CHAPTER 20

INSPECTION OF AVIATION FUEL SUPPLIERS FACILITIES AND EQUIPMENT.

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1.0 OBJECTIVE

This chapter provides guidance for inspection of an aviation fuel suppliers equipment and facilities. Reference: ICAO Document 9977. ASTM D2276/IP 216 Standard

2.0 GENERAL

Regulations do not establish standards for fuelling facilities, but this does not relieve the aviation fuel supplier of overall responsibility for conducting those operations within established industry standards.

A. *Geographic Considerations*. Inspections of aviation fuelling facilities and equipment outside Nigeria by the Airframe / Engine Aviation Safety Inspector (ASI) must be coordinated with the Director, Airworthiness Standards.

B. The primary responsibility of this ASI is to ensure that the operator's facility for the storage and dispensing of aviation fuels is operated in accordance with the Supplier's Operations Procedures Manual and Quality Control Manual. Additionally, the supplier's manual must be in accordance with current industry standards.

3.0 COORDINATION REQUIREMENTS

A. This task requires coordination with the Aviation Fuel Supplier.

4.0 REFERENCES

- NCAA Advisory Circular AC-AWS020, Aircraft Fuel Storage, Handling and Dispensing on Airports, as amended.
- **Checklist: CL: O-AWS020 and O-AWS020A**

5.0 PROCEDURES

The assigned team of airworthiness inspectors:

A. Inspect the Facility and Equipment

(1) Ensure the following:

- Personnel training requirements are documented and current.
- Training is conducted according to the manual curriculum.
- Piping is marked and color-coded to identify fuel type and grade.
- Control/cutoff valves are clearly marked with instructions for emergency use, e.g., on/off.

(2) Ensure that the fuel farm/storage area provides for the following:

- Proper security (fenced and posted)
- Proper display of “Flammable” and “No Smoking” signs.
- Proper provisions to ensure electrostatic protection.
- Proper markings that identifies the type/grade of fuel.
- Proper lighting for night operations.

(3) Ensure that the equipment includes the following:

- A positive low point sump.
- Adequate fire extinguishers.

(4) Ensure that fuel filters/filter separators contain at least the following:

- An inlet strainer
- Inflow and outflow filters/separators sized to match maximum pump flow capacity.
- A differential pressure check system.

- A positive water defence system.
- A sump drain with outlet located to facilitate capture of outflow.
- Fuel sampling (millipore or equivalent) fittings downstream of all filters and filter separators.

(5) Ensure that hoses, nozzles and outflow connectors are:

- Specifically designed and tested for delivery of aviation fuels.
- Controlled by spring-loaded, non-by-passable automatic (dead man) fuel flow cutoff valves.
- Equipped with a dust cap or other feature that will minimize contaminant introduction into the fuel system.
- Equipped with non-by-passable 100 mesh nozzle/connector screens.
- Color-coded to identify fuel type.

(6) Ensure that electrical equipment, switches, and wiring are of a type or design approved for use in hazardous locations (explosion proof, e.g., free of exposed conductors, contacts, switches, connectors, motors, etc.).

(7) Verify that grounding and bonding equipment ensure that piping, filters, tanks, and electrical components are electrically bonded together and interconnected to an adequate electrical ground. The system should have ground wires, bonding wires, and clamps adequate to facilitate prompt, definite electrical ground connection between fueller/cabinet, grounding system, and aircraft being fuelled.

(8) Ensure that fuel tenders and fuelling pits have the following:

- Appropriate markings display, e.g., “DANGER,” “FLAMMABLE”, “NO SMOKING”, fuel grade, standard hazardous material placard, filter due dates, and emergency fuel shutoff.
- Appropriately placed fire extinguishers.
- An air filter/spark arrestor and leak free exhaust system terminating in a standard baffled original equipment type muffler, if equipped with internal combustion engine.

B. *Observe Aircraft Fuelling Operation.* Ensure compliance with operator's procedures and determine if procedures are adequate.

C. *Analyze Findings.* Evaluate any deficiencies to determine what corrections will be required. If any deficiencies are noted, discuss possible corrective actions with the operator.

6.0 **TASK OUTCOMES**

A. Completion of this task will result in a letter informing the operator of the results of the inspection.

B. *Document the Task.* File all supporting paperwork in the operator's office file.

7.0 **FUTURE ACTIVITIES.**

Normal surveillance.