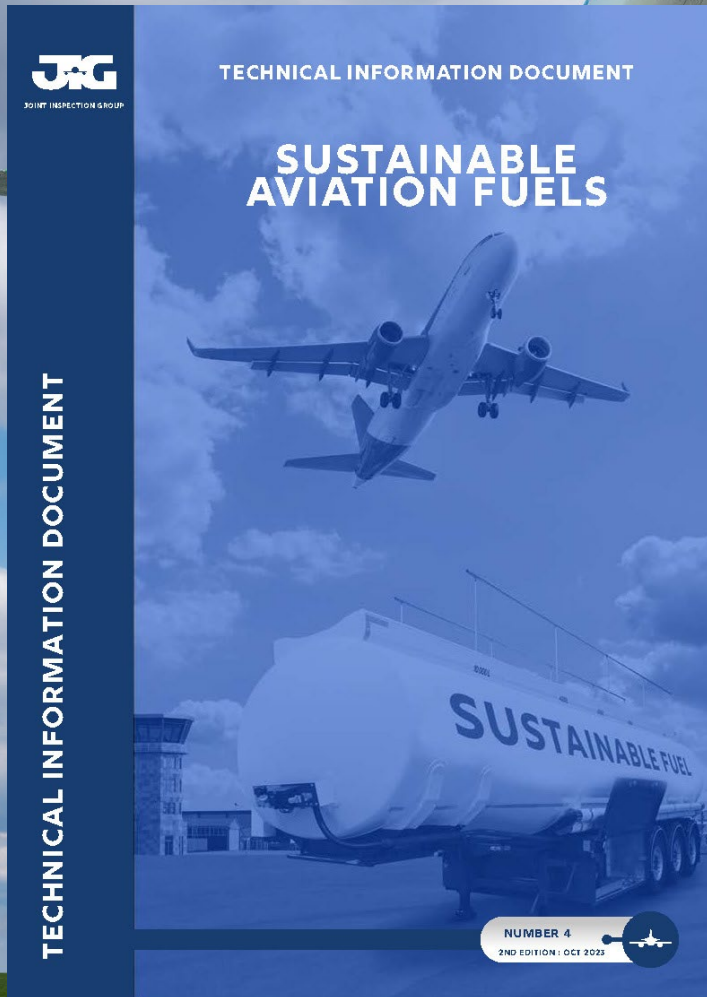
AN INFORMATION DOCUMENT

*PROVIDED BY*  
JOINT INSPECTION GROUP





# JIG information documents



Edition 3 published January 2026.  
In "Technical Documents" on JIG website

Will be included in conference pack



# JIG reference documents

**EI/JIG Standard 1530**

Quality assurance requirements for the manufacture, storage and distribution of aviation fuel to airports

Second edition

**energy institute**

**JIG**

EI/JIG 1530  
Edition 3 published early 2026

**EI 1533**

**energy institute**

**Quality assurance requirements for semi-synthetic jet fuel and synthetic blending components (SBC)**

**A supplement to EI/JIG Standard 1530**

EI 1533  
Addendum for EI/JIG 1530

**EI/JIG 1530 STANDARD & EI 1533 Supplement (2nd editions)**  
[including requirements for handling synthetic components and semi-synthetic aviation fuels]  
Checklist Version 2.1 (June 2025)

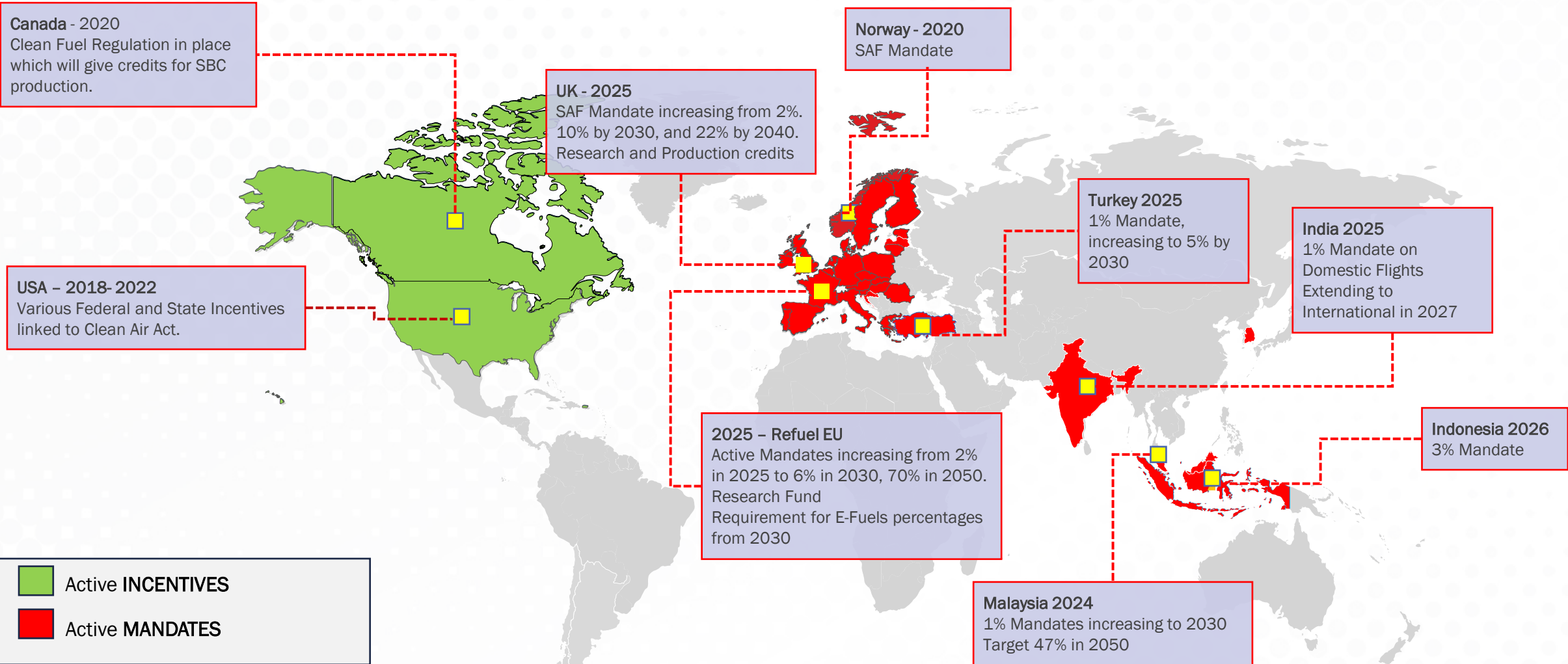
**JIG energy institute**

**INSPECTION OF SUPPLY & DISTRIBUTION FACILITIES  
IN ACCORDANCE WITH THE JIG INSPECTION PROGRAMME**

Location	
Facility (Refinery/Terminal/Pipeline Operator)	
Managing/Operating Company	
Name of inspector and company	
Date of visit	
Recommendations reviewed with	
Date of issue of this report	
Overall Assessment (see page 2 for definitions) Note if the assessment is Less than Satisfactory, the report shall be issued within 3 weeks of the inspection and a follow-up inspection shall be scheduled within the next 6 months.	
Last JIG inspection (name of company and date visited)	
Has a Tier 3 non-disclosure agreement been signed by all inspecting parties (where applicable)	
Have any items of a serious nature been communicated to all participants and the local manager without delay?	
Last external HSSE Management System Audit (by participant or consultant) (name of company and date visited)	
Date of last revision to local/site operating procedures.	
Accompanied/Reviewed Inspection?	

JIG midstream inspection checklist  
Includes requirements of 1530 & 1533

# ACTIVE SAF MANDATES AND INCENTIVES



Source: ICAO - <https://www.icao.int/environmental-protection/SAF/Pages/Policies.aspx>



# FUTURE SAF REGULATIONS

**British Columbia - 2028**  
1% mandate in 2028  
Rising to 3% by 2030

**Mexico and Colombia**  
Projects to incentivise local production of SBC

**CHILE - 2024**  
Project to start SBC production by 2030.  
Target for 50% "SAF" by 2050.

- Active or future **INCENTIVES**
- Future **MANDATES**
- Policies being **PLANNED**

**BRAZIL - 2027**  
1% Mandate, rising to 10% by 2037.

**KENYA**  
Incorporating SAF into its Energy Plan

**UAE - 2030**  
Projects to produce SBC locally, with incorporation in fuel by 2030.

**CHINA - 2025**  
Targetting fixed volumes of SBC to be integrated into local jet fuel

**JAPAN - 2030**  
Studying production incentives.  
10% Mandate in 2030

**2024 - Singapore, Korea, Thailand**  
Announcing or studying Mandates

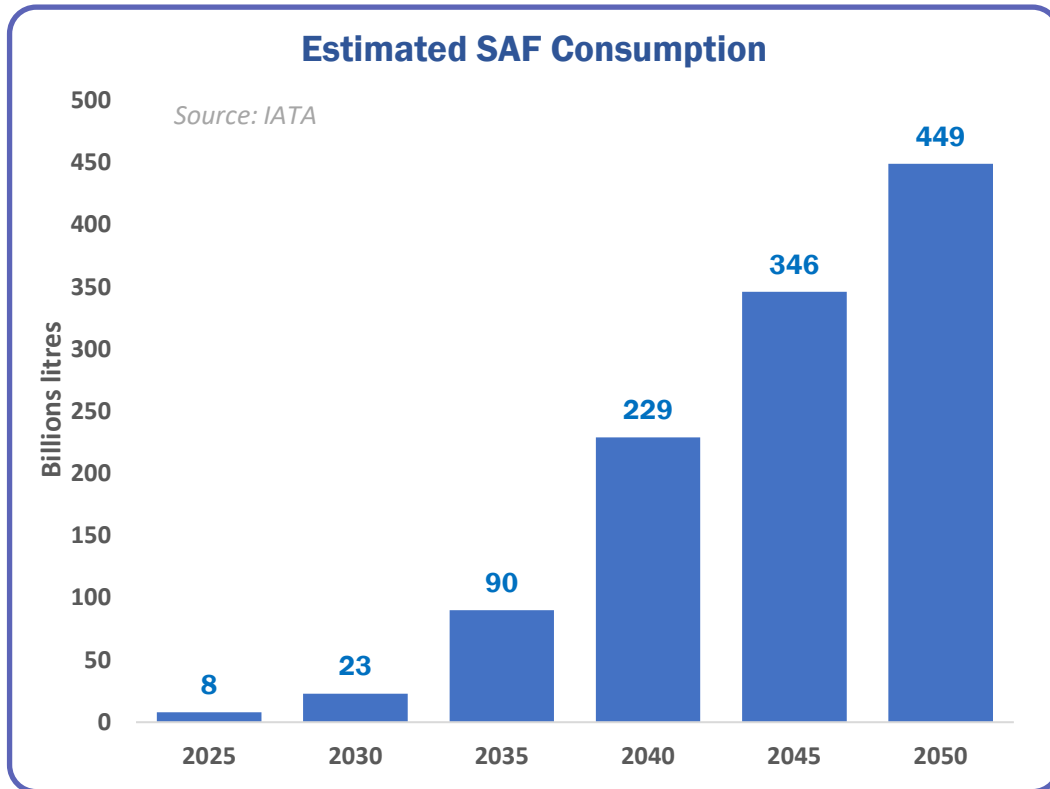
**AUSTRALIA**  
Studying policy options, likely to be production incentives.

**NEW ZEALAND**  
Studying policy options, likely to be mandates.

Source: ICAO - <https://www.icao.int/environmental-protection/SAF/Pages/Policies.aspx>



# Policy impacts on expected demand for SAF



Source: IATA new Net Zero 2050 ambition, November 2021

Expected SAF required to achieve targets is considerable

**449 billion** litres in 2050

Production capacity of sustainable components in 2025 is approximately 10 billion litres.

IATA estimates 5000-7000 “SAF” production facilities could be needed.

Hydrogen demand to process the feedstocks in 2050 may be >100 million tonnes (greater than current world capacity)





01

**What are synthetic fuels and how are they handled ?**



# “Conventional” Jet Fuel

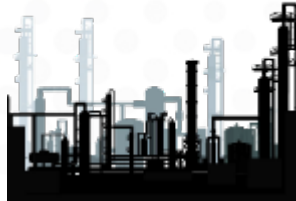
Fossil Fuels



Crude Oil

*Organic compounds  
Metals  
Salts  
Etc.*

Refining



Distillation

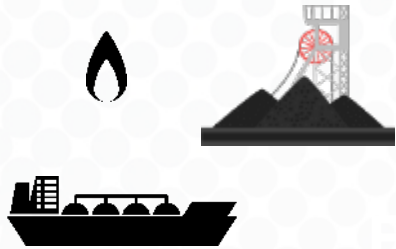


Gasoline  
**Jet Fuel**  
Diesel



# Traditional synthetic Jet Fuels

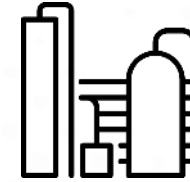
Fossil Fuels



Processing



Chemical Engineering  
(incl. Fischer-Tropsch)



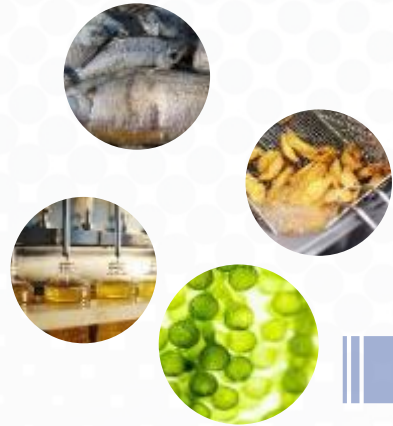
Gasoline  
Jet Fuel  
Diesel

Coal, Gas



# New sources of synthetic Jet Fuels

## Renewable sources

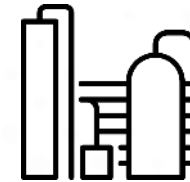


- Used cooking oils
- Animal fats
- Plant residues
- Algae
- Municipal waste
- Etc....

## Processing



## Chemical Engineering (incl. Fischer-Tropsch)



**Jet Fuel**  
**Diesel**

**NOTE : not all synthetic fuels  
are SUSTAINABLE**

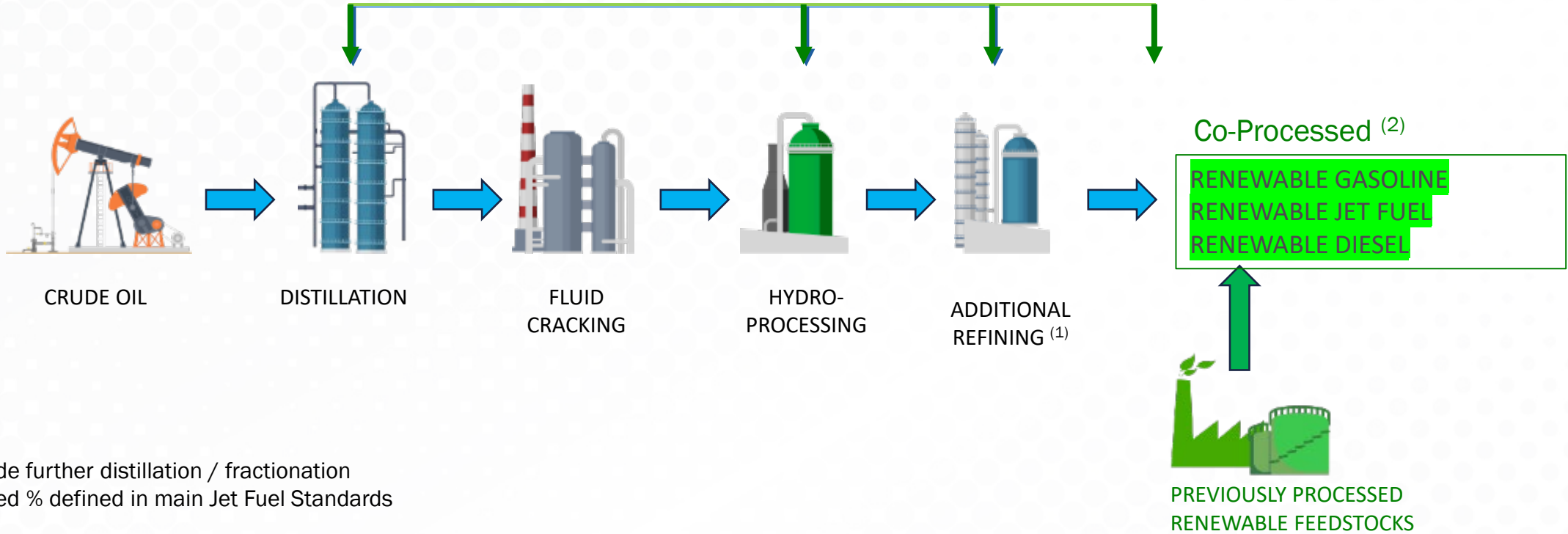


# Refinery Co-Processing: another path to renewable fuels

## Co-Processing



ALTERNATIVE  
FEEDSTOCKS

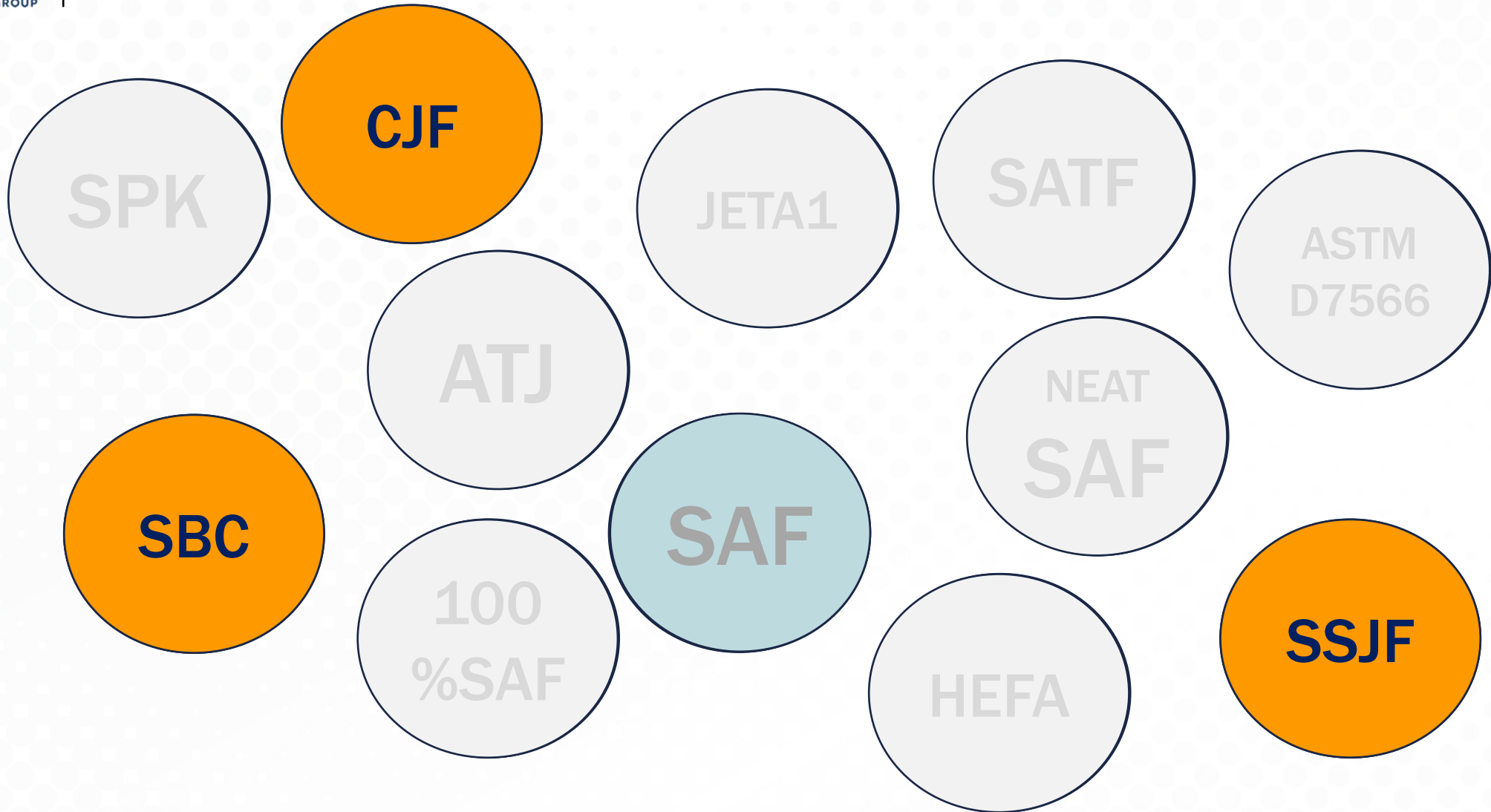


(1) Might include further distillation / fractionation

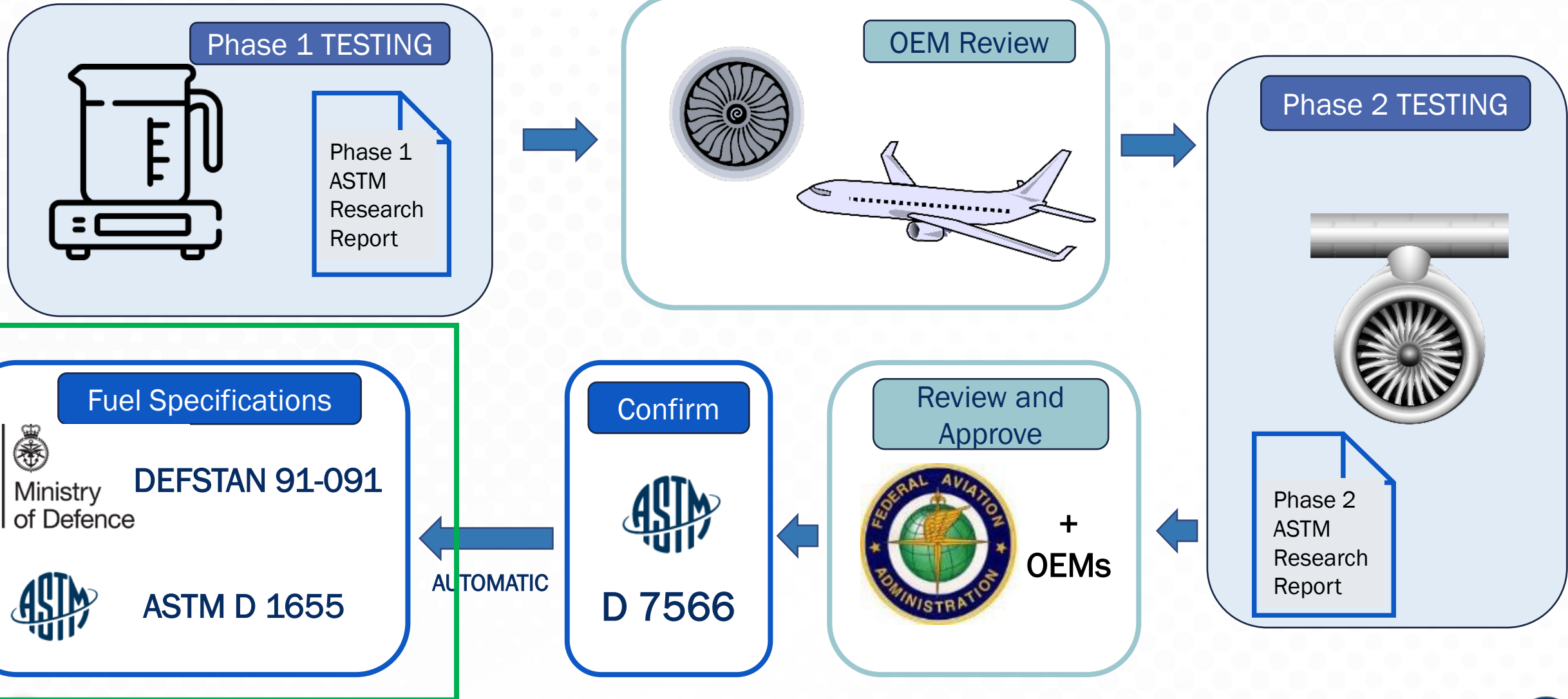
(2) Co-Processed % defined in main Jet Fuel Standards



# Sustainable Aviation Fuel Terminology.....



# Complex process to bring SAF to an airport.....



# Approved SBCs – ASTM D7566

Approval Date	Name	% max mixture
2009	<b>Annex A1 : FT – SPK</b> Fisher Tropsch Hydroprocessed synthesized paraffinic kerosine	Up to 50%
2011	<b>Annex A2 : HEFA</b> Synthesized paraffinic kerosine from hydroprocessed esters and fatty acids	Up to 50%
2014	<b>Annex 3 : SIP</b> Synthesized iso-paraffins from hydroprocessed fermented sugars	Up to 10%
2015	<b>Annex 4 : FT-SKA</b> Synthesized paraffinic kerosene plus aromatics	Up to 50%
2016 2018	<b>Annex 5 : ATJ-SPK</b> Alcohol-to-jet synthetic paraffinic kerosene	Up to 50%
2020	<b>Annex 6 : CH-SK or CHJ</b> Synthesized kerosine from hydrothermal conversion of fatty acid esters and fatty acids	Up to 50%
2020	<b>Annex 7 : HHC-SPK or HC-HEFA</b> Synthesized paraffinic kerosine from hydroprocessed hydrocarbons from biological sources (ex : algae that produce tri-trepenes)	Up to 10%
2023	<b>Annex 8 : ATK-SPA</b> Alcohol to Jet synthetic paraffinic kerosene with aromatics.	Up to 50%

- Most commonly available annex is currently HEFA (Annex A2)
- The number of annexes is increasing, and future demand will mean increasing diversity of SBCs

- Each ASTM D7566 annex describes:
- production methods,
  - maximum blend percentage of that component allowed in finished jet fuel,
  - physical characteristics,
  - Extra controls and tests needed.

The latest EU directive is mandating increased use of SBC from other sources; such as green hydrogen and carbon capture.

2018 2020	<b>Co-processing</b> mono, di and triglycerides, free fatty acids and fatty acid esters & Co-processing Fisher Tropsch	Up to 10% <i>Increase under review</i>
--------------	--	---

Recognized through ASTM D1655 and DEF STAN 91-091 (30%)



# Synthetic Components and SSJF are handled in exactly the same way as conventional Jet Fuel.

## EI 1533 (Addendum to EI/JIG 1530)

- Manufacture of SBCs
- Export/import and transport of SBCs: handling, testing, product integrity
- Semi-synthetic jet fuel manufacture (blending): constraints, homogeneity
- Semi-synthetic jet fuel import/export: handling, testing, traceability
- Design requirements - positive segregation
- Managing semi-synthetic jet fuel at airports

All information for handling and blending SBCs in compliance with EI/JIG 1530 Standard



# SSJF/SAF requires no special handling in Airport systems or aircraft.....



# General Fuel Handling Requirements on airports

When SSJF is delivered to your airport, it should already be certified to one of the governing Specifications, ASTM or DefStan.

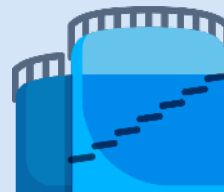
So it is managed in the same way as any other Jet Fuel.



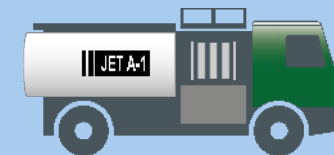
Storage and handling requirements are the same.

Daily housekeeping is the same.

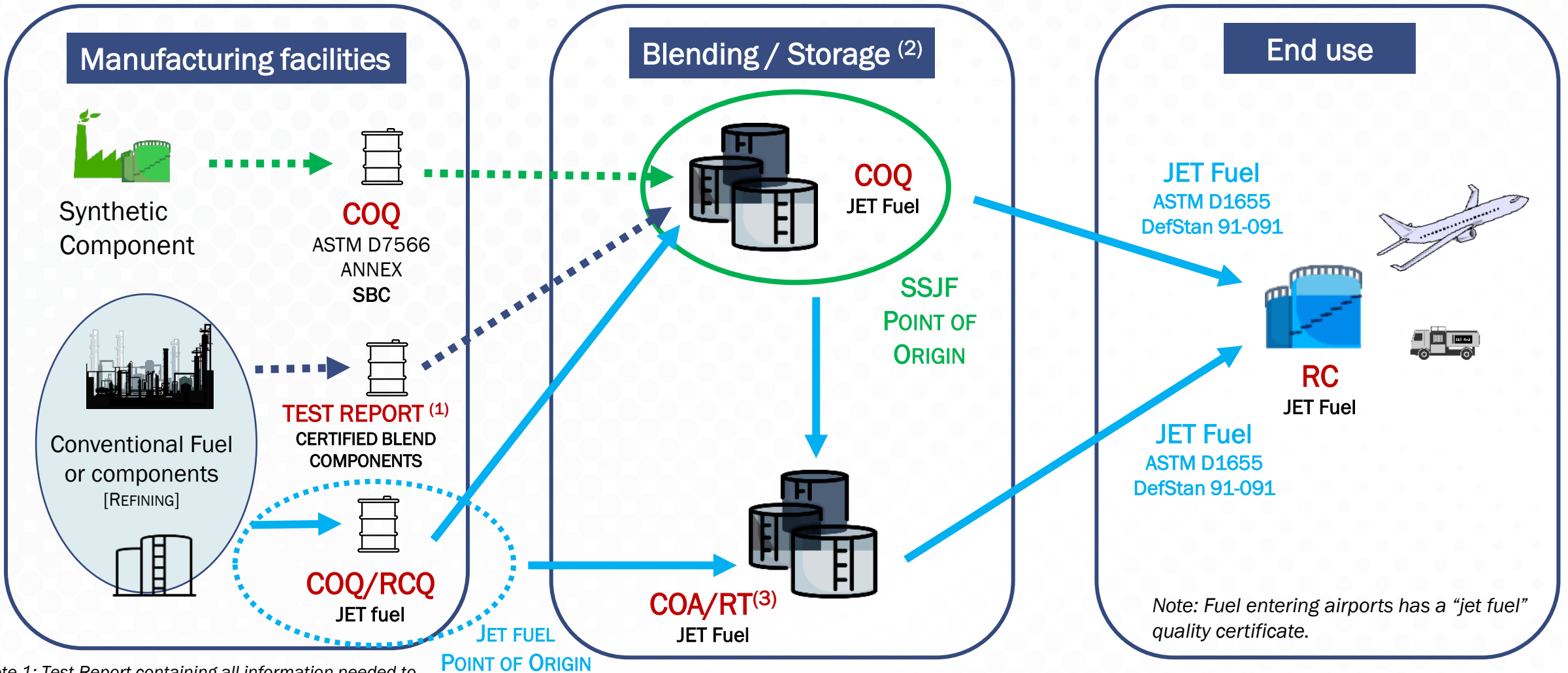
QC Checks are the same.



When you deliver to an aircraft, you are delivering JetA1.



# What certificates do I receive with SSJF?



Note: Fuel entering airports has a "jet fuel" quality certificate.

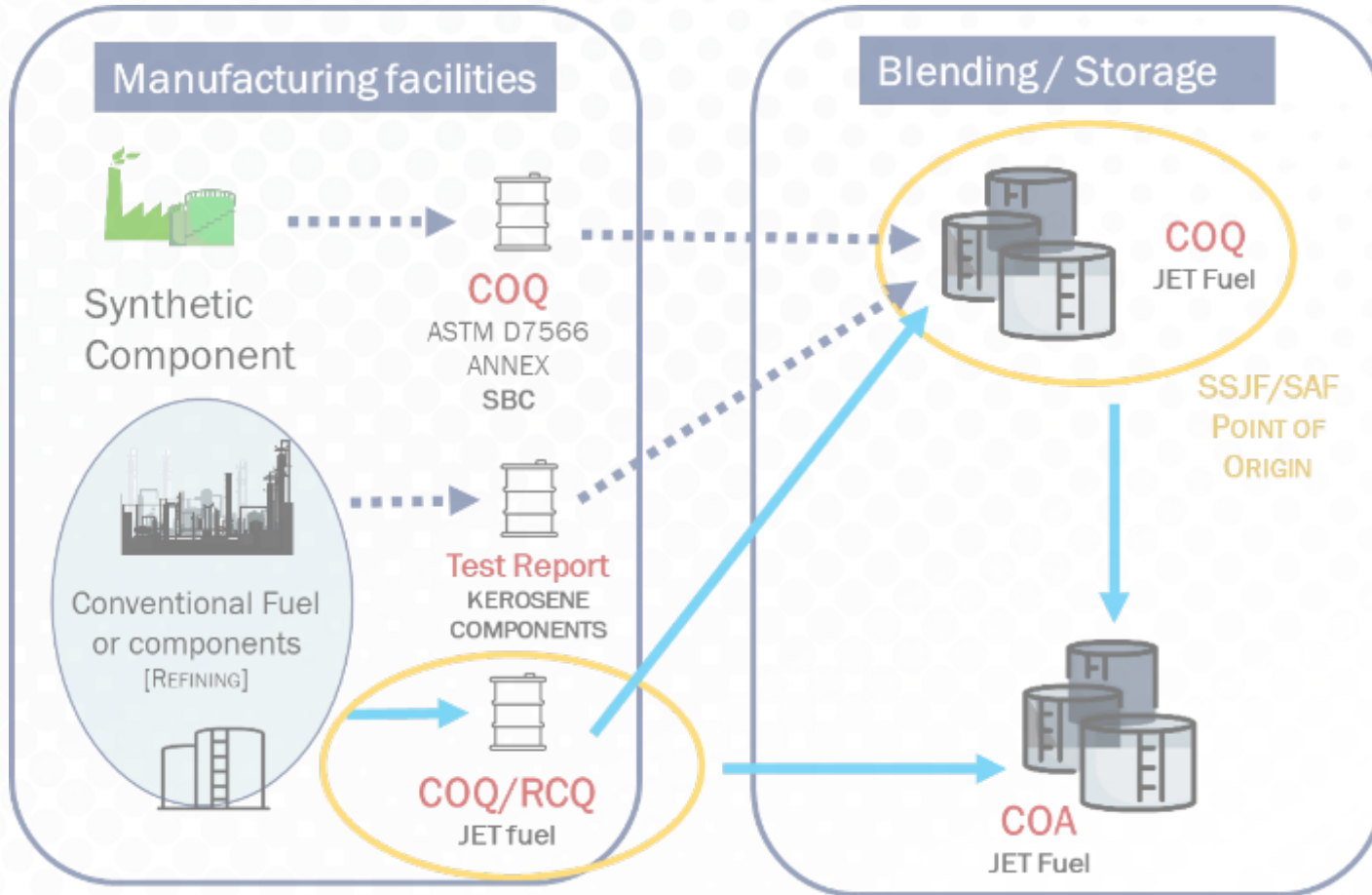
Note 3: Required if the fuel has been transported through non-dedicated systems.

Note 1: Test Report containing all information needed to establish the COQ after blending with SBC at SSJF point of origin

Note 2: Blending of SBC with conventional components may take place in terminals or manufacturing facilities.



# “Blending” of Synthetic and Conventional components



- Blending can take place at point of SBC production, Refinery, or intermediate terminal.
- Accurate blending requires:
  - Several tanks
  - Appropriate mixing devices
  - Access to comprehensive testing and certification facilities.
  - Trial blend capability.
  - Full details of characteristics and composition of blend components.

- Needs to produce a full COQ, including:
  - Full Spec test (Table 1).
  - Confirmation of additional properties.
  - Confirmation of components.



# Extra blending and testing requirements of D7566

1. Mandatory to blend (10-50%) of SBC with conventional products.
2. Finished product must be a **homogeneous mix** (layered tanks are not permitted).
3. Mandatory **Additional controls** not included in conventional jet fuel spec.
4. The same tests are listed in Annex B of DefStan 91-091, but are not in Table 1 of ASTM D1655

## Extra requirements of D7566 Table 1

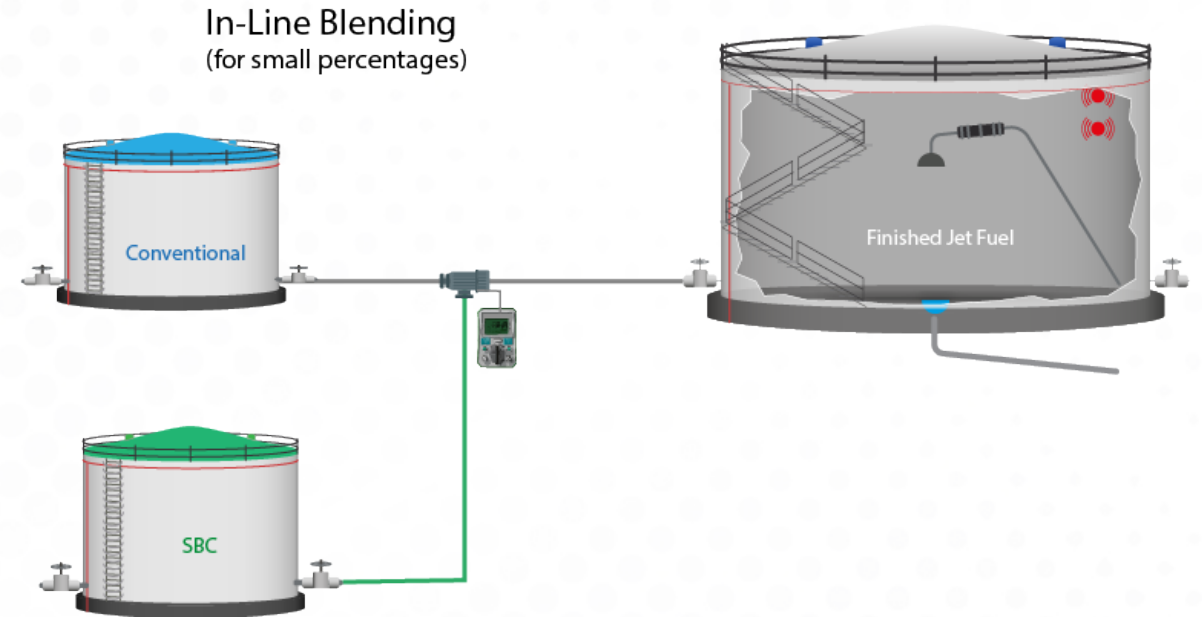
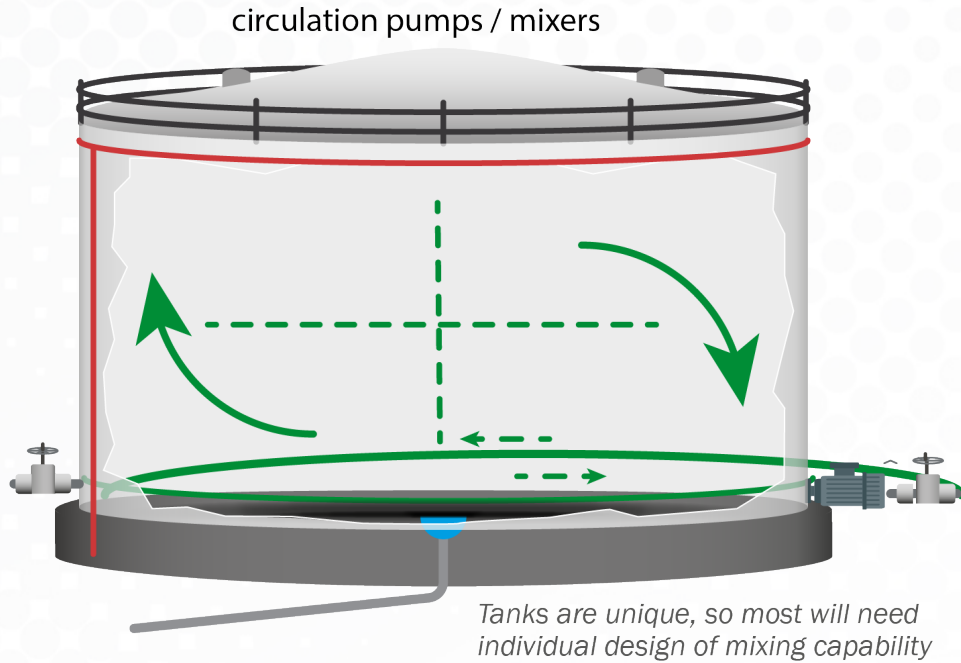
- Minimum Aromatic content of 8%
- Volatility (Distillation)
- Lubricity test (bocle)
- Viscosity tests

Property	Value	Test Methods
<b>COMPOSITION</b>		
Aromatics	8-25%	D1319 or IP 156, D8267, or D8305
<i>or</i>		
Aromatics	8.4-26.5%	D6379/IP 436
<b>VOLATILITY</b>		
Distillation		D86, D2887/IP 406, D7344, D7345, IP 123
T50 minus T10	Min 15	
T90 minus T10	Min 40	
<b>LUBRICITY</b>		
Lubricity, mm	Max 0.85	D5001
<b>FLUIDITY</b>		
Viscosity -40°C, mm <sup>2</sup> /s	Max 12	D445 or IP 71, Section 1, D7042, D7945



# Blending Tank Equipment

Different measures to ensure that the finished blend is homogeneous



# Blending on Airport

## Standards and Specifications

**ASTM D1655** is silent on the subject of blending on airports.

**DefStan 91-091** only permits “test blends” (<60,000l) to be done for proving purposes only.

**Fuel Handling standards** generally do not permit non-aviation fuels to be brought onto an airport.

## On-site hardware and knowledge

Airports are **not equipped** with:

- the equipment required for blending
- variety of blend components
- means to rapidly to trial blends
- capability to remove product if a tank is off-specification
- No extra tank capacity to wait for results of COQ testing.

Airports are not expected to have the **knowledge and skills** for:

- Successful blending operations
- Product Certification

## Product Certification

Product blended on an airport has to be certified (CoQ) to the prevailing quality Standard. Will the certifier have:

- The information required
- The knowledge and skills
- Available laboratory capability

**Potential issues arising:**

- No CoQ in case of incident
- Airframe and engine warranties.
- Who takes responsibility for the supply chain warranties?





## 02 Some things to verify.....



# Verifying the correct procedures are followed

## The challenge

The demand for SAF is bringing many new producers and logistics companies into the market.

**Many of them do not know:**

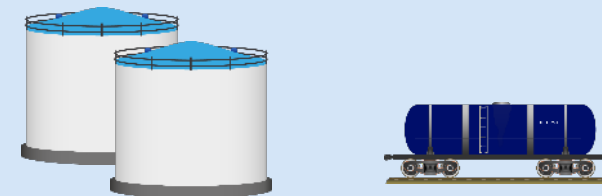
- Infrastructure requirements (tanks, pipelines etc.).
- Handling requirements for Jet Fuel.
- Transport requirements
- Dedicated/change of grade
- Fuel Quality Certificates in the supply chain,



## What to look for

Has your SBC supplier done any of the following?

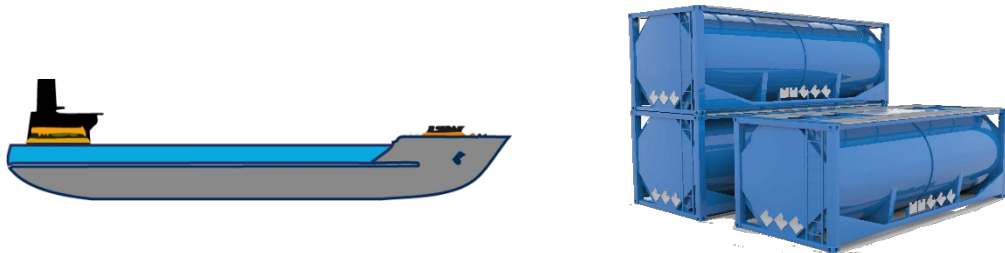
- Gap Analysis compared to EI-JIG 1530/1533
- Constructed new facilities in compliance with Aviation Standards?
- Used dedicated transport only for road and rail?
- Chosen an experienced external laboratory with the required testing equipment?



## The challenge

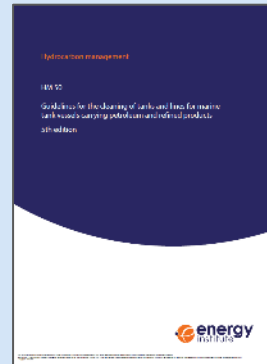
As SBC and SAF are still used in quite small quantities, they can be transported with means not usually used for conventional jet fuel. This exposes the cargo to supplemental contamination risks.

- Chemical ships can have unusual and/or unsuitable prior cargoes.
- Most iso-containers are not dedicated.



## What to look for

- Proof of Change of grade / product procedures.
- Confirmation that transport is properly dedicated according to the definition.
- Origin COA if possible.
- Needs a COA on arrival if non-dedicated.



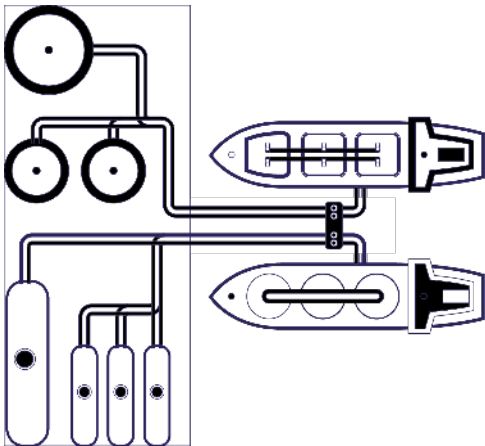
**HM50**



## The challenge

Midstream terminals may be blending Conventional and SBC for the first time.

- Unaware of industry Standards.
- Unlikely to have dedicated lines and tanks.
- Might have converted tanks previously in service with other products.



## What to look for

- Change of use procedures for tanks.
- Line flush quantities if not dedicated lines.
- Re-testing of received quantities
- Certified laboratories
- Knowledge of D7566 testing regime



# Sustainability documents not usually attached to PQ documents

## Technical compliance

Does the SBC meet the Governing Specification?

ASTM D7566

Astm D1655  
DefStan 91-091



## Sustainability criteria

Has your SBC been manufactured in accordance with accepted sustainability Criteria ?  
(including blending phase to make SAF).

Certification by a recognised external organisation

*Such as*

ISCC, RBS



# Examples of Sustainability Certificates



**ISCC PLUS Certificate**

**Certificate Number: ISCC-PLUS-Cert-ID218-20240335**

PT Intertek Utama Services  
Graha Iskandarsyah 4th floor. Jl. Iskandarsyah Raya, Jakarta Selatan No. 66 C, 12160, Jakarta, Indonesia

certifies that

**Saudi Aramco Total Refining & Petrochemical Company (SATORP)**  
Building Number 4048 Unit No: 1 305 - 35741-7821 Al-JUBAIL  
Saudi Arabia

complies with the requirements of the certification system

**ISCC PLUS**

(International Sustainability and Carbon Certification)

Place of the audit  
(if different from the legal address of the system user as stated above; only applicable for traders and traders with storage):  
n.a.

This certificate is valid from 10.09.2024 to 09.09.2025.

The site of the system user is certified as:  
**Co-Processing Plant, HEFA plant, HVO Plant, Cracker  
Trader with Storage**

The scope of the certificate includes the following chain of custody options:  
(not applicable for paper traders)  
**Mass Balance**

Jakarta, 10.09.2024  
Place and date of issue

PT. Intertek Utama Services  
Stamp, Signature of Issuing party

The Issuing Certification Body is responsible for the accuracy of this document.  
Version / Date: 1 / 10.09.2024



Carbon Offsetting and Red  
As developed by the I

**Certificate Number:**

2000Powell Street, Suite

520 Lake Cook Ro

complies with the requi

(International S  
which is

535 Commerce Dri

This certificate

The site

Emeryville, CA, 13.06.2024  
Place and date of issue

The Issuing Certificati



**Annex to the certificate:**

**Sustainable materials handled by the certified site**

(This annex is only applicable for material handled under the scopes: farm/plantation, point of origin, central office (farm/plantation or point of origin), first gathering point, processing unit (any type) but not for material that is only traded and/or stored)

This annex is only valid in connection with the certificate:  
**ISCC-CORSIA-Cert-US201-163532024 issued on 13.06.2024**

Input material	Output material	GHG / LCA option <sup>1)</sup>	ISCC waste process applied <sup>2)</sup>
Bioethanol (Sugar cane)	AlJ-SPK (ethanol) (Sugar cane)	2	No

<sup>1)</sup> 1: Default value  
2: Actual value

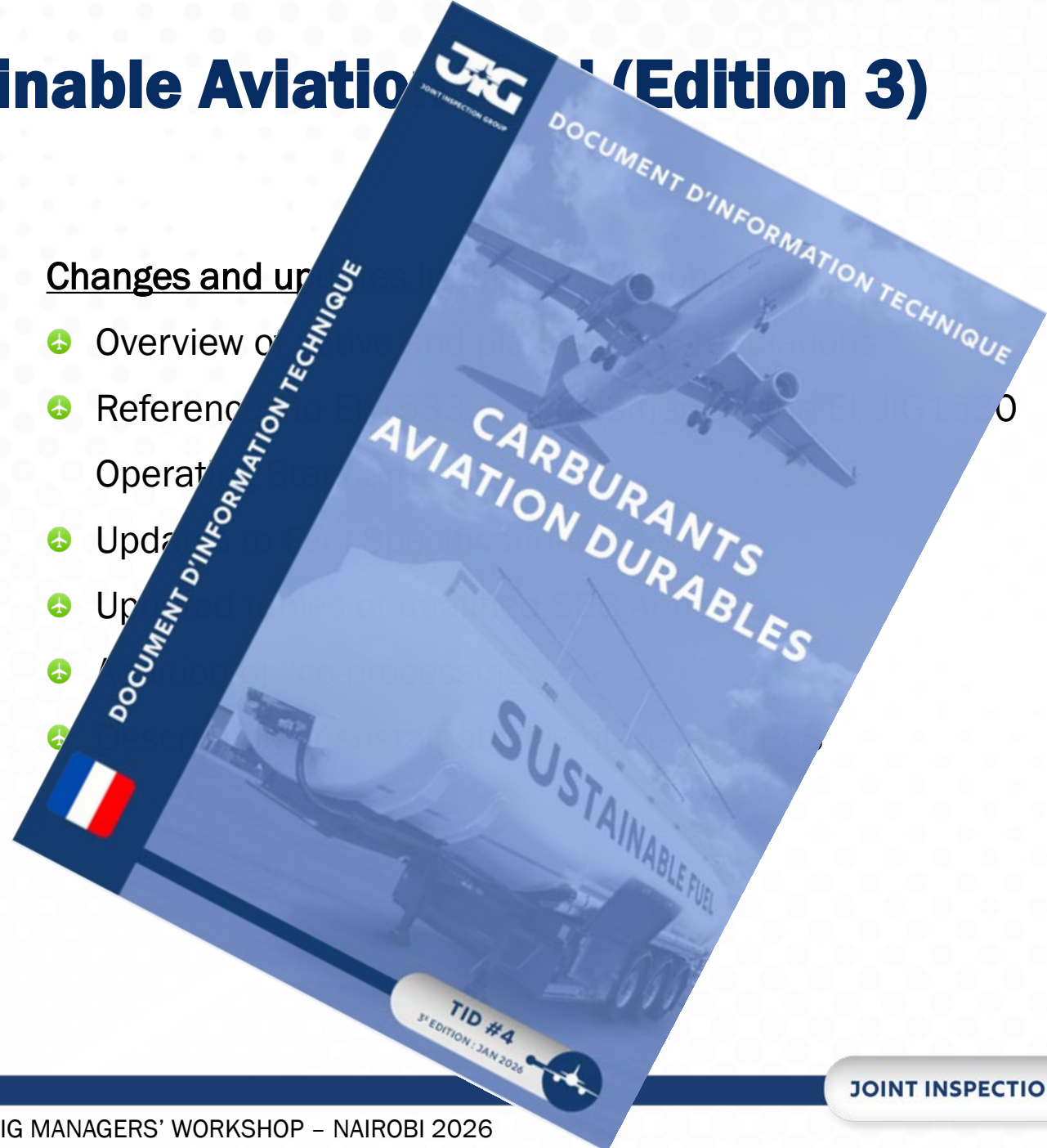
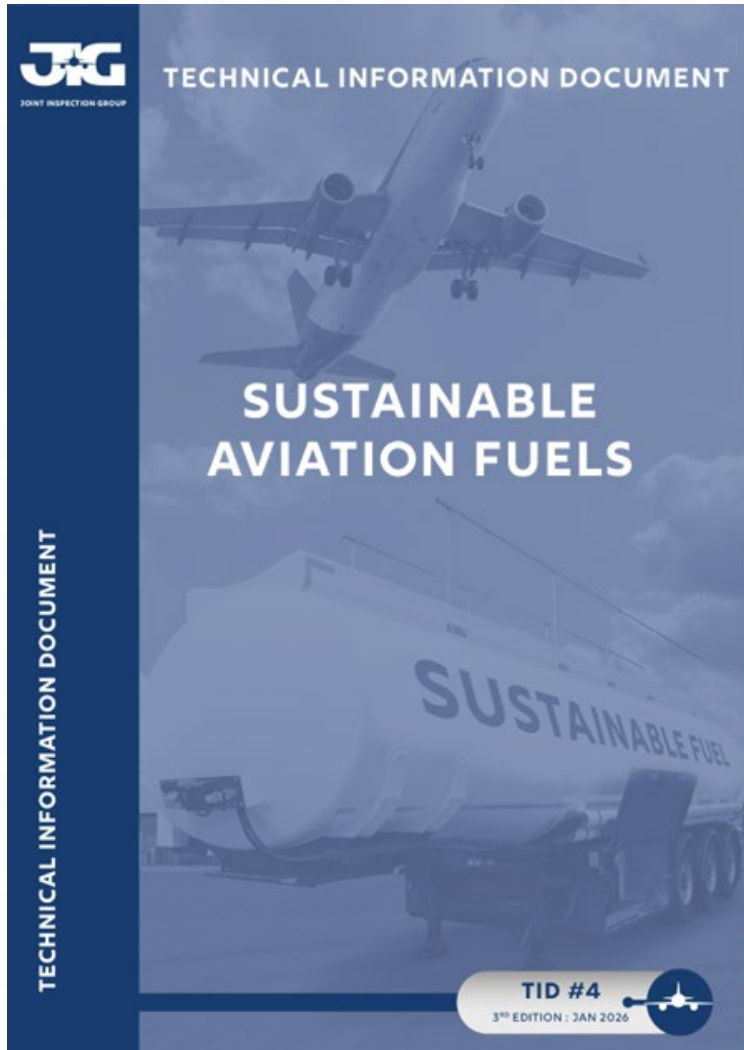
<sup>2)</sup> Yes: The raw material meets the definition of waste, residue or by-product according to the CORSIA requirements (see also ISCC CORSIA Document 201-1) and is not directly derived from agriculture, aquaculture fisheries or forestry  
No: The raw material complies with the CORSIA sustainability criteria according to ISCC CORSIA Document 202

SCS

The Issuing Certification Body is responsible for the accuracy of this document.  
Version / Date: 1 / 13.06.2024



# JIG TID#4 Sustainable Aviation Fuels (Edition 3)



## Changes and updates

- ✈ Overview of the document
- ✈ Reference to the previous edition
- ✈ Operational aspects
- ✈ Updates to the document
- ✈ Updates to the document
- ✈ Updates to the document
- ✈ Updates to the document



# Key points to remember



SBCs currently have to be blended into conventional fuel and certified before use.



The base SBC may be certified as Sustainable.

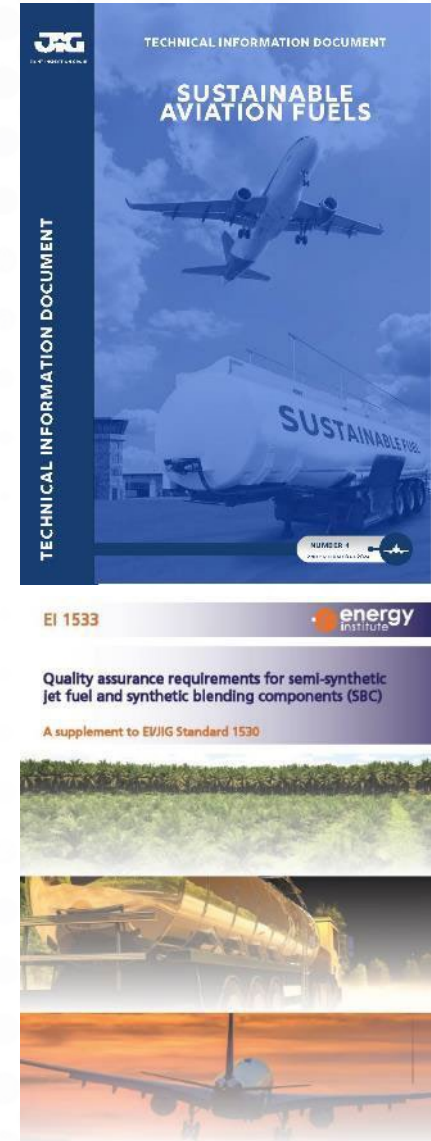


**When fuel arrives on an airport, it is Jet-A or Jet-A1.**

*There are no special handling requirements on airport.  
Aircraft do not need special certification to use this fuel.*



For more information, refer to EI1533 and JIG TID#4.



Q&A



# THANK

# YOU

GRACIAS  
MERCI  
DANK U  
YUZHIGRAZIE

ありがとうございました

СПАСИБО  
ΣΑΣ ΕΥΧΑΡΙΣΤΩ  
謝謝你  
DANK U



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