

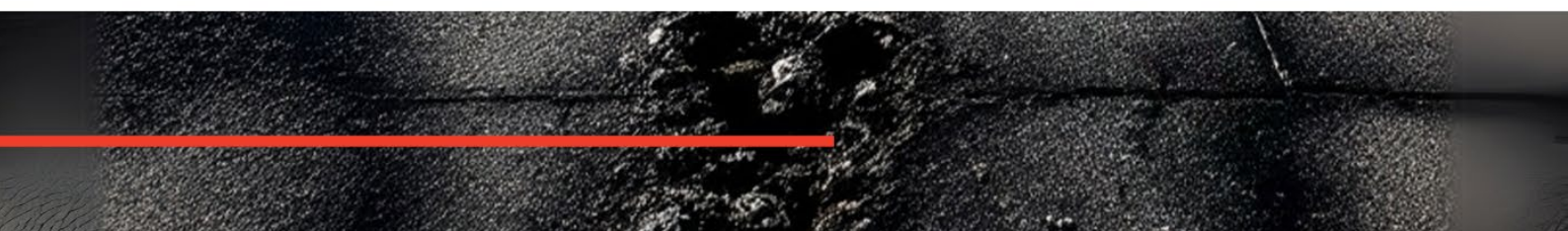


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Management of Fuel and Hydraulic Spillage



Preface and Acknowledgement

Aviation fuel and hydraulic oil, being slippery and inflammable, if spilt on the airfield e.g. on the apron or taxiway, and not promptly cleaned up, can result in serious and even catastrophic accidents. This document is to provide guidelines to airport operators on how to remove spilt fuel and hydraulic oil in an expedient, safe and environmentally friendly manner.

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Management of Fuel and Hydraulic Oil Spillage

1. Purpose

The purpose of this document is to provide guidelines to aerodrome operators on the containment, cleanup and disposal of aircraft fuel and hydraulic oil spilt on the airside in a safe, expedient and environmentally friendly manner.

2. Scope of document

This document only covers the management of aircraft fuel and hydraulic oil spilt from aircraft, ground service equipment, and other airside vehicles on the movement area and personnel. The handling of chemical, biological and radiological materials spilt and used deicing agents is excluded.

3. Why is a Procedure Needed?

The spillage of aviation fuel or hydraulic oil is a possible and common occurrence and, if not properly and promptly handled and cleaned up, may result in serious aerodrome operational safety, fire and environmental hazards.

For example, aviation fuel or hydraulic oil spilt may result in fire or even explosion, accidents caused by slippery pavements, or damage to pavements in the movement area. If the spill is washed away into drains or adjacent water bodies and terrain, the water or soil may be contaminated, resulting in serious environmental and health hazards. Spills may also entail breach of local environmental protection rules and result in fines, civil damages and reputational damages.

Aerodrome operators should therefore put in place a procedure to manage spills in a safe, expedient and environmentally friendly manner. This procedure should be part of or otherwise linked up with the emergency procedures of the aerodrome.

4. How and When May Fuel and Hydraulic Oil Spillage Occur?

Aviation fuel or hydraulic oil may spill during aircraft refueling, fuel transfer, maintenance of aircraft, e.g. during the maintenance of aircraft hydraulic and fuel systems, or operations of ground service equipment and maintenance equipment or because of faulty fueling equipment, fuel truck leakage, or aircraft movements and accidents such as collisions.

5. Good Practices in Containment, Clean Up and Disposal of Spills

As soon as a spill occurs, it should be reported, contained and cleaned up and the fuel or hydraulic oil disposed of in a safe, expedient and environmentally friendly manner as follows:

5.1 Reporting

Drivers and workers on airside should be trained, e.g. as part of the procedure to obtain an airside permit, to report on fuel and oil spillage through a designated channel, e.g. a designated telephone or messaging hotline, so that cleanup and closure of the affected area can be arranged as soon as possible.

In case of a major fuel spillage, e.g. a spill of more than 2 meters square in area or 10 liters of fuel, the airport firefighting service should be put on alert.

5.2 Containment

The following procedures are recommended to contain spills:

- Set up temporary barriers, e.g. sand bags, to contain the spill as necessary;
- Cordon off the area;

- Advise concerned airside personnel on the spillage, e.g. via the airport operations control center (AOCC); and
- Avoid ignition sources and notify relevant departments to suspend works that produce flames or sparks, e.g. welding works.

5.3 Clean Up

To clean up the spill, the following are recommended:

- Before the cleanup, cover or put dykes around the drains or manholes nearby to prevent the spill from entering to on sewer/storm water network;
- In case of a significant spill, consider calling upon an authorized contractor for assistance;
- Do not wash away the spill with water to avoid contamination of soil and water sources;
- Soak up with absorbent materials, e.g. alumina, activated carbon, calcium sulphate, or absorbent pads (note: Doc 9137 recommends sawdust and sand);
- Scrape up residual fuel and hydrocarbon spillage, but for sizable spills, consider using airside sweeper vehicle to avoid direct and close manual contact with spillage;
- In case of a person accidentally spilt with fuel or hydrocarbon materials, shower the person;
- After the cleanup, ask the engineering or maintenance department to inspect contaminated pavements for usability, and notify AOCC; and
- Consult the fuel supplier for further information on handling of fuel spillage as needed.

5.4 Disposal

To dispose of the fuel or oil,

- Put absorbed and scraped up fuel and oil into designated containers;
- Label and put away containers from ignition sources;
- Follow local regulations, e.g. environmental protection and fire regulations, for safe disposal;
- If a sweeper vehicle is used to clean up the spill, the material used to absorb and scrape the spill should be disposed at a designated area equipped with a hydrocarbon separator treatment unit, as per local regulations; and
- Water samples should be collected from the hydrocarbon separator treatment unit regularly to check system efficiency, and to ensure quality of water treated.

5.5 Precautions

The following precautions should be taken during clean up and disposal:

- Wear PPE (personal protective equipment);
- Use goggle and face-shield;
- Use chemically resistant gloves, not kitchen latex gloves;
- Wear chemical resistant laboratory coat; and

- Wear high visibility vest.

6 Reference Documents

- Doc 9137 Part 2 and Part 9
- ACI Apron Safety Handbook

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