Operations Bulletin

jigonline.com

Bulletin No 122 EI/JIG 1530 2nd edition 3rd June 2019

This Bulletin supersedes JIG Bulletins 68 and 79.

Background – EI/JIG 1530 1st edition

EI/JIG 1530 Quality Assurance Requirements for the Manufacture, Storage and Distribution of Aviation Fuels to Airports, which was first published in October 2013, was the first single industry document to address aviation fuel handling and quality control, covering the whole supply chain upstream of airports to the point of manufacture.

JIG Bulletins 68 and 79 provided guidance to airport and distribution facility users of JIG Standards regarding the impact and progressive implementation of EI/JIG 1530 1st edition.

EI/JIG 1530 2nd edition

The 2nd edition of the EI/JIG 1530 Standard has been produced by the Supply Chain Fuel Quality Sub-Committee, which is a joint Energy Institute/JIG working group of industry experts. The review process has included wide-ranging industry consultation, user feedback and review. The 2nd Edition has now been approved and published in May 2019.

EI/JIG 1530 2nd edition contains numerous detailed changes from the 1st edition, reflecting the large number of comments and recommendations for improvement received from stakeholders for incorporation into this publication.

Summary of changes

EI/JIG 1530 2nd edition contains margin bars to highlight where changes have been made to content. A list of the main changes in the 2nd edition is provided in Appendix 1 of this Bulletin. In addition, in order to facilitate the transition process and support JIG members to complete the required MOC, JIG has developed and published a more detailed change log (see below).

Conformance to EI/JIG 1530 2nd edition

To claim conformance, it is necessary for an operating location to meet all of the applicable mandatory requirements of this Standard. Further information, including alternative means of compliance and derogation are detailed in Annex M of EI/JIG 1530 2nd edition.

Entities operating or wishing to operate in accordance with EI/JIG 1530 are required to undertake an assessment of their current facility design and operating procedures versus the EI/JIG 1530 2nd edition requirements, as explained below.

Facilities that have previously completed the gap-assessment against EI/JIG 1530 1st ed

Required process: Facilities that have previously completed a gap-assessment of their facility design and operating procedures against EI/JIG 1530 1st ed, are not required to undertake a conformance self-assessment again. However, these facilities shall assess their operation versus the updated requirement of EI/JIG 1530 2nd edition. The objective of this management of change (MOC) is to identify updated requirements in 2nd edition that have an impact on

existing facilities and operations and develop an action plan to implement these updates, in accordance with the updated Annex M of EI/JIG 1530.

To facilitate the transition process for facilities already operating in accordance with EI/JIG 1530, JIG has developed a detailed change log outlining the differences between 1st edition and 2nd edition. This change log allows users to develop a comprehensive action plan for all changes applicable to their operations to manage the transition from 1st edition to 2nd edition.

The use of this change log is optional, and users may choose to follow a different process to run their MOC. However, this change log is expected to facilitate the transition process and therefore should be used by JIG members.

Timeline: Locations currently operating in accordance with EI/JIG 1530 shall complete this transition process to 2nd edition, by 1st July 2020.

Attachment: Change Log tool: **Click Here** or email info@jigonline.com

Facilities that have not previously completed the gap-assessment against EI/JIG 1530 1st ed

Required Process: Facilities that have not previously completed a gap-assessment of their facility design and operating procedures against EI/JIG 1530 1st ed, but are intending to claim conformance with the 2nd edition of the standard, shall complete the conformance self-assessment using the updated self-assessment checklist. These facilities shall agree with their partners a 'transition' date on which EI/JIG 1530 will become the operating standard in effect at the location, having first developed a plan to manage the change.

Full details can be found in the updated Annex M of EI/JIG 1530.

Timeline: There is no timeline requirement for facilities that have not previously operated in accordance with EI/JIG 1530 and wish to complete the conformance self-assessment process for the first time. The 2nd edition self-assessment checklist is effective immediately.

Attachment: Purchasers of EI/JIG 1530 2nd ed, please email info@jigonline.com for the Conformance Self-assessment tool.

Compliance Assessments

Updated EI/JIG 1530 inspection checklist

JIG's Supply and Distribution (S&D) inspection checklist for upstream S&D locations (refineries, installations and distribution facilities) has been updated to reflect changes in 2nd edition.

The updated inspection checklist is currently being uploaded into JIG's Inspection Tracking System, JITS (FOS platform), and is expected to be available in JITS by 1st July 2019.

JIG Inspections of facilities operating in accordance with EI/JIG 1530

Upstream Supply and Distribution installations operating in accordance with EI/JIG 1530 that are included in JIG's Inspection Programme and registered to the JITS, will be inspected against the updated EI/JIG 1530 inspection checklist, as soon as the updated checklist is available in JITS (expected by 1st July 2019).

JIG inspectors are expected to highlight in the inspection reports the areas where compliance with 2nd edition is required. Any gaps associated with 2nd edition updates shall not be raised as inspection recommendations for the first 12 months (i.e. until 1st July 2020), but are expected to be included in the "Comments" section of the report, to assist sites with implementation over the first year after the publication of the second edition.

Note that EI/JIG 1530 focuses specifically on product quality assurance upstream of airports. JIG Bulletin 79 included a list of additional items outside the scope of EI/JIG 1530 that were previously included in the JIG 3 S&D standard. These additional HSSE-related requirements are now listed in Appendix 2 of this Bulletin and still apply to locations included in the JIG inspection programme (that are claiming "Inspected to JIG Standards").

The additional HSSE-related items will not be identified during the Self-Assessment, as they are not included in EI/JIG 1530. However, S&D facilities that are Inspected to JIG Standards shall meet all of the additional requirements listed in Appendix 2, including the requirements of JIG HSSE Management System Standard.

Actions to Implement this Bulletin (See Table 1 for Action Type Codes)

Action Description	Action Type	Target Completion Date
S&D locations currently operating in accordance with EI/JIG 1530 shall 1. Review the change log and establish an action plan to implement updated requirements, as part of their MOC for the transition from 1st edition to 2nd edition. 2. Change their working practices and procedures to meet the requirements of EI/JIG 1530 2nd edition, in accordance with their MOC plans 3. Confirm to their fuel suppliers that the transition process described above has been completed, by 1st July 2020 Note: The JIG change log should be used to establish the required action plan	JS	1 July 2020
S&D locations intending to operate in accordance with EI/JIG 1530 that have not completed the self-conformance assessment before, shall 1. Complete a conformance self-assessment using the updated gap-assessment tool 2. Change their working practices and procedures to meet the requirements of EI/JIG 1530 2nd edition, in accordance with their MOC plans 3. Agree with their partners a 'transition' date to EI/JIG 1530 having first developed a plan to manage the change and inform their fuel suppliers	-	N/A
S&D locations whose action plans to close gaps with mandatory requirements in the standard have implementation periods greater than three months, shall apply the Alternative Means of Conformance (AMC) or Derogation procedures, as stipulated in Annex M	JS	1 July 2020
S&D locations operating in accordance with the JIG standards that are responsible for supplying airport locations operated in accordance with JIG 2, shall submit confirmation to fuel suppliers using their facilities that they have completed the actions required in this Bulletin.	JS	1 July 2020

Table 1 Action Type Codes

Action Types	JIG Bulletin Action Type Definition
JS	Change to JIG Standard – to be adopted by JV and/or Operator to continue to meet the JIG Standard(s) (JIG 1, 2, 4, EI/JIG 1530 and the JIG HSSE Management System).
RA	Required Action to implement one off verification or checks outlined in the table of actions.
RP	JIG Recommended Practice which the JV should consider adopting as its own practice (**).
I	Issued for information purposes only.
Note (**) - If the JV agreements require any of the JIG Standards and/or any of the JIG Common Processes as the governing operational standard then adoption of changes to applicable JIG Standards and/or Common Processes should not be considered optional by the JV Board.	

Appendix 1 – List of Changes

A list of the main changes in EI/JIG 1530 2nd edition is provided below.

Clause	Description of change
General	Standard made less jet fuel-specific with the inclusion of aviation gasoline (avgas) when appropriate. References to aviation fuel, apply to both jet fuel and avgas.
General	References to requirements of specific aviation fuel specifications removed unless appropriate.
General	All references to Filter Monitors and EI 1583 removed.
General	All references to Periodic Testing removed throughout document, requirement to retest fuel covered by 2.2.6, duration of validity of certificate.
General	Use of term isolate/isolated removed from document to avoid confusion with other uses of term (e.g. isolate electricity) definition removed from glossary.
2.3	Major redraft of section to provide further clarity and accommodation of fungible pipeline systems. Updated examples given in schematics including addition of fungible pipeline scenario.
4.5.8	Additional sections added to cover tests for particle counting, chloride contamination, microbiological growth (MBG), chemical water detector (CWD) and fuel system icing inhibitor (FSII).
4.5.8.10	Title changed to "Requirements for field test laboratories and field-testing equipment'" with additions to cover requirements of field-testing laboratories.
Chapter 5	Title changed to "Certifying laboratories" to distinguish from field testing laboratories.
Chapter 6	Extensive additions to include reference to avgas grades and the manufacturing of avgas.
7.3	New sections added regarding leak detector additive, avgas dyes and tetraethyl lead (TEL) for avgas.
8.3.3	Single and multi-product pipeline receipt sampling requirements aligned.
8.4.2	Several options for reducing tank settling time added based upon tank design, additional sampling and testing, and whether supplying direct or indirect to airport service tanks.
9.3.4	Requirement for new tanks brought into aviation fuel service to have either fixed roof or dome cover changed to apply only to direct to airport service tanks.
9.3.7	Requirement for separate inlet and outlet lines for tanks is mandated for tanks delivering direct to airport service tanks or into grade-dedicated systems. Direct to airport service tank locations with single inlet/outlet lines shall be upgraded. Non-direct to airport locations with single inlet/outlet lines require procedures to manage line content.
9.3.8	Separation and Positive segregation section redrafted to clarify when positive segregation is required. In addition, definitions of separation, segregation and positive segregation clarified. Schematic illustrations of when positive segregation is required added (6 cases in all) as new Annex Q.
9.3.8	Clarification added on when thermal relief valves (TRVs) on tank inlet or outlet lines may/may not bypass to the storage tank.
9.5.1.6	Requirements for verification of positive segregation effectiveness amended to at least every three months.
10.1.6	Redrafted to avoid duplication as ship-to-ship transfer and loading into floating storage are the same operation and to enable traceability to be retained during transfer between ships.
10.2.3.3, 8.3.4	Sampling requirements from multi-product pipeline aligned with single grade pipeline. 8.3.4 also changed to be consistent. Clarified that automatic continuous in-line monitoring acceptable.
10.3.4	Driver controlled loading section added.
10.3.5	Driver controlled delivery section added.
Annex A	Redrafted to differentiate between authorised signatories process for laboratory documents and operational documents with examples given of each.
Annex M	Concept of derogation introduced.
Annex N	New Annex N added covering fungible pipeline breakout/staging tankage (drain-dry). Numerous references to new Annex N added throughout text as applicable.
Annex O	New Annex O added covering aviation fuel cleanliness assessment by particle counting techniques.
Annex P	New Annex P added giving summary of routine test frequencies.
Annex Q	Example schematic illustrations added of aviation fuel supply chains and the requirements for segregation and positive segregation.

Appendix 2- Additional JIG requirements not covered in EI/JIG 1530

The following table lists the additional HSSE-related requirements for Supply and Distribution facilities in the JIG Inspection process, which are not covered (not in scope) in EI/JIG 1530.

These items will not be identified during the Self-Assessment, as they are not included in EI/JIG 1530, however, S&D facilities being included in the JIG inspection programme will be expected to meet all of the requirements listed below, including the JIG HSSE MS, in addition to the requirements of EI/JIG 1530.

Any operating entity handling aviation fuels is expected to implement and maintain an HSSE Management System that seeks to proactively improve HSSE performance in preventing injury, ill-health, environmental and security impacts.

The JIG HSSE Management System Standard describes the minimum expectations with which HSSE systems shall be managed. Entities that operate to the EI/JIG 1530 Standard are expected to meet the requirements of the JIG HSSE MS and regulatory requirements. Locations inspected in accordance with the JIG Inspection Programme shall be externally audited against the standard at least every 3 years.

JIG inspectors will be using the following questions to check that S&D locations meet the additional HSSE requirements of JIG including the JIG HSSE MS Standard.

Ref	EI/JIG 1530 inspection checklist	JIG expectations
D1-2	Is an HSSE induction programme implemented for all personnel, contractors, and visitors? Was a suitable induction performed when the inspector arrived on site?	JIG HSSEMS 5.3
D1-3	Are 'Safety Walks' conducted by Managers and Supervisors to a defined frequency?	JIG HSSEMS 1.9
D1-4	Are safety signs prominently displayed throughout the location and are the signs well maintained?	JIG HSSEMS Sections 6,7
D1-5	Is there evidence that a permit to work system is being used with appropriate safeguards for confined space entry, hazardous entry (pressure etc), hot work, isolation, electrical work and other activities requiring control?	JIG HSSEMS 2.6
D1-6	Does the permit to work system include the assignment of competent persons to authorise permits?	JIG HSSEMS Section 5
D1-7	Is the location adequately secured to prevent the access of unauthorised people? Inspector to check that there are no obvious security issues during visit	JIG HSSEMS 2.4, 7.3
D2-1	Is there a current training plan for new and existing personnel, including contractors and sub-contractors, and are refresher training requirements defined?	JIG HSSEMS Section 5 EI/JIG 1530 2.4

Ref	EI/JIG 1530 inspection checklist	JIG expectations
D2-2	Do training records include: - HSSE awareness and skills training? - Regular Operating and QC training? - Fire-fighting training? - Fire drills and emergency procedure exercises? - Follow up on-the-job observation training?	JIG HSSEMS Section 5 EI/JIG 1530 2.4 4.5.8.10
D2-3	Does the location have a PPE policy which includes the requirement for management and visitors to wear appropriate PPE?	JIG HSSEMS 1.2
D2-4	Can appropriate medical aid and ambulance service be obtained within a reasonable timeframe?	JIG HSSEMS 6.2
D2-5	Is a stocked first aid kit available and has clear responsibility for maintaining it been assigned?	JIG HSSEMS 6.2
D2-6	Are adequate washing facilities provided?	JIG HSSEMS Section 6
D2-7	Is a procedure in place for management of change to be applied including a post-implementation review? Does the MOC process consider the impact of proposed changes on product quality?	JIG HSSEMS Section 8 EI/JIG 1530 Section 3
D2-8	Is there a written procedure for incident reporting (including PQ incidents)?	JIG HSSEMS 10.1, 10.4
D2-9	Are reports of incidents (including PQ incidents) and actions taken shared with personnel and participant companies?	JIG HSSEMS 10.5
D2-10	Are written pre-planned response procedures in place for: - Equipment breakdown affecting ability to operate - Power failure - Product spillage - Serious injury to staff, contractors or third parties - Terrorist actions, bomb warning, civil disturbance etc. - Fuel quality problems - Fire - Stock shortages - Large scale health risks (e.g. communicable diseases) - Is there evidence that personnel have been made aware of the contents relevant to them?	JIG HSSEMS Section 11
D2-11	Are emergency telephone numbers immediately available and up to date?	JIG HSSEMS Section 11
D2-12	Emergency shut-down switch/system tests?	JIG HSSEMS Section 11
D2-13	Is a drawing of the installation prominently displayed, identifying the location of firefighting equipment, emergency shut-down devices, alarm activation points, exits, assembly points and first aid equipment? Is a set of critical drawings (general layout, piping and instrumentation diagram, process flow diagram) of the storage installation available either electronically or in hard copy?	JIG HSSEMS 4.4, 11.5 EI/JIG 1530 9.1.6

Ref	EI/JIG 1530 inspection checklist	JIG expectations
B5R	Are bonding wires in good condition? Inspector to check electrical continuity. (not required for permissive bonding systems which are self-checking)	All electrical bonding wires, clips and reels shall be checked daily for firm attachment and general condition, and weekly for electrical continuity (there shall be less than 25 ohms resistance). The condition shall be visually checked along the entire length of the wire including connections. Electrical continuity shall be checked over several revolutions of the reel while unreeling or reeling in the bonding wire slowly. Permissive bonding systems that require a bonding circuit to allow pump start shall be checked daily for general condition and maintained in accordance with the manufacturer's required maintenance, at least annually.
B6R	Are road tanker/rail car receipt areas constructed of a low permeability material and do the areas have a positive slope and drainage to an oil water separator (OWS)?	Road tanker/rail car receipt and loading areas shall be constructed of a low-permeability material. The surface areas shall have a positive slope and drainage to an oil/water separator
B11R	Is equipment bonded to offloading facility before hoses are connected and is bonding maintained until hoses are disconnected?	When discharging or loading road and rail vehicles, vehicles shall always be bonded to fixed facilities which in turn are suitably earthed. Bonding shall be completed before hoses are connected and prior to opening valves, fill caps, dip hatches etc., and remain in position until after hoses are finally disconnected and hatches etc. are closed.
B2-5	Are handrails, ladders and steps adequate and in good condition?	Ladders, walkways and handrails shall be kept free of rust and in good condition.
B2-11	Are tanks fitted with high level alarm systems as a minimum? Where required (vessel or pipeline supply) are storage tanks equipped with a separate (high-high) level shut off system that stops the fuel flow at a predetermined level?	All tanks (including PRTs not fitted with self-closing inlet valves) shall be fitted with high-level alarm systems and the systems shall be routinely tested. Low level alarm systems are also recommended. At locations supplied by vessel or pipeline or by multiple simultaneous discharge of road tankers or rail tank cars, storage tanks shall be fitted with a high level audible alarm and a separate "high-high" level system that shuts down the fuel flow when a predetermined level of fuel in the tank is reached. Any relaxation to these requirements shall be supported by risk assessments to demonstrate acceptability of relaxed procedures, e.g. tanks supplied by vessel that are not equipped with an automated shutdown system where there might be an increased risk of a spill on the water based on a documented RA.
B2-12	Is bund capacity sufficient? (at least 110% of the storage capacity of the largest tank) For "catchpot" or horizontal double skinned tanks, do they meet the overfill and containment requirements of JIG Bulletin 122?	Tank bunds shall meet the requirements of local legislation and have a capacity of at least 110% of the storage capacity of the largest tank contained within a bund wall. Tank bund areas should be kept free of vegetation and bund drain valves kept closed and secured. Standing water shall be drained from bunds without delay. Vertical 'catchpot' tanks (typical German design) shall have a double bottom on the primary containment. Tank overfill containment shall be provided and the volume and extent of overfill containment shall be assessed against the environmental risk, but will typically be based on flow rate and time. Horizontal double-skinned tanks shall have all pipework entries above the maximum liquid level, but discharge shall be at low level inside the tank. The second skin containment volume shall meet national regulations (the 110% rule may not apply). Semi-buried or buried tanks may not require a bund; however, the overfill containment shall be provided as above.
New in B3	Are loading areas constructed of a low permeability material and do they have a positive slope & drainage to an O/WS?	Road tanker/rail car receipt and loading areas shall be constructed of a low-permeability material. The surface areas shall have a positive slope and drainage to an Oil/Water Separator

Ref	EI/JIG 1530 inspection checklist	JIG expectations
B3-18	Is road tanker bonded to loading facility before hoses are connected and is bonding maintained until hoses are disconnected? Are bonding wires in good condition? (not required for permissive bonding systems which are self-checking)	When discharging or loading road and rail vehicles, vehicles shall always be bonded to fixed facilities which in turn are suitably earthed. Bonding shall be completed before hoses are connected and prior to opening valves, fill caps, dip hatches etc., and remain in position until after hoses are finally disconnected and hatches etc. are closed.
B3-20	Where equipment is top-loaded, is there adequate fall protection	If it is necessary to work at height to perform loading operations or carry out checks, a risk assessment shall be carried out and appropriate measures put in place (such as fall protection equipment) to minimise risk.
B3-22	Are procedures and equipment available to prevent over-filling?	Procedures and equipment used for loading road tankers/rail cars shall be designed to prevent fuel spillage. The operator controlling the loading operation shall remain in attendance throughout and shall have immediate access to a means of stopping the fuel flow quickly. Adequate spill protection measures (e.g. fuel containment barriers) shall be provided.
E2-5	Monthly floating suctions buoyancy checks where applicable	Floating suction arms, bonded to the tank shell, with position indicators and/or check cables bonded to the tank shell. For effective bonding of check cables, they shall be installed with permanent metal to metal contact with the tank shell. Position indicators should be used for large above-ground vertical tanks. The correct operation of floating suction arms shall be checked monthly.
E2-6	Condition of vents and coarse mesh screens (or PV valves and flame arrestors where fitted) (quarterly/annual)	The condition of free vents and mesh screens shall be checked at least quarterly for evidence of damage or obstruction, or more frequently as dictated by local conditions. Pressure/vacuum relief valves and flame arrestors, where fitted, shall be checked and serviced at least annually and in accordance with the manufacturer's recommendations.
E2-7	High level alarm systems' checks (monthly/annual)	The correct operation of all high level alarm systems shall be checked at least annually in accordance with written procedures and more frequently if required by local regulations or recommended by manufacturers. A monthly functional check of high-level alarms should also be performed where possible. Tanks should not be filled to the level at which the high level alarm is activated except during test procedures.
E2-12	Daily visual check of bonding wires and clips	All electrical bonding wires, clips and reels shall be checked daily for firm attachment and general condition
E2-13	Weekly electrical continuity check (not required for permissive bonding systems)	Weekly checks of electrical bonding wires, clips and reels for condition and electrical continuity shall be recorded. Records of daily general condition checks of permissive bonding systems and annual maintenance as required by the manufacturer shall be maintained.
E2-18	Annual earthing straps/rods electrical resistance checks	Records of annual checks for resistance of fixed facility earthing straps/rods (where fitted to storage tanks, pipework and filter vessels etc.) shall be maintained
E3-11	Annual servicing of air eliminators and pressure relief valves	Air eliminators shall be inspected annually for proper functioning of the air release mechanism or whenever the filter/separator is opened, following the procedures outlined in the manufacturer's manuals. Air eliminators that cannot be inspected, e.g. welded construction types, shall have a visual flow indicator device installed to indicate correct operation. Thermal relief valves shall be tested in accordance with the manufacturer's recommendations at least annually.