

C.A.S.E.
AIR CARRIER SECTION
POLICIES AND PROCEDURES

FUEL STORAGE AUDIT CHECKLIST

Audit Date: _____ **Allocation #:** _____

Station Code: _____

City: _____

Vendor Name: _____

Address: _____

Primary Contact: _____ **Title:** _____

Phone: _____ **Fax:** _____

E-mail: _____

Auditor: _____

Acceptable: **Conditionally** _____ **Acceptable** _____ **Not Acceptable** _____

Register: (Circle One) **Add Delete** **Update** **No Action**

NOTE: Initiate and complete a Vendor Expectations and Limitations (VEL) prior to taking register action to add or update the vendor.

C.A.S.E.

AIR CARRIER SECTION

POLICIES AND PROCEDURES

TABLE OF CONTENTS

| Section | Subject | Page |
|---------|--|------|
| 1. | Policy..... | 2 |
| 2. | Alternate Means of Compliance..... | 3 |
| 3. | Airport Fuel Receipts..... | 3 |
| 4. | Fuel Facility Design Requirements..... | 6 |
| 5. | Fuel Storage Facility Inspections..... | 9 |
| 6. | Hydrant Systems..... | 12 |
| 7. | Hydrant System Inspections..... | 13 |
| 8. | Fueling Equipment Design Requirements..... | 13 |
| 9. | Fueling Equipment Inspections..... | 13 |
| 10. | Tanker Vehicle Loading Facilities..... | 13 |

NOTE: This checklist is based on the requirements stated in the ATA 103 for Jet Fuel Quality Control at Airports and the C.A.S.E. 2-A standard, chapter 4-3-0 of this manual.
 The reference numbers enclosed in brackets [] that appear throughout this document refer to the applicable paragraph(s) in the standard.

| 1. Policy | <u>YES</u> | <u>NO</u> | <u>N/A</u> |
|--|-------------------|------------------|-------------------|
| A. Are the latest revisions of the ATA 103 and C.A.S.E. 2-A standards available? | _____ | _____ | _____ |
| B. Does the vendor maintain a file(s) of audit findings and corrective actions for a minimum of 36 calendar months and is it(are they) accessible to the auditor? [1F] | _____ | _____ | _____ |
| C. Does the vendor have a Operations and Maintenance Manual to help ensure the safe and dependable flow of quality fuel to aircraft? [2-1.11] | _____ | _____ | _____ |

C.A.S.E.

AIR CARRIER SECTION

POLICIES AND PROCEDURES

- | | <u>YES</u> | <u>NO</u> | <u>N/A</u> |
|--|------------|-----------|------------|
| 1. D. If a person's initials or employee number is(are) used for signing off paperwork, is there a roster showing name, number and/or initials? [2-1.2] | _____ | _____ | _____ |
| E. Does the vendor have a documented training program and records for all personnel under their direction or control, qualifying them to properly perform their assigned tasks? [2-1.9] | _____ | _____ | _____ |
| F. Is defueled product, for purposes other than contamination, returned to the same air carrier? [2-1.7] | _____ | _____ | _____ |
| G. Does the vendor have a documented procedure for reporting deficiencies or safety hazards by its employees to their supervisors? [2-1.10] | _____ | _____ | _____ |
| H. Does the vendor have a documented procedure for notifying affected air carriers when new, additional, replacement, or modified equipment is placed in operations? [2-1.3] | _____ | _____ | _____ |
| I. Does the vendor have a documented procedure for notifying affected air carriers when contaminated fuel is detected or when any fueling system becomes inoperative that might affect an air carrier's operations? [2-1.5, 2-1.8] | _____ | _____ | _____ |
| 2. Alternate Means of Compliance | | | |
| A. Has the vendor issued any alternate means of compliance letters? [2-1.4] | _____ | _____ | _____ |
| B. If yes, have they been accepted by the air carrier being serviced? [2-1.4] | _____ | _____ | _____ |
| 3. Fuel Receipts into Airport Storage | | | |
| A. Are there signatures, initials, or employee numbers on all receipt records? [2-1.2] | _____ | _____ | _____ |
| B. Are all fuel receipt records maintained on file for a minimum of twelve (12) months? [2-3.2 and 2-3.3] | _____ | _____ | _____ |

C.A.S.E.

AIR CARRIER SECTION

POLICIES AND PROCEDURES

YES NO N/A

3. C. Do shipping documents received prior to delivery certify that product delivered to the vendor meets all ASTM D1655 specification requirements and show: [2-3.2]

- | | | | |
|--|-------|-------|-------|
| 1) Product grade? | _____ | _____ | _____ |
| 2) Batch number? | _____ | _____ | _____ |
| 3) Correct destination? | _____ | _____ | _____ |
| 4) Delivered volume? | _____ | _____ | _____ |
| 5) API corrected to 60° F or density test? | _____ | _____ | _____ |

D. Are the following tests being performed during fuel receipt (downstream of receiving filtration) and are results recorded: [2-3.2, Table 2-3.1]

NOTE 1: Testing for shipments by marine vessel are treated in the same manner as dedicated pipelines.

NOTE 2: In the event an ASTM D1655 certificate is not received, does the vendor perform ASTM D1655 property tests prior to releasing the tank for aircraft use?

| TEST | Multi-product Pipeline | Dedicated Pipeline | |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| | | No Certificate Received | Certificate Received |
| Visual Appearance (white bucket in U.S. only)? | Begin Mid* End _____ _____ _____ | Begin Mid* End _____ _____ _____ | Begin Mid* End _____ _____ _____ |
| Corrected API specific gravity? | _____ _____ _____ | _____ _____ _____ | _____ _____ _____ |
| Color membrane? | _____ _____ _____ | _____ _____ _____ | _____ _____ _____ |
| Free water detection? | _____ _____ _____ | _____ _____ _____ | _____ _____ _____ |
| Flash Point? | _____ _____ _____ | | |
| Distillation? | Yes No _____ _____ | Yes No _____ _____ | |
| Freezing Point? | _____ _____ | _____ _____ | |
| Water Separation? | _____ _____ | _____ _____ | |
| Copper Corrosion Strip? | _____ _____ | _____ _____ | |
| Existent Gum? | _____ _____ | _____ _____ | |

* Midpoint testing only applies to shipments lasting more than four (4) hours.

C.A.S.E.

AIR CARRIER SECTION

POLICIES AND PROCEDURES

| | <u>YES</u> | <u>NO</u> | <u>N/A</u> |
|--|------------|-----------|------------|
| 3. E. Are the receiving filter DPI, tank fill levels, and observations of any fuel leaks periodically monitored during fuel receipt? [2-3.2] | _____ | _____ | _____ |
| F. Fuel acceptance by multi-product pipeline: | | | |
| 1) Is receiving tank gauged, recorded, and sumped before receipt? | _____ | _____ | _____ |
| 2) Are communications established between pipeline shipping facility and facility receiving personnel to ensure satisfactory fuel receipt? | _____ | _____ | _____ |
| 3) Is the fuel receiving process monitored at all times by vendor personnel? | _____ | _____ | _____ |
| 4) Is fuel ever received and dispensed simultaneously from the same tank? | _____ | _____ | _____ |
| G. Fuel acceptance by transport truck and railroad tank car: [2-3.3] | | | |
| 1) If transport truck hose is used, are the hose and fittings inspected prior to use? | _____ | _____ | _____ |
| 2) Are the tank internal valves opened and the 10-minute minimum settling time met prior to fuel unloading? | _____ | _____ | _____ |
| 3) Is a Visual Appearance Test (white bucket in U.S. only) being performed? | _____ | _____ | _____ |
| 4) Is corrected API gravity test performed and recorded prior to receipt of any fuel? | _____ | _____ | _____ |
| NOTE: If there is a change of more than one degree (1° F) API from the source as shown on the shipping document, the receipt of fuel must be discontinued and an investigation initiated. | | | |
| 5) Is the truck bonded during unloading from transport? | _____ | _____ | _____ |

C.A.S.E.

AIR CARRIER SECTION

POLICIES AND PROCEDURES

| 4. Fuel Facility Design Requirements | <u>YES</u> | <u>NO</u> | <u>N/A</u> |
|---|-------------------|------------------|-------------------|
| A. Is the storage facility properly identified and color-coded per EI 1542? [2-4.9] | _____ | _____ | _____ |
| B. Are “NO SMOKING”, “FLAMMABLE”, “EMERGENCY SHUT-OFF”, and product identification signs prominently displayed? [2-4.8] | _____ | _____ | _____ |
| C. Are all storage tanks equipped with the following: [2-4.2] | | | |
| 1) Floating suction with a means of verifying proper operation or a stand pipe? | _____ | _____ | _____ |
| 2) Inlet diffuser? | _____ | _____ | _____ |
| 3) Gauge hatch with slotted tube? | _____ | _____ | _____ |
| 4) A minimum of one (1) access man-way (two (2) are preferred)? | _____ | _____ | _____ |
| 5) Automatic high level fuel controls that operate properly? | _____ | _____ | _____ |
| 6) Placard adjacent to sump device indicating the volume of fuel in sump piping? | _____ | _____ | _____ |
| D. Are above ground storage tanks equipped with these additional required items: [2-4.2] | | | |
| 1) Fixed roof? | _____ | _____ | _____ |
| 2) Light colored epoxy coated floor and sides (up to the first wall panel)? | _____ | _____ | _____ |
| 3) Cone down bottom to positive center sump with drain? | _____ | _____ | _____ |
| E. Are above ground horizontal storage tanks equipped with these additional required items: [2-4.2] | | | |
| 1) Complete internal light colored epoxy coating (for carbon steel tanks)? | _____ | _____ | _____ |
| 2) Sloped bottom to positive sump with drain? | _____ | _____ | _____ |

C.A.S.E.

AIR CARRIER SECTION

POLICIES AND PROCEDURES

- | | | <u>YES</u> | <u>NO</u> | <u>N/A</u> |
|----|---|------------|-----------|------------|
| 4. | F. Are underground tanks equipped with additional required items: [2-4.2] | | | |
| | 1) Complete internal light colored epoxy coating (for carbon steel tanks)? | _____ | _____ | _____ |
| | 2) Sloped bottom to positive sump with drain? | _____ | _____ | _____ |
| | 3) Man-ways and other tank accessories extended above ground? | _____ | _____ | _____ |
| | G. Is fuel filtered while being received into and dispensed out of storage? [2-4.3] | _____ | _____ | _____ |
| | H. If filter/separators are used, do they: [2-4.3] | _____ | _____ | _____ |
| | 1) Meet API/EI Specifications? | _____ | _____ | _____ |
| | 2) Have an automatic water defense system with a means of operational test? | _____ | _____ | _____ |
| | I. Are full-flow monitors used for receiving or dispensing fuel? [2-4.3] | _____ | _____ | _____ |
| | NOTE: Full-flow monitors are <u>not allowed</u> for receiving or dispensing fuel. | | | |
| | J. If additional filtration/treaters are in use, is a written program in use to ensure proper operation? [2-4.3 NOTE 2] | _____ | _____ | _____ |
| | K. Are all filter vessels equipped with the following: [2-4.3, EI 1581] | | | |
| | 1) Direct reading differential pressure gauges? | _____ | _____ | _____ |
| | 2) Provisions for the elimination of air? | _____ | _____ | _____ |
| | 3) Manual sump drain? | _____ | _____ | _____ |
| | 4) Upstream and downstream sampling connections (Millipore sampling ports) including probes and dust caps or plugs? | _____ | _____ | _____ |
| | 5) Pressure relief valve(s)? | _____ | _____ | _____ |

C.A.S.E.

AIR CARRIER SECTION

POLICIES AND PROCEDURES

| | | <u>YES</u> | <u>NO</u> | <u>N/A</u> |
|----|-------|---|-----------|------------|
| 4. | K. 6) | Placard(s) filled out indicating month and year of last filter change or extension date? | | |
| | | _____ | _____ | _____ |
| | 7) | System to protect filter-separator sumps and associated piping from freezing/bursting (where appropriate)? | | |
| | | _____ | _____ | _____ |
| | 8) | Placard showing location of filter sump drain? | | |
| | | _____ | _____ | _____ |
| | 9) | Nameplate with the required information? | | |
| | | _____ | _____ | _____ |
| | L. | Are all emergency fuel shut-off valves and switches clearly marked and unobstructed? [2-4.5] | | |
| | | _____ | _____ | _____ |
| | M. | Does "EMERGENCY SHUT-OFF" sign indicate method of operation? [2-4.5] | | |
| | | _____ | _____ | _____ |
| | N. | Is there an operable deadman control device for all truck loading operations? [2-4.13] | | |
| | | _____ | _____ | _____ |
| | O. | On loading racks equipped with combined bonding and overfill protection systems, is the resistance being checked between the system connection and facility ground? [2-5.4.3] | | |
| | | _____ | _____ | _____ |
| | P. | Is static bonding provided for all truck and fill stands? [2-4.13] | | |
| | | _____ | _____ | _____ |
| | Q. | Are bottom loading nozzles fitted with 60 mesh or finer nozzle screens? [2-4.13] | | |
| | | _____ | _____ | _____ |
| | R. | Are fire extinguishers with tags positioned in accordance with local requirements? [2-4.13] | | |
| | | _____ | _____ | _____ |
| | S. | Do fueling hoses: [2-4.7] | | |
| | 1) | Meet API 1529, Type C or BSI 3158, Type C? | | |
| | | _____ | _____ | _____ |
| | 2) | Have current certifications on file? | | |
| | | _____ | _____ | _____ |
| | T. | If there is a reclamation storage tank installed, does it meet ATA 103, 2-4.14? | | |
| | | _____ | _____ | _____ |

C.A.S.E.

AIR CARRIER SECTION

POLICIES AND PROCEDURES

5. Fuel Storage Facility Inspections

A. Are the following checks documented as being complied with at the minimum intervals? [2-5]

| DAILY | MONTHLY | QUARTERLY | ANNUALLY |
|---------------------------------------|--|-----------------------------|--------------------------------|
| General Yard Condition | Color Membrane (Millipore) | Emergency Shutdown System | Storage Tank Interiors |
| Security, Fire, and Safety | Free Water Test | Water Defense Systems | Filter Elements |
| Static Reels, Cables, Clamps | Bonding Cable Continuity | High Tank Level Controls | Tank Vents |
| Hoses, Swivels, Nozzles, and Couplers | Signs, Labels, and Placards | Reclamation Tank Inspection | Filter-Separator Heaters |
| Filters Sumps | Floating Suctions | SEMI-ANNUALLY | Line Strainers |
| Filter DPI Pressure | Nozzle Screens | Periodic Hose Pressure | Cathodic Protection |
| Fire Extinguishers | Fire Extinguishers | | Water Defense Systems |
| Reclamation and Storage Tank Sumps | Corrected Filter Differential Pressure | | DPI Pressure Gauge Calibration |

- YES NO N/A**
- B. Do the records indicate when any equipment was not in service? [2-5.2] _____ | _____ | _____
- C. Is all facility equipment not in daily use record daily, monthly, quarterly, and annual checks current prior to returning the equipment to service? [2-5.2] _____ | _____ | _____
- D. Are records retained locally for a minimum of twelve (12) calendar months? [2-5.2] _____ | _____ | _____
- E. Are tank sump samples performed, rated, and recorded? [2-5.3.3] _____ | _____ | _____
- F. Is the first filter sump sample read being recorded? [2-5.3.4] _____ | _____ | _____
- G. Are filter change records retained locally for a minimum of thirty-six (36) calendar months? [2-5.2] _____ | _____ | _____

C.A.S.E.

AIR CARRIER SECTION

POLICIES AND PROCEDURES

| | | <u>YES</u> | <u>NO</u> | <u>N/A</u> |
|----|--|------------|-----------|------------|
| 5. | L. Check high-level tank controls <u>or verify by documented records.</u> [2-5.5.3] | | | |
| | 1) Is the test being performed correctly? | _____ | _____ | _____ |
| | 2) Are the test results acceptable? | _____ | _____ | _____ |
| | M. Check storage tank interiors <u>or verify by documented records.</u> [2-5.7.1] | | | |
| | 1) Is the test being performed correctly? | _____ | _____ | _____ |
| | 2) Are the test results acceptable? | _____ | _____ | _____ |
| | N. Perform fuel appearance test of sample pulled from filter sumps (under pressure): [2-5.3.4] | | | |
| | Filter sampled/results ____/____ ____/____ ____/____ | | | |
| | 1) Is the test being performed correctly? | _____ | _____ | _____ |
| | 2) Are the test results acceptable? | _____ | _____ | _____ |
| | O. Check observed filter DPI under normal flow conditions and record corrected DPI across each working filter. [2-5.3.5, 2-5.4.2, and 2-5.7.2] | | | |
| | Filter checked/results ____/____ ____/____ ____/____ | | | |
| | 1) Are Differential Pressure Gauges being tested per manufacturer requirements? | _____ | _____ | _____ |
| | 2) Are the test results acceptable? | _____ | _____ | _____ |
| | P. Perform color membrane test upstream and downstream simultaneously for each filter/ separator vessel. [2-5.4.1] | | | |
| | Filter tested/results ____/____ ____/____ ____/____ | | | |
| | 1) Is the test being performed correctly? | _____ | _____ | _____ |
| | 2) Are the test results acceptable? | _____ | _____ | _____ |

C.A.S.E.

AIR CARRIER SECTION

POLICIES AND PROCEDURES

- | | | <u>YES</u> | <u>NO</u> | <u>N/A</u> |
|----|--|------------|-----------|------------|
| 5. | Q. Check operation of water defense system <u>or verify by documented records.</u> [2-5.5.2] | | | |
| | 1) Is the test being performed correctly? | _____ | _____ | _____ |
| | 2) Are the test results acceptable? | _____ | _____ | _____ |
| | S. Perform conductivity test on the bonding cable and clamp. [2-5.4.3] | | | |
| | 1) Is the test being performed correctly? | _____ | _____ | _____ |
| | 2) Is resistance 25 Ohms or less? | _____ | _____ | _____ |
| | T. Check operation of emergency shutdown system <u>or verify by documented records.</u> [2-5.5.1] | | | |
| | 1) Is the test being performed correctly? | _____ | _____ | _____ |
| | 2) Are the test results acceptable? | _____ | _____ | _____ |
| | U. Check operation of filter/separator and drain line heaters for proper operation, if applicable, <u>or verify by documented records.</u> [2-5.7.4] | | | |
| | 1) Are the test results acceptable? | _____ | _____ | _____ |

6. Hydrant Systems

- A. Are the following checks documented as being complied with at the minimum intervals? [2-6]

| DAILY | MONTHLY | QUARTERLY | ANNUALLY |
|---------------------------------|---|--|---------------------|
| Hydrant Pit | Hydrant Valve Assembly | High Point Vents | Cathodic Protection |
| Emergency Fuel Shutoff Stations | Isolation Valve Pits and Control Vaults | Leak Detection and Pipe Isolation System | |
| | Low Point Drains | Pit Surge Absorbers | |
| | Emergency Fuel Shutoff | | |

C.A.S.E.

AIR CARRIER SECTION

POLICIES AND PROCEDURES

- | 6. B. Hydrant system piping: | <u>YES</u> | <u>NO</u> | <u>N/A</u> |
|---|------------|-----------|------------|
| 1) Where installed, is cathodic protection maintained and checked annually? [2-6.6.1] | _____ | _____ | _____ |
| 2) Is there a means to drain fuel at low points and bleed the system at high points? [2-6.4.3, 2-6.5.1] | _____ | _____ | _____ |

7. Hydrant Systems Inspections

CONDITION CODES TO BE USED:

| | | |
|--------|---|----------------|
| S or √ | = | Satisfactory |
| C | = | See Comments |
| N/A | = | Not Applicable |
| N/O | = | Not Observed |

- | | |
|--|-------|
| A. Check pits for cleanliness and standing liquid. Visually check pits and all components for deficiencies. [2-6.3.1] | _____ |
| B. Check hydrant valve for visual deficiencies, cleanliness. [2-6.4.2] | _____ |
| C. Check emergency fuel shutoff stations for access, identification, locator lights (if installed), and operation <u>or verify by documented records</u> . [2-6.3.2] | _____ |
| D. Where installed, check the satisfactory operation of the hydrant system leak detection systems. [2-6.5.3] | _____ |
| E. Check isolation valve pits for condition, fuel leaks. [2-6.4.1] | _____ |
| F. Check low point drains for condition. [2-6.4.3] | _____ |

8. **Fueling Equipment Design Requirements** See CACS-25

9. **Fueling Equipment Inspections** See CACS-25

10. **Tanker Vehicle Loading Facilities** See CACS-25

Audit Summary

Fuel Vendor Name: _____

Date: _____

Audited By: _____

Company

Auditor

