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DEPARTMENT OF CIVIL AVIATION

Male'

Republic of Maldives

AIR SAFETY CIRCULAR

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DISPENSING OF FUEL FROM BARRELLED SUPPLIES

1. INTRODUCTION

- 1.1 The Civil Aviation Regulations, Maldives require that a person who manages an Aviation Fuel Installation at an aerodrome, shall inter-alia satisfy himself on delivery of fuel into the installation that the fuel is of a grade appropriate to the installation to which it is being delivered; that the installation is capable of storing and dispensing the fuel in a state fit for use on aircraft and the fuel being delivered has been sampled and tested to ensure that it is in a fit condition for use in aircraft. When aviation fuel is dispensed from the installation into an aircraft, he shall also satisfy himself by sampling and testing that the fuel is fit for use before dispensing.
- 1.2 Instances have come to the notice of this Department where one of the turbine engined aircraft operators has imported aviation turbine fuel (ATF) in sealed barrels, whereas another piston engined aircraft operator has procured and stored his AVGAS supplies in barrels. The barrelled ATF supplies are perhaps intended to increase the payload and the range of aircraft operations in case this ATF is made use of for refueling of the aircraft when it is away from the main base.

2. DEFINITIONS

2.1 For the purpose of this circular

- (1) "Aviation Fuel" means fuel intended for aircraft;
- (2) "Aviation Fuel Installation" means any apparatus or container, including a vehicle or a vessel, designed, manufactured or adopted for the storage of aviation fuel or for the delivery of such fuel to an aircraft.

3. PURPOSE

- 3.1 The purpose of this Air Safety Circular is to caution the operators of the inherent dangers involved with the barrel refueling unless meticulous care is taken for adherence to the approved procedures for handling, storage and dispensing of such fuel.

4. PROCEDURE

The Director of Civil Aviation has to ensure that any aviation fuel which is intended or likely to be delivered for use in an aircraft is fit for use. For this purpose a person managing the Aviation Fuel Installation shall be responsible for formulating the handling, storage and dispensing procedures including sampling and testing of the Aviation Fuel and other quality control checks. He shall also ensure that these procedures are duly approved by the DCA before permitting aviation fuel to be dispensed from the installation. The precautions while handling barrelled fuel supplies have been shown in the following paragraphs for the guidance of all concerned.

4.1 DELIVERY, HANDLING AND STORAGE

- 4.1.1 Before accepting delivery from the fuel supplier, a check should be made of the state of barrels and their seals. Delivery should be refused of any leaking barrels or if their seals are broken.
- 4.1.2 The number of barrels, grade markings, and fuel company inspector's marks should be checked against the details in the suppliers's release and consignment notes.
- 4.1.3 The barrels should be stored under cover, clear of the ground if possible and on their sides. Further they should be stored in such a manner that the bungs are in the 3 O'clock or 9 O'clock position to avoid ingress of water.
- 4.1.4 A system of storage or a procedure should be followed which will ensure that the oldest fuel in store is used first, according to batch numbers and date of filling of the barrels.
- 4.1.5 To minimise the risk of fueling errors, different grades of fuel should be stored separately from each other.

4.2 SAMPLING

Before fuel is decanted, or dispensed from barrels into aircraft, it should be checked for contamination as follows.

- a) After removing bung, check for water contamination by using water finding paste on the end of a suitable dipstick which should be allowed to rest on the barrel bottom for no longer than 10 seconds.
- b) Draw a bottom sample of about 1 pint by use of a plastic or glass tube and transfer sample into a clean glass container. Check for colour appropriate to its grade (Blue for AVGAS, undyed and clear for ATF) and sediments. Check for free and suspended water contamination by using Chemical Water Detector eg. Shell Detector or Aquadis Capsule etc. in addition to the paste check in the case of ATF.

- c) The presence of free or suspended water is indicated by a distinct change in the colour of the paste or detector element.
- d) All sampling equipment should be maintained in a scrupulously clean condition.
- e) If the sample taken from the barrel proves unsatisfactory, the contents must not be used for aviation purposes and immediate action should be taken to identify the cause.

4.3 DECANTING AND DISPENSING

- 4.3.1 Fuel should be decanted from barrels into fueling vehicles or storage preferably by means of a suitable pump and through a microfilter or filter separator, though AVGAS may alternatively be decanted through a funnel fitted with a 180 mesh (or 20x250 Hollander weave) gauze filter or a good clean chamois leather. It is important to ensure that all chalk deposits are removed from a new chamois leather before use.
- 4.3.2 If fuel is to be dispensed direct from barrels into aircraft, the barrels should be stood on end and the contents allowed to settle for a minimum of 10 minutes before the sampling check referred to in paragraph 4.2 is completed. If satisfactory samples are obtained the fuel should be dispensed through a suction standpipe designed so that fuel cannot be drawn from a depth lower than 3 inches from the barrel bottom. The bottom 3 inches of fuel should not be used in aircraft.
- 4.3.3 AVGAS should be dispensed direct into aircraft only through a 180 mesh gauze or equivalent filter.
- 4.3.4 Delivery of aviation turbine fuel direct into aircraft tanks should be made through a microfilter, or filter separator with a nominal 5 micron rating for solid particles and 15 parts per million for water.
- 4.3.5 All equipment used in decanting or dispensing barrelled fuel should be kept in a scrupulously clean condition.
- 4.3.6 After decanting or dispensing fuel, replace bungs tightly. Any barrel still containing fuel that is to be used in aircraft should be re-sealed.
- 4.3.7 Barrelled AVGAS should not be used after more than six months from the date the barrels were filled by the supplying company, or twelve months in the case of turbine fuel, unless the fuel has been assessed as fit for use in aircraft by laboratory tests.

5. PRESERVATION OF RECORDS

Records should be kept of all barrelled deliveries, decanting and dispensing of fuel, and sampling checks. These records shall be preserved for a period of 12 months and shall be produced to the DCA Surveyor for his scrutiny oneq ruest.



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