INSPECTION OF AIRPORT DEPOT / HYDRANT / INTO-PLANE FACILITIES IN ACCORDANCE WITH THE JIG INSPECTION PROGRAMME

Location	Noumea NOU-TOTAL:ADHIP
Facility (Airport Depot, Hydrant or Into-Plane Service)	ADHIP
Managing/Operating Company	TOTAL
Name of inspector and company	Nigel Harris - ExxonMobil Fuels and Lubricants Company
Date of visit	18-09-2019
Recommendations reviewed with	Alexandre Djaguinoff, Christophe Bastien, Marc Chamonard,
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.	Good
Last JIG inspection (name of company and date visited)	ExxonMobil Fuels and Lubricants Company - 14/08/2018
Has a Tier 3 non-disclosure agreement been signed by all inspecting parties	Yes
Have any items of a serious nature been communicated to all participants and the local manager without delay?	N/A
Last HSSE Management System Audit (by participant or consultant) (name of company and date visited)	Air Total, 03/03/2018
Date of last revision to local/site operating procedures	14-12-2016

This document, when used by a registered JIG Inspector for JIG locations in the "IJS" program or JIG Joint Ventures, shall be deemed a sampling review to determine the overall rating of the operation and identify areas for improvement. It is not a compliance audit.

Notes for Inspectors

Questions and Abbreviations

Each question in this report is identified by a reference number. These reference numbers should be inserted next to any Recommendations made. Inspectors should use the following abbreviations:

C	Comment
Y	Yes
N	No
NA	Not Applicable
R	Recommendation. The question ref number and the recommendation should be shown on the page A-3.
RO	Recommendation Open/Overdue
NW	Not Witnessed

High Priority Recommendations

These are Recommendations concerning quality control, technical, operational or HSSE issues that may lead to a major incident or major disruption in airport operations, if they are not effectively addressed at the earliest possible opportunity.

Recommendations Open/Overdue

These are Recommendations from previous JIG Inspection Reports which remain open, have not been closed out by the due date or in the opinion of the Inspector have not been satisfactorily addressed. They should be identified on page A-2 with a comment on the status of implementation.

Close-out Meeting

The inspector shall discuss the inspection findings and agree close-out dates for all Recommendations at the conclusion of the inspection visit.

The Summary Page

Page A-1 shall be used to give an overall assessment of the facility. Inspectors should:

- highlight any significant areas of concern
- state how many Open/Overdue Recommendations there are
- identify any Open/Overdue High Priority Recommendations
- assess the overall operation as being **good, satisfactory, or less than satisfactory** in accordance with the following descriptions:

Good:

Used when the following criteria are met:

- There are no open/overdue recommendations from the previous international inspection reports that are within the control of the facility management; and
- There are no High Priority Recommendations in the current report; and
- Recommendations in the current report are of minor nature and do not reflect systemic issues; and
- There is evidence of good HSSE performance for the inspection period

Satisfactory:

There are no systemic quality control, technical, operational or HSSE issues. The previous recommendations have been satisfactorily addressed with clear gap closure plans in place to close out any remaining open/overdue recommendations.

Less than Satisfactory:

This operation is showing signs of systemic failure to meet quality control, technical, operational or HSSE requirements. Recommendations from the previous international inspection reports have not been satisfactorily addressed or staff attitudes suggest that the operation is more likely to deteriorate than to improve.

Note for the term "Systemic issues":
In the context of the above definitions, systemic issues are widespread issues, affecting or relating to a wider group of people or wider parts of the operation, with unaddressed underlying causes.

A1: SUMMARY

OVERALL ASSESSMENT: Good
(see page 2 for description definitions)

Tontouta ADH&IP has made excellent progress in closing out previous Recommendations with eleven of the fourteen items closed, one moved to a Comment leaving only two remaining open. Of these remaining items, both are not fully under the control of the site and will require external assistance to develope a closure strategy.

This is a great result but as the goal is continuous improvement, a current inspection neccessarily dug a little deeper so there are more new Recomendations and a considerable number of suggest improvements in the Comments section.

Most of the new items are minor in nature however one Recommendation and one Comment that will require a Toolbox talk to address gaps in refuelling procedures but as these do not appear to be systemic ther eis no real concern that they cannot be quickly resolved.

These two issues required considerable reflection by the Inspector as they were issues that affect the most critical aspect of Aviation Operations, that of delivery to an aircraft, however the did not appear to be systemic and the response from the Operators to the coaching that took place was positive leaving the impression that improvement was an important goal to both the staff and management.

The criteria for the allocation of a Good rating has been met so in the Inspector's opinion the assessment of Good is valid.

My thanks for the excellent engagement and opened during the visit, I wish Marc and his team the best and add that I am happy to take any queries or questions regarding the report and am happy to help in any way I can.

A2 - A4: RECOMMENDATIONS & COMMENTS

Ref.	A2(i): OPEN/OVERDUE RECOMMENDATIONS FROM PREVIOUS INSPECTION – HIGH PRIORITY	Status	Target Date
G2-12	*Annual buried pipeline pressure tests in accordance with 8.7.2?* 2019 A VAC is yet to be raised to cover this issue, New Caledonia Terminal Operations manager to follow up with site. Note: Ensure VACs process is followed as defined in JIG2 and that JV partner Technical Advisers are involved in reviews.	Open	31-03-2020
G2-17	*Calibration certificate for master meter/prover tank (3-year validity)? (meter proving equipment correctly sized & grade dedicated)* 2019 Recalibration of the Meter Prover has not yet been undertaken, a recovery plan must be developed and authorised by the OpCom and a VAC written to cover the immediate gap with respect to Customer deliveries. Note: Suggest discussing sharing Meter Prover at Ducos in the short term (currently still within calibration period).	Open	31-03-2020

Ref.	A2(ii): OPEN/OVERDUE RECOMMENDATIONS FROM PREVIOUS INSPECTION – NORMAL PRIORITY	Status	Target Date

Ref.	A3(i): RECOMMENDATIONS FROM CURRENT INSPECTION – HIGH PRIORITY	Status	Target Date

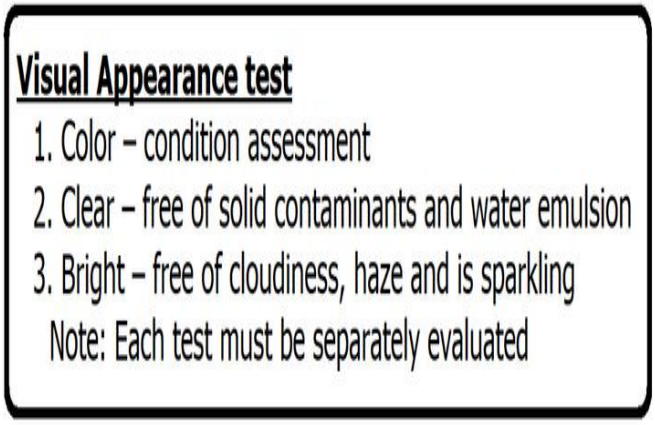
Ref.	A3(ii): RECOMMENDATIONS FROM CURRENT INSPECTION – NORMAL PRIORITY	Status	Target Date
D1-15	*Is elevating platform fitted with:* • *at least two correctly located sensors?* • *Inspector to check function* • *safe access and exit ladders/steps?* • *non-slip flooring?* • *system to ensure the platform gate is secure when in use?* • *an emergency exit or lowering device?* • *required warning signs?* • The liftbox sensors on 6648 require a design review as they are so long they activate when the vehicle is driven into the parking garage so have been bend back to allow clearance. Unfortunately they no longer sit high enough to provide protection to the liftbox. Also, the lift box door on 6648 requires a little push to close and thus activate the safety lock when being raised. This needs to be adjusted so that it will self-close under its own weight.	Open	21-04-2020
D3-13	*Is sampling procedure and disposal in accordance with procedures?* Pre and post refuel Sampling were carried out on the initial delivery (9770 L) but no after sample was done following the top-up of 1570 L. After fuel sampling is required whenever fuel is displaced in the vehicle to assure the first quantity of fuel loaded at the next refuel is satisfactory so should have been done for each of these two deliveries. A Toolbox talk must be given to all Operators to ensure this procedure is understood and correctly applied.	Open	31-12-2019
G2-21	*6-monthly accuracy check?* There is no Master Thermometer on site as Working Thermometer accuracy checks are currently being done by comparing to a DMA35n. As the temperature displayed on the DMA is an internal temperature (and not the sample temperature) this process is invalid so a Master Thermometer or PET/ RTD must be purchased, the working thermometer procedure updated and new records kept including the relevant serial numbers of Master and Working units.	Open	21-04-2020
G4-30	*6-monthly accuracy check* The DMA35n seen during the visit has a cracked upper cover and must be sent for repair as this invalidates the IS rating of the unit. Note: Validation of Working thermometers is not currently being done against a valid reference device, a new Recommendation has been raised on this issue.	Open	21-04-2020
G4-33	*Other Comments or Recommendations (Limit to C, R or NA)*	Open	21-04-2020

	The test certificate for the Emcee meter shows an certification period of 12 months from Calibration by the agent but is being used for three years due to confusion about JIG's reference to a maximum 3 year period between tests. The expiry date is the date shown on the test certificate regardless of whether is less than 3 years from its test date so must be observed. The Emcee meter must be send for calibration. Note: suggest the possibility of a 3 year certificate is discussed with the supplier		

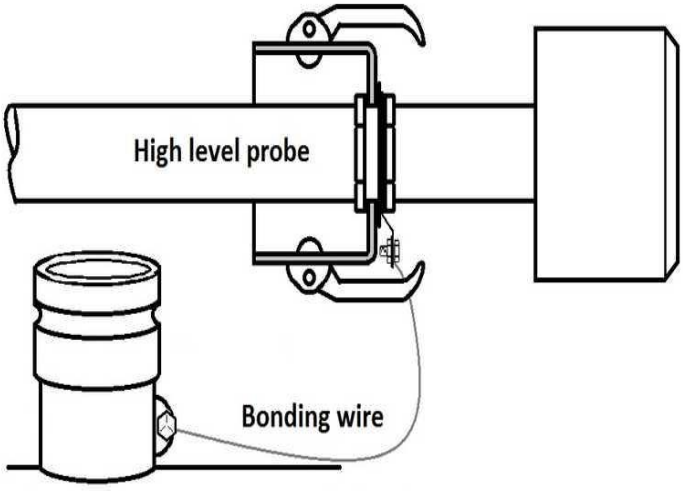
Ref.	A4: COMMENTS FROM CURRENT INSPECTION
B10R	*Are loading documents checked, and do they correctly identify the transportation equipment and grade and quantity loaded?* The incoming RC did not have a time of loading recorded on it however this was raised with the supplying terminal. Operators receiving should check incoming loads and raise the issue is the same problem re-occurs.
B15R	*Are fuel samples drawn for Control Check and results compared with the batch density shown on the Release Certificate?* One of the loads received during the Inspection had extremely high conductivity when tested despite the meter passing its pre-check and the incoming paperwork showing normal levels (On receipt; 647 pS/m, RC; 197 pS/m). This was reported to the supplying terminal who investigated but found no issues with their test equipment or the additisation process. The fuel was successfully blended into storage storage and later checks showed a combined conductivity of 178 pS/m. It is suggested that future incoming loads with high conductivity are referred to both Partner's technical support groups so that a more in-depth investigation can be undertaken.
B2-4	*Is general appearance (paintwork, signs of rust or leakage) satisfactory?* NOU has seven double skinned underground fibreglass tanks
B2-6	*Are handrails, ladders and steps adequate and in good condition?* Access to the tank top area (grassed) is by a metal mesh staircase. Suggest yellow grip edges are added to each step to improve visibility and grip when decending (Often Operators are carrying fuel cans during decent).
B2-10	*Are tanks fitted with high level alarm systems as a minimum?* *Where required are storage tanks equipped with a separate (high-high) level shut off system that stops the fuel flow at a predetermined level?* Storage tank High Level Alarm (HLA) sensing is via a Veeder Root TLS350 so there are two levels of overfill detection but are not independent. There is an additional, passive, OPW flapper-type overfill protection device fitted to the tank inlets.
B2-18	*Is draining and sampling carried out at full flow?* *Is sampling conducted to required standards using suitable equipment?* *Is Visual / Appearance Check on a line sample carried out correctly?* Tank sump sampling is via thief pump so flow is limited to the lift produced by the thief pump. Some coaching was provided to Operators to reinforce understanding of what is required in the Visual Appearance test however they clearly what a C&B sample looked like
B2-20	*Are suitable thermometers and density measurement equipment available?* *Is equipment stored correctly?* Whilst not unsafe, the DMA35n used for Bridger receipt had a cracked plunger retaining slide which as it is integral to the units housing, invalidates the Ex rating. When this was pointed

	out, it was removed from service and as a follow up, it is suggested that a Toolbox Talk be held to reinforce the need to report damaged equipment when discovered.
C9	*Are Hydrant Emergency Stop Buttons (ESB's):* • *Readily visible and accessible from aircraft fuelling bays? (Within 80m)* • *Clearly identified with a suitable high visibility sign?* • *Does activation of the ESB shut down the hydrant pumps and close the inlet control valves automatically?* *Where operations permit the Inspector should validate the operation by activation of an ESB.* ESBs sound an alarm on activation and shut down hydrant pumps but do not close an MOV to isolate system. The mitigating factor is that he storage tanks are semi-buried so have a very low pressure head.
D1-7	*Do hoses comply with EI 1529 orISO 1825? Do pressure fuelling nozzles comply with SAE AS 5877? Are hoses/nozzles in good condition?* Quick disconnect pressure fueling coupler bolts have been lock wired as previously requested
D1-10	*For jet fuel overwing nozzles is the stowage device designed so that only the jet fuel selective spout is able to disengage the interlock?* *If the non-selective spout is stowed on the vehicle, is it held in a designated interlocked stowage point?* Nozzles are interlocked on the new Fueller but alternate controls as used for the older vehicles (narrow nozzles held by designated persons and allocated on an "as needed" basis.
D2-10	*Are suitable clean field glass sampling containers available? (Buckets shall only be used for flushing)* Some of the Aljacs were observed to have residual fuel in them when not in use. This contributes to staining of the floor and walls so Operators should be asked to leave the drain valves slightly open when not in use.
D2-18	*Is strainer in good condition and free of particulate matter and cleaned in accordance with JIG Bulletin 105 for equipment fitted with filter monitors?* Strainers were checked on several vehicles but no evidence of SAP migration was found although very quantities of dirt and element fluff were seen in a few. Coaching on the changes to screen cleaning was provided to all Operators by the Inspector in accordance with JIG Bulletin 105 Appendix 5 with each Operator completing the task and providing a verbal commentary.
D2-19	*Is a suitable test rig available that can simulate both gradual and rapid termination of fuel flow into aircraft and be operated from ground level?* The hydrant line is 8" but as the supply line to the test rig is only 4" the test rig cannot duplicate the same flow conditions as the hydrant and as a result, pressure cannot be undertaken at Maximum Achievable Flowrate (MAF). This means that pressure testing is only being carried out at a percentage of the of what could be achieved during a refuel so accurate pressure control during both dynamic and high flow surge conditions cannot be assured. Consideration should be given to upgrading the test rig so that test flowrates consistent with hydrant flowrates

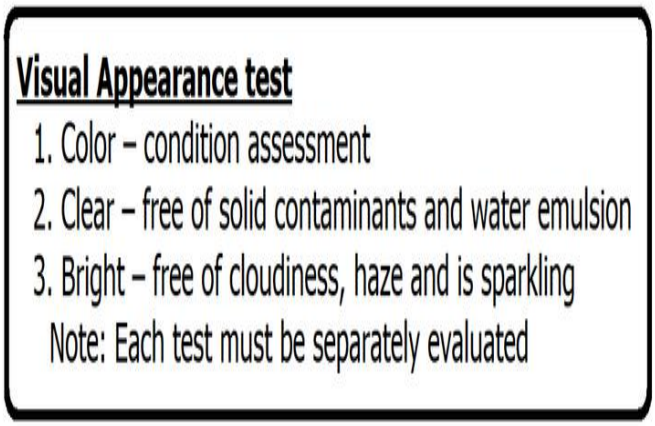
	can be simulated therefore providing confidence that pressure control is effective under all conditions.
D3-0	*Aircraft type:* *Fuelling equipment used:* *Number of fuelling personnel:* *Grade delivered (Jet fuel or Avgas only):* Aircraft type: A330, Air Calin, F-OZNL Fuelling equipment used: 6648 Number of fuelling personnel: 2 Grade delivered (Jet fuel or Avgas only): Jet A-1, 9770 L + 1570 L (total 11340 L)
D3-14	*Where required, is chemical water detector within date and correctly used? If a qualified EI 1598 electronic water sensor is used instead of CWD, is the sensor installed and operated in compliance with Bulletin 110?* The poor practice of pre-loading the CWD before the sample in the Aljac has been fully assessed was seen during the observed refuel (A CWD was loaded & drawn whilst there was still a high vortex in the Aljac). This should addressed with all Operators via a Toolbox Talk. This habit encourages both a predetermination that the Visual Appearance test will be OK and that the Operator places more importance on the CWD test than Visual Appearance test.
D3-16	*Where the fuelling operator performs additional services are these in accordance with the IATA Guidance material?* No additional services were undertaken during the observed refuel however they are provided on Qantas flights. Training is provided to a local Trainer who then trains the other Operators, records were sighted during the Inspection visit,
D3-22	*Is a high visibility marker/flag used to identify the hydrant pit? (Inspector to witness or determine how visibility is achieved during hours of darkness).* The pit identification flag had a loose knuckle where the two flag arms cross which meant it hug incorrectly. This should be repaired and the Operator reminded to report such faults for attention and later repair.
D3-26	*Other Comments or Recommendations (Limit to C, R or NA)* To clarify the previous finding, the sticker attached to the liftbox side panel is a cab entry/ exit instruction so is not relevant to stairway on Hydrant Dispenser. A Toolbox talk has been run to highlight the risk of using the stairway.
E10	*Is a working and tested air eliminator and pressure relief valve fitted? Are isolation/maintenance valves sealed in normal operating position?* Previous Recommendation moved to comments: Currently, air eliminator and pressure relief valves from filter vessels drain into the sample recovery tank at the Bridger receipt location. This small recovery tank does not have any over-fill protection. While this is not a requirement, it is suggested to consider putting some type of

	sensor/alarm to indicate whether this small vessel is filling up. The vessel is located in the Bridger receipt area so any overfill would still be contained, with overflow going to the oil/water separator. A High Level Alarm option to consider is a Bintech Tank Boss BI-4000H HLA (or similar) which is self-contained requiring no external power supplied or associated wiring (see attachment) 
E11	*Are drain points readily accessible with sufficient clearance to accommodate a wide neck glass jar?* Suggest that sample drain line volumes are marked near each drain valve so it can either be flushed or added to sample volume when assessing. Suggest that a French version of the attached sticker be affixed near drain lines to prompt the correct procedure for undertaking a Visual Appearance check. 
	Vessel reference/identity number: Hydrant Dispenser 6648

E13	*Are elements in good condition?* *All elements (coalescers and separators) from the same manufacturer?* *Inspector to comment on any visible damage or signs of possible surfactant contamination or microbiological growth and action taken.* *Inspector shall witness a water test of the Separator element(s)* Filter Monitors fitted. Evidence of rust from Hydrant see n on elements, probably from old unlined section. Rust is not seen in Low Point fushing activities so LPs may not be very effective.
F1-9	*Other Comments or Recommendations (Limit to C, R or NA)* The assembly area in case of an emergency is inside the fenceline of the depot near the (locked) entrance gate. As the prime objective of an emergency is t evacuate personnel and the area chosen to assemble is exactly where emergency vehicles will need to access, it is suggested the assembly area is moved to a location on the other side of the approach road so personnel are well away from danger. It is also suggested that the Entrance gate is modified so it is able to be opened from the inside without a key or that a separate pedestrian emergency exit be installed also with internal non-key release.
F2-8	*Are HSSE incident statistics reported monthly using the JIG web-based HSSE reporting system?* Not verified with site but JV partners confirmed HSSE data was available
G1-17	*Other Comments or Recommendations (Limit to C, R or NA)* Some records have the initials of two different people for each record so it is difficult to determine who did what as the check marks are in one handwriting. Suggest that the person certifying the work as complete should write their initials first and that this convention is recorded either on each form or in the site's procedures.
G2-7	*High level alarm systems checks (Annual dynamic wet test, where possible monthly functional checks should also be recorded)?* Storage tanks High Level Alarms (HLA) are wet tested by filling from a Bridger until activation. This is not ideal as a HLA failure could result in an over-fill and a loss to ground so suggest that consideration be given to modifying the HLAs fitted as described in the attached file so that testing can be done via a bucket of fuel. Note: Tank leak detection and HLA sensing is via a Veeder Root TLS350 so there are two levels of overfill detection but are not independent. There is an additional, passive, OPW flapper-type overfill protection device fitted to the tank inlets.

	
G2-27	*Emergency shutdown switch tests?* The hydrant Emergency Shutdown Buttons sound an alarm and shut the hydrant pump off when activated. There is no MOV activation when ESBs are activated however storage tanks are semi-buried so tank pressure head is minimal.
G2-31	*6-monthly pressure test of hoses used for low point & pit flushing?* Hoses were previously tested at 7 bar but are now tested at 3.5 bar
G2-33	*Additional flushing & QC checks on re-commissioning of hydrant after maintenance/engineering work?* Hydrant High Points are no longer being flushed
G2-35	*Pit valve performance checks.* • *Static test (monthly)?* • *Dynamic test (annual)?* • *After repair/overhaul and prior to use?* • *Annual wear check shall be carried out using the manufacturer's approved gauge?* *Note for inspectors: EI 1560 refers to a pit valve movement check* A excellent Hot Pit test cover has been manufactured and was demonstrated during inspection. Its advantage over other designs is that it is transparent so placement is accurate and fuel flow can be visually assessed when performing the test.
G2-38	*Hydrant system integrity testing procedure and results?* • *Tightness Control Systems, or* • *Pressure Testing (if no TCS)* • There is a comment form the previous Inspection questioning why historically a pressure increase of 1.6 bar is observed over test period but not temperature change is noted. This is most likely due to the temperature being taken above ground near the point where the Hydrant enters the ground (in the depot) so there is probably a temperature gradient between that position and the buried section which is not currently measurable

	2019 Pressure rise during testing is probably due to ground heat soak which is not detected by current temperature monitoring process as this is recorded at an above ground location near the pump set. Suggest that ground temp is taken at the same frequency during next test to check for variation between the two inputs.
G3-5	*Monthly QC strainer inspection and cleaning?* The Inspector advised site to flush Strainers monthly and open annually as they are protection not QC type units.
G3-13	*EI 1582 similarity certificates for all FWS confirming compliance of the installed elements and vessel to EI 1581?* Current certificates are on 1st edition paperwork, when new elements are purchased for annual maintenance, suggest that teh element supplier is approached to supply new documentation on 2nd Edition forms.
G3-14	*Colorimetric Membranes and Wet & Dry ratings:* • *depot filtration (downstream of FWS)?* • *fuelling vehicles (downstream of filter vessel)?* • *After change of fuelling vehicle elements?* • Membrane testing of the Fuelling Vehicles is done via Ssafcon Sampler units so hose condition is not included in milipore results.
G3-16	*Record of action taken when unusual colour or unusual gravimetric result is found?* Immediately prior to the last element change, the receipt FWS returned a milipore result of A5 wet which triggered an element change and notification to supplying terminal.
G3-17	*Other Comments or Recommendations (Limit to C, R or NA)* New ASTM books have been purchased, one is a Working book, the other is kept in a dark drawer and used for reference.
G4-5	*Draining and sampling fuelling vehicles:* • *daily at start of morning shift?* • *after every filling operation (vehicle tanks only)?* • *after defuelling?* • *after heavy rain/snowfall (vehicle tanks only)?* • *after vehicle washing or maintenance of tank, filter or fuelling system?* • Suggest that sample drain line volumes are marked near each drain valve so it can either be flushed or added to sample volume when assessing. Suggest that a French version of the attached sticker be affixed near drain lines to prompt the correct procedure for undertaking a Visual Appearance check.

	
G4-21	*Monthly hose end strainers (fitted to pressure fuelling and overwing nozzles) inspection and cleaning (in accordance with JIG Bulletin 105 for Filter Monitors)?Hose-end strainer inspection and cleaning during commissioning of new filter monitors (in accordance with JIG Bulletin 105)?* A sample of several
G4-24	*Calibration certificate for master meter/prover tank (3-year validity)?* *Meter proving equipment correctly sized & grade dedicated?* Calibration has expired and there is an open previous recommendation on this issue

A5. GENERAL INFORMATION -OWNERSHIP AND USAGE

Facility Owner / Operator	TOTAL
Other Participants/Users	EXXONMOBIL, TOTAL,

ORGANISATION AND PERSONNEL

Facility Contact:	Marc Chamonard	Title / Position	Site Manager
Telephone number:	1111111111	Mobile/out of hours no:	
Email address 1:	tta.chefdepotcarb@canl.nc	Email address 2:	

Aviation Grades handled at Facility

Jet A		**Jet A-1**	X	**Avgas**		**Other E.g. JP-8**	

(Tick as appropriate)

A5.1: QC, OPERATING MANUALS, INSPECTION REPORTS AND NEW FACILITIES			
		Inspector shall check that Standards and Procedures are available and up to date.	
		QC and Operating Procedures	
Y	A1-1	Is a current copy of the JIG Standards available? Are current JIG Bulletins available? Have detailed quality control and operating procedures/task breakdowns based on the Standard been prepared that are site specific, implemented and up to date?	1.3 - (JIG1) 1.3 - (JIG2)
Y	A1-2	Does the facility management continuously update and close out recommendations directly in the JIG Inspection Tracking System?	1.4 - (JIG1) 1.4 - (JIG2)
Y	A1-3	Where compliance with any of the Issue 12 requirements cannot be achieved, is an approved Variance Approval Certificate in place and in date. (annual local management review and three yearly (max) Technical Authority review)? (Inspector to review variance(s))	1.4.3 - (JIG1) 1.4.3 - (JIG2)
Y	A1-4	Are inspection report recommendations and their status reviewed by the Management Committee/Board?	1.4.2 - (JIG1) 1.4.2 - (JIG2)
Y	A1-5	Is there a document retention policy consistent with JIG requirements?	7.5 - (JIG1) 9.5 - (JIG2)
		New Plant and Equipment	
Y	A1-6	Where there are new installations/alterations/additions to existing facilities/equipment are they: • Designed to current standards? • Commissioned according to industry requirements?	3.1 - (JIG1) 3.1 - (JIG2)
		Other Comments or Recommendations - A5.1:QC, Operating Manuals, Inspection Reports and New Facilities	
NA	A1-7	Other comments or recommendations	

B1 (ROAD/RAIL): RECEIPT BY ROAD OR RAIL TANK CAR - FACILITIES AND PROCEDURES			
		Inspector shall inspect facilities and shall witness discharge procedures	
		Receipt Facilities (Road and Rail)	
Y	B1R	Are off-loading points grade marked and colour coded to EI 1542 and marked with flow direction arrows?	3.3.4 - (JIG2)
Y	B2R	Are discharge hoses in good condition, of a suitable type for the grade and fitted with caps to prevent entry of dirt and or water?	10.2 - (JIG2) 10.5 - (JIG2)
NA	B3R	Is Avgas received via a 5 micron or finer microfilter qualified to EI 1590 or other approved filter? (For gravity receipts is a 100 mesh strainer used). Receipt and loading systems shall have separate filter vessels.	3.4.1 - (JIG2)
Y	B4R	Is jet fuel received via a filter water separator qualified to EI 1581 latest edition or other approved filter? (e.g. EI 1583 filter monitor?). Receipt and loading systems shall have separate filter vessels.	3.4.1 - (JIG2)
Y	B5R	Are pump start/stop switches safely accessible, near to the receipt area, fully effective and clearly identified?	3.1.5 - (JIG2)
Y	B6R	Are bonding wires in good condition? Inspector to check electrical continuity. (not required for permissive bonding systems which are self-checking)	10.1.3 - (JIG2)
Y	B7R	Are bridger/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?	3.1.6 - (JIG2)
		Delivery equipment (Road and Rail)	
Y	B8R	Are road vehicles/rail tank cars dedicated?	4.6.1 - (JIG2)
NA	B9R	If road vehicles/rail tank cars are not dedicated: • Does delivery documentation state previous Grade carried? • Does documentation show that satisfactory change of grade procedures have been observed?	4.6.1 - (JIG2) A16.2 - (JIG2)
C	B10R	Are loading documents checked, and do they correctly identify the transportation equipment and grade and quantity loaded?	4.6.1 - (JIG2)
Y	B11R	Is grade identification clearly displayed on equipment?	4.6.1 - (JIG2)
		Discharge Procedures (Road and Rail)	
Y	B12R	On arrival, are seals on all filling orifices, manlids and outlets checked?	4.6.1 - (JIG2)
Y	B13R	Is equipment bonded to offloading facility before hoses are connected and is bonding maintained until hoses are disconnected?	10.1.1 - (JIG2)
Y	B14R	Is sampling conducted to required standards using suitable equipment? (traces of dirt/free settled water shall be removed prior to discharge).	2.2 - (JIG2) 4.6.2 - (JIG2)
C	B15R	Are fuel samples drawn for Control Check and results compared with the batch density shown on the Release Certificate?	4.6.3 - (JIG2)
Y	B16R	After discharge, is a check made (preferably via drain points) to ensure that all compartments are empty?	4.6.5 - (JIG2)

NA	B17R	If approved by the participants, are additional procedures in place for driver controlled deliveries, in accordance with Bulletin 95?	4.7 - (JIG2) 95 - (Bulletin)
		Other Comments or Recommendations - B1 (ROAD RAIL):Receipt by Road or Rail Tank Car - Facilties and Procedures	
NA	B18R	Other Comments or Recommendations (Limit to C, R or NA)	

B2: STORAGE FACILITIES AND PROCEDURES			
		Inspector shall inspect facilities, including a selection of storage tanks, and witness draining and sampling procedures	
		Segregated Facilities	
Y	B2-1	Are facilities fully segregated?	3.1.3 - (JIG2)
		Non-dedicated Supply Systems	
NA	B2-2	If product is received via a non-dedicated supply system, are storage tanks equipped with positive segregation (double block and bleed valves, spades, blind flanges etc)?	3.3.1 - (JIG2)
NA	B2-3	If positive segregation is achieved by double block and bleed valves, are routine checks performed to confirm integrity of the block valves?	6.1.8 - (JIG2) 5.1.1 - (JIG2)
		Tankage	
C	B2-4	Is general appearance (paintwork, signs of rust or leakage) satisfactory?	10.10 - (JIG2)
Y	B2-5	Do storage and product recovery (PRT) tanks meet the minimum design requirements of JIG (e.g. fully lined, floating suction, etc.) and is the following clearly displayed on the tank or adjacent sign board? • EI Grade Marking? • Dates of internal inspection and cleaning? Is there a system to indicate Storage Tank Status? (Receiving, Settling, Delivering)	3.2.3 - (JIG2) 5.2.1 - (JIG2) 3.2.2 - (JIG2)
C	B2-6	Are handrails, ladders and steps adequate and in good condition?	10.10 - (JIG2)
Y	B2-7	Are P/V valves, flame arrestors, vents and wire mesh (~ 5mm) clean and free of damage?	6.1.3 - (JIG2) 3.2.3(a) - (JIG2)
Y	B2-8	Confirm that the operation of Floating Suctions is checked and OK?	6.1.2 - (JIG2)
Y	B2-9	Are valves in good condition and free of leaks?	10.10 - (JIG2)
C	B2-10	Are tanks fitted with high level alarm systems as a minimum? Where required are storage tanks equipped with a separate (high-high) level shut off system that stops the fuel flow at a predetermined level?	3.2.3(i) - (JIG2)
		Bunded Area	
NA	B2-11	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 3.1.7?	3.1.7 - (JIG2)
NA	B2-12	Are bunds maintained in good condition?	10.10 - (JIG2)
NA	B2-13	Is bottom of bunded area free of vegetation?	10.10 - (JIG2)
NA	B2-14	Are bund drain valves closed and secured?	10.10 - (JIG2)
		Fire Extinguishers	
Y	B2-15	Are the servicing dates shown on fire extinguishers?	10.7 - (JIG2)
		Draining and Sampling Procedures	
Y	B2-16	Is there an effective water draining / flush system on all storage tanks? Are quick flush tanks/sample receiving vessels of appropriate design and fitted with spring-loaded valves?	3.2.3(b) - (JIG2)

NA	B2-17	Are tank-side fast flush tanks kept clean and empty when not in use?	6.2.6 - (JIG2)
C	B2-18	Is draining and sampling carried out at full flow? Is sampling conducted to required standards using suitable equipment? Is Visual / Appearance Check on a line sample carried out correctly?	2.2 - (JIG2) 6.1.1 - (JIG2)
Y	B2-19	Is conductivity measured correctly?	5.3.3 - (JIG2)
C	B2-20	Are suitable thermometers and density measurement equipment available? Is equipment stored correctly?	10.6.1 - (JIG2) 10.6.2 - (JIG2)
Y	B2-21	Where long pipework is present, are suitable low points incorporated to facilitate water removal?	3.3.2 - (JIG2)
		Other Comments or Recommendations - B2:Storage Facilities and Procedures	
NA	B2-22	Other Comments or Recommendations (Limit to C, R or NA)	

B3: LOADING - FACILITIES AND PROCEDURES			
		Inspector shall inspect facilities and shall witness a complete fueller loading operation (including use of high level pre-check, observation of filter dP and draining & sampling after filling)	
		Loading Fuellers	
NA	B3-1	Is pipework separated between grades?	3.3.1 - (JIG2)
Y	B3-2	Are loading points grade-marked and colour coded to EI 1542 and marked with flow direction arrows?	3.3.4 - (JIG2)
NA	B3-3	Is Avgas loaded via a 5 micron (nominal) or finer microfilter or other approved filter? Receipt and loading systems shall have separate filter vessels.	3.4.1 - (JIG2)
Y	B3-4	Is jet fuel loaded via a filter water separator qualified to EI 1581 latest edition or other approved filter? (e.g. EI 1583 filter monitor?).Receipt and loading systems shall have separate filter vessels.	3.4.1 - (JIG2)
Y	B3-5	Are pump start/stop switches and system emergency shut-down buttons safely accessible, near to the loading point, fully effective and clearly identified?	3.5.3 - (JIG2) 3.1.5 - (JIG2)
Y	B3-6	Is fueller loading area constructed of a low permeability material and is there a positive slope and drainage to an oil water separator?	3.1.6 - (JIG2)
Y	B3-7	Are hoses and nozzles in good condition and are they fitted with caps to prevent entry of dirt, etc? Do the hoses comply with the required standards?	10.2 - (JIG2) 10.5 - (JIG2)
Y	B3-8	Is fueller bonded to loading facility before hoses are connected and is bonding maintained until hoses are disconnected? Are bonding wires in good condition? Inspector to check electrical continuity (not required for permissive bonding systems)	10.1.3 - (JIG2) 5.8.1 - (JIG1) 4.5 - (JIG1) 7.2.1 - (JIG2)
Y	B3-9	Does the operator remain in attendance throughout the loading and is there direct access to a means of stopping the flow quickly? A deadman should be used to control the loading operation. (Fueller engines shall not be running during loading).	7.2.1 - (JIG2) 5.8.1 - (JIG1)
Y	B3-10	Are procedures and equipment available to prevent over-filling/ spillage?	7.2.1 - (JIG2) 5.8.1 - (JIG1)
Y	B3-11	Is high level pre-check device tested shortly after the commencement of loading?	5.8.1 - (JIG1) 7.2.1 - (JIG2)
Y	B3-12	Is loading stopped before the high level device is activated?	5.8.1 - (JIG1) 7.2.1 - (JIG2)
NA	B3-13	Where fuellers are filled on the ramp from a hydrant system are additional precautions in place?	7.2.1 - (JIG2) 5.8.1 - (JIG1)
Y	B3-14	After loading, and following at least 10 minutes settling time, is a sample drawn from the fueller tank sump for Visual Check? Is Visual check conducted correctly using approved equipment?	7.2.2 - (JIG2) 5.8.2 - (JIG1)
		Other Comments or Recommendations - B3:Loading Facilities and Procedures	
NA	B3-15	Other Comments or Recommendations (Limit to C, R or NA)	

C1: HYDRANT SYSTEM			
		Inspector shall inspect facilities including low points and valve chambers and witness procedures including flushing low points and testing pit valve operation	
		Hydrant System	
NA	C1	Are new hydrant pumps controlled by PLC, fitted with means to prevent overheating and protected by suitably configured fire-fighting equipment? (defined by risk assessment).	3.6 - (JIG2)
Y	C2	Is jet fuel transferred via FWS qualified to EI 1581 latest edition?	3.4.1 - (JIG2)
NA	C3	If more than one grade is handled, are pit valves fitted with selective couplings?	3.3.6 - (JIG2)
Y	C4	Do hydrant pit valves meet the latest edition of EI 1584? Do hydrant systems/extensions built since June 2008 have pit valves equipped with dual air/lanyard pilot valves?	3.5.2 - (JIG2) 3.5.1 - (JIG2)
Y	C5	Are hydrant pits and low point drains clearly identified and, where more than one grade is handled, grade marked and colour coded to EI Bulletin 1542?	3.5.5 - (JIG2)
Y	C6	Are pit lids secured/ tethered to pit body? Are non-lay-flat hinged pit lids modified or replaced as recommended by manufacturers, in accordance with Bulletin 90?	3.5.4 - (JIG2)
Y	C7	Is operation of the lanyard and hydrant valve closure checked correctly?	A14.2 - (JIG2)
Y	C8	Is the monthly static test of hydrant valves carried out correctly?	A14.1.2 - (JIG2)
C	C9	Are Hydrant Emergency Stop Buttons (ESB's): • Readily visible and accessible from aircraft fuelling bays? (Within 80m) • Clearly identified with a suitable high visibility sign? • Does activation of the ESB shut down the hydrant pumps and close the inlet control valves automatically? Where operations permit the Inspector should validate the operation by activation of an ESB.	3.5.3 - (JIG2)
Y	C10	Is suitable equipment available for: • Flushing low points? • Flushing unused hydrant pits? • Cleaning pit box internals and valve chambers? • Are pit flushing vehicles fitted with interlock systems? (functionality to be checked)	8.3 - (JIG2)
Y	C11	Is flushing achieved by drawing 50-200 litres of product plus the capacity of sampling pipework at full flush when the system is under pressure? • Is a sample drawn near the end of the flush under full flow (line sample) for Visual Check? • After use, is the low point of the flushing equipment checked for the presence of water and sediment? • is product settled and checked prior to return to storage? Flushing equipment shall not be bonded to Low Points or Hydrant Pits.	8.3 - (JIG2) 8.1.1 - (JIG2)
Y	C12	Are hydrant valve pit boxes, low point valve chambers and valves clean and free of accumulated water and fuel?	8.10 - (JIG2) 8.2 - (JIG2)

NA	C13	Are safety precautions applicable for entry into deep pits strictly enforced? Warning notices forbidding unauthorised entry should be clearly displayed	8.5 - (JIG2)
		Other Comments or Recommendations - C1:Hydrant System	
NA	C14	Other Comments or Recommendations (Limit to C, R or NA)	

D1: INTO-PLANE SERVICE - FUELLING EQUIPMENT			
		Inspector shall examine a selection of fuelling equipment to confirm design, construction and operation is to acceptable safety standards	
		Fuelling Vehicles - Equipment and Condition	
Y	D1-1	Is appearance and paintwork of equipment satisfactory?	4.1 - (JIG1)
Y	D1-2	Are "No Smoking" signs or symbols clearly displayed on both sides?	6.5.1(b) - (JIG1)
Y	D1-3	Is equipment grade dedicated with EI 1542 product identification (both sides, control panel and fill points)?	3.1.2 - (JIG1) 5.7.1 - (JIG1)
Y	D1-4	Is the condition of tyres, lights and trafficators acceptable?	4.1 - (JIG1)
Y	D1-5	Is the condition of meters, meter seals and gauges acceptable?	4.10 - (JIG1) 4.9.1 - (JIG1)
Y	D1-6	Is the condition of couplers and dust caps acceptable?	4.12 - (JIG1)
C	D1-7	Do hoses comply with EI 1529 or ISO 1825? Do pressure fuelling nozzles comply with SAE AS 5877? Are hoses/nozzles in good condition?	3.1.5 - (JIG1)
Y	D1-8	Are overwing nozzles grade marked and colour coded?	3.1.8 - (JIG1)
Y	D1-9	Do jet fuel overwing nozzles have oval section spouts with major axis of min 67mm diameter? Where required are additional precautions in place to control the use of smaller non-selective spouts?	3.1.8 - (JIG1)
C	D1-10	For jet fuel overwing nozzles is the stowage device designed so that only the jet fuel selective spout is able to disengage the interlock? If the non-selective spout is stowed on the vehicle, is it held in a designated interlocked stowage point?	3.1.8 - (JIG1)
NA	D1-11	Have "hold open" ratchets been removed from overwing nozzles?	3.1.8 - (JIG1)
Y	D1-12	Are externally mounted emergency engine stop controls (red coloured and one on each side of the vehicle) clearly identified and easily accessible? Inspector to check function Is there an emergency engine stop control on the elevating platform? Inspector to check function	3.1.12 - (JIG1)
Y	D1-13	Are there at least two 9kg fire extinguishers (Powder/ approved foam) with servicing dates shown?	3.1.10 - (JIG1)
Y	D1-14	Are bonding wire and reels in good condition? Inspector to check chassis/clip electrical continuity (25 ohms max)	4.5 - (JIG1) 3.1.11 - (JIG1)
R	D1-15	Is elevating platform fitted with: • at least two correctly located sensors? • Inspector to check function • safe access and exit ladders/steps? • non-slip flooring? • system to ensure the platform gate is secure when in use? • an emergency exit or lowering device? • required warning signs?	3.1.16 - (JIG1)
Y	D1-17	Where required is a spill containment kit available?	3.1.18 - (JIG1)
		Interlock System	
Y	D1-18	Are vehicles equipped with brake interlocks on: • delivery hose coupling stowage? • hydrant inlet coupling stowage?	3.1.8 - (JIG1) 3.1.7 - (JIG1)

		• moveable fuelling platform? • fuelling cabinet door? • fueller tank top handrails? • overwing nozzle stowage? • fueller loading point?	
Y	D1-19	Are interlocks and override functioning OK? Inspector to check	4.4 - (JIG1)
Y	D1-20	Are brake interlock override switches sealed?	3.1.7(b) - (JIG1)
Y	D1-21	Is an interlock status warning light system (on/off/overridden) fitted and working? Inspector to check function. (Emitted light shall be clearly visible to the driver when seated in the normal driving position)	3.1.7(c) - (JIG1) 4.4 - (JIG1)
Y	D1-22	Are steps and towable platforms used for fuelling aircraft designated for fuelling purposes? Do they meet the requirements of JIG 3.4?	3.4 - (JIG1)
		Deadman & Pressure Control System	
Y	D1-23	Are pressure control systems as specified in JIG Standards?	3.1.9 - (JIG1) A15 - (JIG1)
Y	D1-24	Is deadman control of Intermittent type?	3.1.13 - (JIG1)
Y	D1-25	If fitted, is deadman control override switch: • Push button type? (preferred), • Sealed, if not push button type?	4.7.4 - (JIG1) 3.1.13(b) - (JIG1)
		Other Comments or Recommendations - D1:Into-Plane Service - Fuelling Equipment	
NA	D1-26	Other Comments or Recommendations (Limit to C, R or NA)	

D2: INTO-PLANE SERVICE - FUELLING EQUIPMENT			
		Inspector shall witness fueller tank sampling, hose static pressure test, hose end strainer checks and PCV system test	
		Are Fuellers equipped with:	
Y	D2-1	Bottom loading self-sealing connections?	3.2.4 - (JIG1)
Y	D2-2	High level shut-off systems?	3.2.4 - (JIG1)
NA	D2-3	Selective couplings (where more than one grade is bottom loaded)?	3.2.5 - (JIG1)
Y	D2-4	Tank low point sumps with drain lines to valves? (self-closing type)	3.2.2 - (JIG1)
Y	D2-5	Fuelling system designed so that all fuel which passes through the delivery meter and filter is only delivered to aircraft and cannot be diverted elsewhere?	3.1.14 - (JIG1)
		Are Hydrant Servicers equipped with:	
Y	D2-6	Suitable lanyards, of a highly visible colour, with a minimum length of 5m (16 feet)? Where lanyards are attached to the vehicle they shall be electrically isolated from the chassis	3.3.2 - (JIG1)
Y	D2-7	Hydrant pit identification/protection equipment?	6.3 - (JIG1)
Y	D2-8	Hydrant pit couplers meeting EI 1584 latest edition? Does the hose/pipework system comply with manufacturer recommendations related to the use of break-away couplers? (Use of CLADs should be in accordance with coupler manufacturer's advice)	3.1.5 - (JIG1)
		Draining and Sampling	
Y	D2-9	Are valves accessible and identified and fitted with dust caps?	3.2.6 - (JIG1) 3.2.2 - (JIG1)
C	D2-10	Are suitable clean field glass sampling containers available? (Buckets shall only be used for flushing)	2.2.3(b) - (JIG1)
Y	D2-11	Is draining carried out and is Visual Check OK? (at full flow from vehicle tank low point and under pressure from filter vessels). Are filter sampling connections consistent with the type of filter fitted on each vehicle and correctly labelled indicating the origin of the sample? Inspector to check chemical detector is within expiry date.	107 - (Bulletin) 5.2 - (JIG1)
Y	D2-12	Are product recovery tanks checked at least daily for water and sediment? Is product from draining correctly handled, grade segregated (where required) and returned to service/ downgraded as appropriate?	5.2.3 - (JIG1)
		Other Comments or Recommendations - D2:Into-Plane Service - Fuelling Equipment	
NA	D2-13	Other Comments or Recommendations (Limit to C, R or NA)	
		Hose Pressure Test	
Y	D2-14	Is suitable hydrostatic pressure test equipment available?	A13.2.1 - (JIG1)
NW	D2-15	Is pressure test performed correctly and are results satisfactory? (Hose beads and spiral wraps shall be removed before testing. Wheel fittings shall be removed or loosened at least every two years)	A13.2.2 - (JIG1)
		Hose End Strainers	

Y	D2-16	Is suitable facility available for draining and checking?	Fig.A13.4 - (JIG1)
Y	D2-17	Is 60 mesh (or finer) strainer fitted and, on fuelling equipment fitted with filter monitors, is 100 mesh strainer fitted?	3.1.6 - (JIG1) 105 - (Bulletin)
C	D2-18	Is strainer in good condition and free of particulate matter and cleaned in accordance with JIG Bulletin 105 for equipment fitted with filter monitors?	4.16 - (JIG1) 105 - (Bulletin)
		Pressure Control Systems and Deadman function testing	
C	D2-19	Is a suitable test rig available that can simulate both gradual and rapid termination of fuel flow into aircraft and be operated from ground level?	Fig.A15.2 - (JIG1) Fig.A15.1 - (JIG1)
Y	D2-20	Is a digital or oil filled, calibrated test rig gauge available?	A15.4 - (JIG1)
Y	D2-21	Are pressure control system tests performed correctly and are results satisfactory?	A15 - (JIG1)
Y	D2-22	Is deadman system checked for opening time and closing time requirements, as per the limits in table A15.4?	A15.7 - (JIG1)
		Pressure gauge testing	
Y	D2-23	Is a suitable master gauge or dead-weight tester available and used correctly?	4.10.1 - (JIG1)
		Other Comments or Recommendations - D2:Into-Plane Service - Fuelling Equipment	
NA	D2-24	Other Comments or Recommendations (Limit to C, R or NA)	

D3: INTO-PLANE SERVICE - AIRCRAFT FUELLING OPERATIONS			
		Inspector shall witness at least one complete Underwing aircraft fuelling operation and should witness an Overwing where possible.	
		Attendance at aircraft fuelling	
C	D3-0	Aircraft type: Fuelling equipment used: Number of fuelling personnel: Grade delivered (Jet fuel or Avgas only):	5.1 - (JIG1)
Y	D3-1	Does fuelling operator observe vehicle speed limit on apron?	6.2.1 - (JIG1)
Y	D3-2	Does fuelling vehicle approach aircraft in a safe manner and are brakes safely tested on approach to the aircraft parking stand?	6.2.1 - (JIG1)
Y	D3-3	If fueller has to be reversed into position for fuelling, is the manoeuvre performed with the assistance of a competent guide person?	6.2.3 - (JIG1)
Y	D3-4	Is vehicle positioned safely for fuelling and, if parked underwing, is there sufficient clearance between the vehicle and aircraft?	6.2.3 - (JIG1)
		Fuelling Procedures	
Y	D3-5	For fuellers is a clear exit route from aircraft maintained throughout the fuelling?	6.2.3 - (JIG1)
Y	D3-6	Does fuelling stop/not start where aircraft de-icing is in progress or severe electrical storms are local to the airport?	6.2.4 - (JIG1) 6.5.1(a) - (JIG1)
Y	D3-7	Is a single sequence of connection/ disconnection defined and followed?	6.5.2(c) - (JIG1) A9 - (JIG1)
Y	D3-8	Are hoses positioned to avoid being run over by other aircraft servicing vehicles?	6.5.1(e) - (JIG1)
Y	D3-9	Does fuelling operator check the condition of the aircraft adaptor before connecting and after disconnecting the delivery hose?	6.5.4(a) - (JIG1) 6.5.4(b) - (JIG1)
Y	D3-10	For overwing fuelling are procedures followed to prevent misfuelling? (Fuel request, minimum 2 out of 3 controls, post fuelling grade confirmation, Unattended Fuellings, Self-service cabinets?)	6.5.1(c) - (JIG1) 6.5.5 - (JIG1)
Y	D3-11	Are fire extinguishers readily available?	6.5.1(d) - (JIG1)
Y	D3-12	Is the fuelling equipment free from product leaks?	6.5.1(f) - (JIG1)
R	D3-13	Is sampling procedure and disposal in accordance with procedures?	5.3.3 - (JIG1) 5.3 - (JIG1)
C	D3-14	Where required, is chemical water detector within date and correctly used? If a qualified EI 1598 electronic water sensor is used instead of CWD, is the sensor installed and operated in compliance with Bulletin 110?	5.3 - (JIG1) 110 - (Bulletin)
Y	D3-15	Does operator record the differential pressure shortly after start of fuelling at maximum delivery flow rate? Is this differential pressure reading compared with that of the previous fuelling?	6.5.1(f) - (JIG1)
C	D3-16	Where the fuelling operator performs additional services are these in accordance with the IATA Guidance material?	6.5.6 - (JIG1) A11 - (JIG1)

Y	D3-17	Does the fuelling operator perform a "360 degree" walk around the vehicle and look up at the fuelling connection at the completion of the fuelling operation?	6.5.1(n) - (JIG1)
		Deadman Control	
Y	D3-18	If fitted, (and not push-button type) is override switch sealed?	3.1.13(b) - (JIG1)
Y	D3-19	If deadman is tested during fuelling are opening time, closure time and volume overrun within limits detailed in table A15.4?	A15.7 - (JIG1)
		Interlock System	
Y	D3-20	Is emergency override sealed?	3.1.7(b) - (JIG1)
Y	D3-21	Is there a warning light system that identifies the status of the interlock system and is it functioning? (Emitted light shall be clearly visible to the driver)	3.1.7(c) - (JIG1)
		Hydrant Fuelling – identification & protection measures	
C	D3-22	Is a high visibility marker/flag used to identify the hydrant pit? (Inspector to witness or determine how visibility is achieved during hours of darkness).	6.3(a) - (JIG1)
Y	D3-23	Are fuel hydrant ESBs accessible and clearly identified with high visibility signs?	3.5.3 - (JIG2)
Y	D3-24	Does the operator have clear access to the hydrant pit, unobstructed by the aircraft engine/fuselage?	6.5.1(k) - (JIG1)
Y	D3-25	Are lanyards extended such that they are free of obstruction and readily accessible for use in an emergency?	6.5.2(d) - (JIG1)
		Other Comments or Recommendations - D3:Into-Plane Service - Aircraft Fuelling Operations	
C	D3-26	Other Comments or Recommendations (Limit to C, R or NA)	

E1: FILTRATION EQUIPMENT			
		At least one filter vessel shall be opened for inspection. Additionally, a filter membrane test shall be witnessed downstream of a filter vessel.	
		General/external inspection	
Y	E1	Do new filter vessels have a plate indicating they meet the requirements of EI 1596?	3.1.4 - (JIG1) 3.4.1 - (JIG2) A6.1 - (JIG1)
Y	E2	Do filter water separator vessels and elements meet the requirements of EI 1581, latest edition?	3.4.1 - (JIG2) 3.1.4 - (JIG1)
Y	E3	Do filter monitors meet the requirements of EI 1583, latest edition?	3.4.1 - (JIG2) 3.1.4 - (JIG1)
NA	E4	Do microfilters meet the requirements of EI 1590, latest edition?	3.4.1 - (JIG2) 3.1.4 - (JIG1)
Y	E5	Are plates attached to each vessel stating that they meet the above standards and giving the correct designation, type and number of the elements installed?	A6.1 - (JIG1)
Y	E6	Is the maximum achievable flow rate marked on the body of each vessel ,or suitable area close to the vessel, and is it less than the rated flow for the vessel?	A6.1 - (JIG1)
Y	E7	Are dates of inspection and element changes displayed on the body of the vessels (or suitable area close to the vessel)?	A6.1 - (JIG1)
NW	E8	Are filter elements stored and used in accordance with manufacturers requirements?	A6.1 - (JIG1)
Y	E9	Are pressure differential gauges of direct reading design and in good condition? Inspector to check for zeroing and free movement. Are differential pressure switches fitted to fuelling equipment fitted with filter monitors and procedures in place for actions to be taken in the event of dP switch activation? Is the reset mechanism for dP switches controlled by authorised personnel and installed such that it cannot be reset by deadman override or a vehicle restart?	105 - (Bulletin) 111 - (Bulletin) A6.1 - (JIG1) 8.1.2 - (JIG2) 3.1.4(c) - (JIG1) 6.5.1(f) - (JIG1)
C	E10	Is a working and tested air eliminator and pressure relief valve fitted? Are isolation/maintenance valves sealed in normal operating position?	A6.1 - (JIG1)
C	E11	Are drain points readily accessible with sufficient clearance to accommodate a wide neck glass jar?	A6.1 - (JIG1)
		Internal Inspection - Inspector to examine at least one vessel	
C		Vessel reference/identity number:	
NA	E12	Is there an adequate work platform for safe filter vessel access?	A6.1 - (JIG1)
C	E13	Are elements in good condition? All elements (coalescers and separators) from the same manufacturer? Inspector to comment on any visible damage or signs of possible surfactant contamination or microbiological growth and action taken. Inspector shall witness a water test of the Separator element(s)	A6.2.4 - (JIG1)
Y	E14	Are elements tightened to the torque recommended by manufacturer using a click-stop type calibrated torque wrench?	A6.2.4 - (JIG1)

Y	E15	For elements longer than 18" (45cm), is a spider fitted and bonded to the shell of the vessel? (No stacked elements)	A6.2.4 - (JIG1)
Y	E16	Is the vessel cover seal in good condition? Seals shall be replaced after a maximum of three compressions.	A6.2.4 - (JIG1)
Y	E17	Is lining in sound condition?	A6.2.4 - (JIG1)
Y	E18	After inspection, is the vessel filled slowly?	A6.2.4 - (JIG1)
		Filter Membrane Testing	
Y	E19	Is filter membrane test kit in good condition? Inspector to witness test	A6.7 - (JIG1)
		Other Comments or Recommendations - E1:Filtration Equipment	
NA	E20	Other Comments or Recommendations (Limit to C, R or NA)	

F1: HEALTH, SAFETY, SECURITY & ENVIRONMENTAL			
		This inspection is not an HSSE audit. However, the inspector should check that there is an HSSE Management System in place	
		HSSE Management	
Y	F1-1	Are external HSSE Management System audits conducted at least every three years and is the latest report available? (Inspector to ask if the latest audit report has been uploaded to www.jigonline.com?	8 - (JIG1) 11 - (JIG2)
Y	F1-2	Is the HSSE policy statement endorsed by the Chairman of the JV Board (or equivalent overseeing person) available and displayed?	
Y	F1-3	Is an HSSE induction programme implemented for all personnel, contractors, and visitors? Was a suitable induction performed when the inspector arrived on site?	
Y	F1-4	Are 'Safety Walks' conducted by Managers and Supervisors to a defined frequency?	
Y	F1-5	Are safety signs prominently displayed throughout the location and are the signs well maintained?	
		Work Control Procedures	
Y	F1-6	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?	
Y	F1-7	Does the permit to work system include the assignment of competent persons to authorise permits?	
		Security	
Y	F1-8	Is the location adequately secured to prevent the access of unauthorised people? Inspector to check that there are no obvious security issues during visit	
		Other Comments or Recommendations - F1:Health, Safety,Security & Environmental Management	
C	F1-9	Other Comments or Recommendations (Limit to C, R or NA)	

F2: TRAINING, MANAGEMENT OF CHANGE, INCIDENTS & EMERGENCY PROCEDURES			
		This inspection is not an HSSE audit. However, the inspector should check that there is an HSSE Management System in place	
		Training, Product handling and PPE	
Y	F2-1	Is there a current training plan for new and existing personnel?	
Y	F2-2	Do training records include: • HSSE awareness and skills training? • Regular Operating and QC training? • Fire-fighting training? • Fire drills and emergency procedure exercises? • Where additional services are provided, details by aircraft type? • Follow up on-the-job observation training?	
Y	F2-3	Does the location have a PPE policy which includes the requirement for management and visitors to wear appropriate PPE?	
Y	F2-4	Are procedures in place covering medical emergencies?	
Y	F2-5	Is a stocked first aid kit available and has clear responsibility for maintaining it been assigned?	
Y	F2-6	Are adequate washing facilities provided?	
		Management of Change	
Y	F2-7	Is a procedure in place for management of change to be applied?	
		Incident reporting and Investigation	
C	F2-8	Are HSSE incident statistics reported monthly using the JIG web-based HSSE reporting system?	
NW	F2-9	Is there a written procedure for incident reporting?	
Y	F2-10	Are reports of incidents and actions taken shared with personnel and participant companies?	
		Emergency Response Procedures	
Y	F2-11	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 • The occurrence of an aircraft accident/incident where fuel could be a contributory factor • 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?	
Y	F2-12	Are emergency telephone numbers immediately available and up to date?	
Y	F2-13	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 Hazardous Area Classification drawing displayed for the facility and associated equipment?	
		Other Comments or Recommendations - F2:Training, Management of Change, Incidents & Emergency Procedures	
NA	F2-14	Other Comments or Recommendations (Limit to C, R or NA)	

G1: AIRPORT DEPOT - QUALITY CONTROL DOCUMENTATION			
		Inspector shall check documentation for compliance with JIG requirements	
		Product Documents from Supplying Locations	
Y	G1-1	Are Release Certificates confirming compliance with latest issue of AFQRJOS ("Aviation Fuel Quality Requirements for Jointly Operated Systems") available and do they contain the following information: • Grade and quantity? • Date and time of loading or transfer? • Batch number relating to the origin of product? • Batch density at 15 degrees C? • "Water Free" certification? • Signature of releasing authority?	4.1.1 - (JIG2) 2.3.2(e) - (JIG2)
Y	G1-2	Are Refinery Certificates of Quality and Certificates of Analysis (CoA) or Recertification and Periodic Test Certificates, as appropriate, available, signed/dated and do they confirm compliance with the latest issue of AFQRJOS?	2.3.2 - (JIG2) 4.1.2 - (JIG2)
NA	G1-3	Do Refinery Certificates show the manufacturing process and amount and type of approved additives used in ppm or % by weight (including nil additions)?	2.3.2(a) - (JIG2)
NA	G1-4	Do CoAs permit traceability to originating refineries?	2.3.2(b) - (JIG2)
Y	G1-5	Where Static Dissipator Additive is added downstream of the Refinery, are quantities of additive used recorded on appropriate documents?	4.8.4 - (JIG2)
Y	G1-6	Has the location management received confirmation from their suppliers that supplying locations have completed a documented Conformance Assessment against the current edition of EI/JIG 1530?	1.4.1 - (JIG2)
		Product Receipt Records	
Y	G1-7	Do product receipt records include: • Date, time of receipt and volume? • Product receipt Release Certificate details? • Tank dips and daily volume reconciliation?	4.1.1 - (JIG2)
		Settling, Testing & Release – Non dedicated/non segregated supply	
NA	G1-8	Do records show that product is settled for at least the minimum required time?	5.2.3 - (JIG2) 5.2.4 - (JIG2)
NA	G1-9	Are Composite tank samples prepared for Recertification Test (or Certificate of Analysis Test where batch identity is lost)?	5.3.2(b) - (JIG2) 5.3.2(a) - (JIG2)
NA	G1-10	Do records include: • Comparison of Recertification Test results with previous analyses? (Note only 3 new batches permitted, otherwise CoA required) • Conductivity and temperature? • Release Certificates including local batch number, date, time, water free certification and authority to release?	5.3.3 - (JIG2) 2.3.4(b) - (JIG2) 7.1 - (JIG2) 2.3.2(e) - (JIG2)

NA	G1-11	Is the laboratory in-house or approved by the participants? Does the laboratory participate in a cross-check programme with other laboratories?	2.3.1 - (JIG2)
NA	G1-12	Is testing performed to latest AFQRJOS/approved standard? (Is FAME testing carried out when required)	2.3.1 - (JIG2) 106 - (Bulletin)
NA	G1-13	Where tanks have been layered are appropriate release procedures in place?	5.3.2 - (JIG2)
		Settling, Testing & Release – Dedicated and segregated supply	
Y	G1-14	Do records show that product settled for at least the minimum required time?	5.2.4 - (JIG2) 5.2.3 - (JIG2)
Y	G1-15	Are bottom samples taken for Control Check ?	5.3.1 - (JIG2)
Y	G1-16	Do tank records include: • Conductivity and temperature? • Water free certification? • Release Certificates including local batch number, date, time and authority to release?	5.3.3 - (JIG2) 7.1 - (JIG2)
		Other Comments or Recommendations - G1:Airport Depot - Quality Control Documentation	
C	G1-17	Other Comments or Recommendations (Limit to C, R or NA)	

G2: AIRPORT DEPOT - RECORDS OF ROUTINE CHECKS AND MAINTENANCE			
		Inspector shall check that records of routine checks are readily available & up to date	
		Storage Tanks	
Y	G2-1	Daily low point draining and Appearance Checks?	6.1.1 - (JIG2)
NA	G2-2	Conductivity and temperature (if tank contents are static for more than one month)?	6.1.5 - (JIG2)
NA	G2-3	Periodic Test Certificates (6-month static stock)?	6.1.7 - (JIG2)
NA	G2-4	Weekly draining double block & bleed valves and integrity checks (non-dedicated/non-segregated supply systems)?	6.1.8 - (JIG2)
Y	G2-5	Monthly floating suctions buoyancy checks?	6.1.2 - (JIG2)
Y	G2-6	Condition of vents and coarse mesh screens (at least quarterly) (or PV valves and flame arrestors where fitted)?	6.1.3 - (JIG2)
C	G2-7	High level alarm systems checks (Annual dynamic wet test, where possible monthly functional checks should also be recorded)?	6.1.4 - (JIG2)
Y	G2-8	Internal visual inspection and tank cleanliness assessment (without entry)?	6.2.1 - (JIG2)
Y	G2-9	Internal inspection and cleaning? Are detailed records maintained of the types and quantities of sediment found, and of the condition of the tank interior fittings and coatings?	6.2.1 - (JIG2) 6.2.3 - (JIG2) A9 - (JIG2)
NA	G2-10	If chemicals had to be used for the cleaning, records of additional steps taken to ensure no contamination of the fuel?	6.2.2 - (JIG2)
NA	G2-11	Quarterly product recovery tank internal inspections? (or microbiological test results)	6.2.5 - (JIG2)
		Buried Pipelines	
RO	G2-12	Annual buried pipeline pressure tests in accordance with 8.7.2?	8.7.2 - (JIG2) 3.3.7 - (JIG2)
		Bonding (Bridger receipt/Fueller loading)	
Y	G2-13	Daily visual check of bonding wires and clips?	10.1.3 - (JIG2)
Y	G2-14	Weekly electrical continuity check? (not required for permissive bonding systems)	10.1.3 - (JIG2)
		Hoses	
Y	G2-15	Dates of manufacture, soak testing & into-service, and monthly visual inspection under operating conditions?	10.5 - (JIG2)
Y	G2-16	Six-monthly pressure test of fueller loading hoses?	A13 - (JIG2) 10.5.3 - (JIG2)
		Meters and Gauges	
RO	G2-17	Calibration certificate for master meter/prover tank (3-year validity)? (meter proving equipment correctly sized & grade dedicated)	10.3.2 - (JIG2)
Y	G2-18	6-monthly meter calibration test results accurate to required standard. • For meters in service? • For new/repaired meters prior to use? • Test performed at correct flow rates? Erratic/unadjustable meters shall be withdrawn from service	10.3.1 - (JIG2)
Y	G2-19	Master pressure gauge calibration (every 3 years)?	10.4.2 - (JIG2)
Y	G2-20	6-monthly critical pressure gauges accuracy check with master gauge or dead weight tester?	10.4.1 - (JIG2)
		Thermometers and Hydrometers	

R	G2-21	6-monthly accuracy check?	10.6.4 - (JIG2)
		Fire extinguishers	
Y	G2-22	Monthly visual condition check?	10.7 - (JIG2)
Y	G2-23	Annual maintenance by manufacturer/ competent employee/ contractor?	10.7 - (JIG2)
		Electrical Equipment	
Y	G2-24	Is all electrical equipment, both fixed and portable, checked and maintained by a trained and competent person?	10.8 - (JIG2)
Y	G2-25	Is hazardous area classified electrical equipment (e.g. ATEX marked and certified) maintained by trained personnel?	10.8 - (JIG2)
Y	G2-26	Annual earthing straps/rods electrical resistance checks?	10.8 - (JIG2)
C	G2-27	Emergency shutdown switch tests?	10.8 - (JIG2)
		Other Comments or Recommendations - G2:Airport Depot - Records of Routine Checks and Maintenance	
NA	G2-28	Other Comments or Recommendations (Limit to C, R or NA)	
		Hydrant System	
Y	G2-29	Weekly low point flushing and Visual Check?	8.1.1 - (JIG2)
Y	G2-30	Hydrant pit usage and flushing spur lines with unused pits quarterly?	8.1.3 - (JIG2)
C	G2-31	6-monthly pressure test of hoses used for low point & pit flushing?	A13 - (JIG2) 10.5.3 - (JIG2)
NA	G2-32	Hydrant flushing vehicle records?	8.3 - (JIG2)
C	G2-33	Additional flushing & QC checks on re-commissioning of hydrant after maintenance/engineering work?	8.1.2 - (JIG2)
Y	G2-34	Weekly inspection and cleaning of hydrant pits?	8.2 - (JIG2)
C	G2-35	Pit valve performance checks. • Static test (monthly)? • Dynamic test (annual)? • After repair/overhaul and prior to use? • Annual wear check shall be carried out using the manufacturer's approved gauge? Note for inspectors: EI 1560 refers to a pit valve movement check	A14 - (JIG2) 8.2 - (JIG2)
Y	G2-36	Procedure for checking hydrant emergency shut-down system and monthly test results?	8.4 - (JIG2)
Y	G2-37	Cathodic Protection • Quarterly check? • Annual system check by a qualified person?	8.6 - (JIG2)
C	G2-38	Hydrant system integrity testing procedure and results? • Tightness Control Systems, or • Pressure Testing (if no TCS)	8.7 - (JIG2)
NA	G2-39	Surge absorbers and relief valves (annual check)?	8.8 - (JIG2)
NA	G2-40	Valve chamber internal inspections (and water removal) • Without entry (unless conditions in 8.10 are met)? • Confined space entry? (quarterly and annual inspections)	8.10 - (JIG2)
NA	G2-41	Hydrant Pumps, PLC and alarms/detection systems maintenance? (at least annually)	8.11 - (JIG2)

		Other Comments or Recommendations - G2:Airport Depot - Records of Routine Checks and Maintenance	
NA	G2-42	Other Comments or Recommendations (Limit to C, R or NA)	

G3: FILTRATION EQUIPMENT - RECORDS			
		Inspector shall check that records of routine checks are readily available & up to date	
		Filtration Equipment	
Y	G3-1	Daily draining of filter vessel sumps under pressure and Appearance or Visual Check? Visual Check is required for hydrant filters, fueller loading filters and fuelling vehicle filters	A6.2.1 - (JIG2)
Y	G3-2	Differential pressure monitoring and weekly recording at maximum achievable flow or at the same high flowrate every week for filters equipped with dP switches?	113 - (Bulletin) A6.2.2 - (JIG2)
Y	G3-3	Weekly graphs of differential pressure (dP) readings, preferably taken at either the max achievable flow rate, or at consistently the same high flow rate every week for filters equipped with dP switches, or corrected to maximum achievable flow rate where the preferred options are not practical? Record of action taken when unusual dP result is found?	113 - (Bulletin) A6.2.2 - (JIG2)
Y	G3-4	6-monthly dP gauge checks for zeroing & free movement? dP switch checks where fitted?	A6.6 - (JIG2) 4.10.3 - (JIG1)
C	G3-5	Monthly QC strainer inspection and cleaning?	A6.5 - (JIG2)
NA	G3-6	Microfilter element replacement with cause (eg max dP or time limit)?	A6.3.1 - (JIG2)
Y	G3-7	Coalescer element replacement with cause (eg max dP or time limit)? For fuelling vehicles, 4,500 litre flush of new elements prior to use?	A6.3.5 - (JIG1) A6.3.2 - (JIG2)
Y	G3-8	Monitor element replacement with cause (eg max dP of 15psi or time limit)? For fuelling vehicles, flush of new elements prior to use for 5 minutes at max achievable flow, with 4 deadman stop/starts, followed by a nozzle strainer cleaning (in accordance with JIG Bulletin 105)?	A6.3.4 - (JIG2) 105 - (Bulletin) A6.3.5 - (JIG1)
Y	G3-9	Annual internal inspections of filter vessel: • cleanliness? • element appearance? • element (and blanking plates where fitted) torque check? • internal lining condition? • cover seal condition and number of compressions?	A6.2.4 - (JIG2)
Y	G3-10	Separator elements (Teflon/synthetic) testing (annually or when coalescer elements are changed).	A6.3.3 - (JIG2)
Y	G3-11	Calibration certificate for torque wrench (maximum 5-yearly)	4.22 - (JIG1) 10.12 - (JIG2)
Y	G3-12	Inspection and testing of air eliminators and pressure relief valves annually?	A6.1 - (JIG2)
C	G3-13	EI 1582 similarity certificates for all FWS confirming compliance of the installed elements and vessel to EI 1581?	A6.1 - (JIG2)
		Filter Membrane Testing (Jet A1 only)	
C	G3-14	Colorimetric Membranes and Wet & Dry ratings: • depot filtration (downstream of FWS)? • fuelling vehicles (downstream of filter vessel)? • After change of fuelling vehicle elements?	A6.7.1 - (JIG2) A6.2.3 - (JIG2)

Y	G3-15	Double Membranes and Wet & Dry ratings: • fuelling vehicles (downstream of filter vessel) or Gravimetric Test results: • fuelling vehicles (downstream of filter vessel)	A6.7.3 - (JIG2) A6.2.3 - (JIG2) A6.7.2 - (JIG2)
C	G3-16	Record of action taken when unusual colour or unusual gravimetric result is found?	A6.7 - (JIG2)
		Other Comments or Recommendations - G3:Filtration Equipment - Records	
C	G3-17	Other Comments or Recommendations (Limit to C, R or NA)	

G4: INTO-PLANE SERVICE - RECORDS OF ROUTINE CHECKS AND MAINTENANCE			
		Inspector shall check that records of routine checks are readily available & up to date	
		Quality Control and Maintenance	
Y	G4-1	Is a preventative maintenance programme in place?	4.1 - (JIG1)
Y	G4-2	Defect reporting system?	4.3 - (JIG1)
Y	G4-3	Vehicle serviceability and maintenance checks?	4.3 - (JIG1) 4.2 - (JIG1)
NA	G4-4	Routine vehicle tests and checks if fuelling equipment has been out of service for more than 1 month?	4.1 - (JIG1)
C	G4-5	Draining and sampling fuelling vehicles: • daily at start of morning shift? • after every filling operation (vehicle tanks only)? • after defuelling? • after heavy rain/snowfall (vehicle tanks only)? • after vehicle washing or maintenance of tank, filter or fuelling system?	5.2.1 - (JIG1) 5.2.2 - (JIG1)
Y	G4-6	Fueller tank inspection & cleaning: • visual inspection from top hatch (Jet fuelling vehicles only)? • internal cleaning (not routinely required)?	4.14.2 - (JIG1) 4.14.1 - (JIG1)
Y	G4-7	Product recovery tanks (vehicle sample tanks /stand alone trailers) quarterly visual inspection?	4.15 - (JIG1)
Y	G4-8	Do vehicle manuals confirm that tanks are fitted with vents to meet the maximum loading and delivery flow rates?	3.2.3 - (JIG1)
NW	G4-9	Fueller tank top drains, monthly check for blockage?	4.14.1 - (JIG1)
Y	G4-10	Fueller overfill protection devices (high/high-high level cut-off checks)? (High level function check at least quarterly & high-high annual checks)	4.17 - (JIG1)
Y	G4-11	Overwing fuelling: • procedures for grade confirmation? • use of a Fuel Grade Confirmation Form?	6.5.5 - (JIG1) A10 - (JIG1)
Y	G4-12	Weekly functional check of interlock system, including warning lights and check of override system?	4.4 - (JIG1)
Y	G4-13	Daily check of seals on interlock override switch and function check of a single interlock?	4.4 - (JIG1)
Y	G4-14	Monthly function of the platform emergency lowering system and wand sensor checks?	4.11 - (JIG1)
Y	G4-15	Monthly functional check of emergency engine stops?	4.4 - (JIG1)
		Bonding Cables & Reels	
Y	G4-16	Daily visual check of bonding wires and clips (including fuelling steps with integral hoses)?	2.2.3(b) - (JIG1) 4.5 - (JIG1)
Y	G4-17	Weekly electrical continuity check?	4.5 - (JIG1)
		Hoses	
Y	G4-18	Dates of manufacture & in-service, and monthly visual inspection (hose fully extended) at working pressure and after release of pressure?	A13.1 - (JIG1) 4.8 - (JIG1)
Y	G4-19	Hydrostatic pressure test • routine (6-monthly)?	4.8 - (JIG1) A13.2 - (JIG1)

		• after fitting new hose or shortening?	
Y	G4-20	New hose commissioning?	4.8.3 - (JIG1) A5 - (JIG1)
C	G4-21	Monthly hose end strainers (fitted to pressure fuelling and overwing nozzles) inspection and cleaning (in accordance with JIG Bulletin 105 for Filter Monitors)? Hose-end strainer inspection and cleaning during commissioning of new filter monitors (in accordance with JIG Bulletin 105)?	105 - (Bulletin) 4.16 - (JIG1) A13.4 - (JIG1)
NW	G4-22	Dates of manufacture & in-service for flexible joints? 6-monthly condition checks?	A13.5 - (JIG1)
		Hydrant Pit Couplers	
Y	G4-23	Annual hydrant pit coupler wear checks?	4.12 - (JIG1)
		Meters and Gauges	
C	G4-24	Calibration certificate for master meter/prover tank (3-year validity)? Meter proving equipment correctly sized & grade dedicated?	4.9.1 - (JIG1) 4.9.2 - (JIG1)
Y	G4-25	6-monthly meter calibration test results accurate to required standard? • For meters in service • For new/repaired meters prior to use • Test performed at correct flow rates? Erratic/unadjustable meters shall be withdrawn from service	4.9.1 - (JIG1)
Y	G4-26	Master pressure gauge calibration (every 3 years)?	4.10.2 - (JIG1)
Y	G4-27	6-monthly critical pressure gauge accuracy check with master gauge or dead weight tester	4.10.1 - (JIG1)
		Pressure Control Valve Systems	
Y	G4-28	Monthly deadman performance check	4.7.2 - (JIG1) A15.7 - (JIG1)
Y	G4-29	Quarterly pressure control system check	4.7.1 - (JIG1) A15 - (JIG1)
		Thermometers and Hydrometers	
R	G4-30	6-monthly accuracy check	4.19.4 - (JIG1)
		Fire extinguishers	
Y	G4-31	Monthly visual condition check	4.20 - (JIG1)
Y	G4-32	Annual maintenance by manufacturer/competent employee/contractor	4.20 - (JIG1)
		Other Comments or Recommendations - G4:Into-Plane Service - Records of Routine Checks and Maintenance	
R	G4-33	Other Comments or Recommendations (Limit to C, R or NA)	
		Electronic Water Sensors	
NA	G4-34	If fitted, are electronic water sensors inspected/tested annually and the associated on-vehicle systems tested at least quarterly, in accordance with the manufacturer's instructions?	110 - (Bulletin)

H1: NON-ROUTINE/INFREQUENT TASKS			
		Inspector shall review the following activities if they have taken place within the last inspection period	
		Tank Sampling for Certification	
NA	H1-1	Tank upper, middle and lower sample points available and clearly labelled?	2.2.1 - (JIG2)
NA	H1-2	Tank Composite samples available and clearly labelled?	2.2.1 - (JIG2)
NW	H1-3	Laboratory samples taken in accordance with procedures?	2.2.1 - (JIG2)
		Flushing infrequently used hoses	
Y	H1-4	Are infrequently used hoses flushed at required intervals?	4.8.4 - (JIG1)
		Change of Grade Procedures	
NA	H1-5	Adequate change of grade procedures where required?	5.7 - (JIG1) 6.3 - (JIG2)
		Fuelling with fuel containing FSII	
NA	H1-6	Where FSII is required are satisfactory procedures in place and do they ensure that fuel shall not pass through EI 1583 filter monitors?	6.6(d) - (JIG1) 3.1.4(c) - (JIG1)
		Defuelling	
NW	H1-7	Procedures for defueling where required and redelivery to aircraft in accordance with Bulletin 98 MBG testing of vehicles routinely used for defuels	98 - (Bulletin) 6.6 - (JIG1)
NW	H1-8	For pre 2014 vehicles with double valve arrangements in the defuel pipework, are they tested every 6 months? Where it is not possible to remove fuel between the two valves via a bleed valve, is the pipework flushed every 6 months?	3.1.14 - (JIG1) 4.23 - (JIG1)
		Other Comments or Recommendations - H1:Non-Routine/Infrequent Tasks	
NA	H1-9	Other Comments or Recommendations (Limit to C, R or NA)	