

RISKS OF REFUELLING

Shell's *Alice Chung* outlines
10 TIPS to keep you safe.



The geyser of jet fuel shot 15 m into the air. Fuel was splashed over the 747's engines and onto the passenger terminal roof and walls. Wind-blown spray was detected up to 80 m away. What happened? A baggage cart driver had carelessly driven between the engines and a refueling vehicle, shearing off the fueling ground coupling. Fortunately there was no explosion or major fire.

The lesson: Do not drive between a refueling vehicle and the aircraft. This is the refueling safety zone and the area where refueling hoses, hydrant couplings and bonding cables are vulnerable to impact.

Following a review of risks, Shell has come up with the following advice on safe refueling for RPT and private operators.

1 The flash point for jet fuel is a minimum of 38 C and avgas is volatile at any temperature.

Does your airport reach 38 C? If it does, jet fuel is already at flash point and only needs an ignition source to start a fire.

2 Static electricity is one of the most hazardous sources of ignition. Even a tiny spark can cause a fire or explosion.

A refueling vehicle must be bonded to the aircraft to ensure that no sparks jump between the two bodies. Should the bonding lead be detached while refueling is in progress, you must advise the refueling operator immediately. If you don't advise the refueler, static electricity could build

up and create a dangerous environment.

3 The refueling vehicle—a hydrant dispenser or tanker—will be positioned so that it can be driven away quickly in an emergency.

For this reason it is imperative that other ramp users do not obstruct this exit route.

4 The underground fuel hydrant system can pump 7000 to 10,000 litres of JetA1 fuel per minute.

You must stay well clear of the hydrant pit area.

5 Refuelling hoses can handle up to 4500 litres of fuel per minute.

Stay well clear of the refuelling hose and do not under any circumstances drive over it.

6 If an aircraft fuel valve malfunctions, fuel will overflow and spill from the aircraft wing vents.

Do not park or stand under an aircraft vent while the aircraft is being refuelled. Make sure you know where these vents are located on the aircraft.

7 If any fuel spills onto your body or clothing, do not remove your clothing except under a shower.

If you take off your clothing without first dousing under water, you could create a static spark and set yourself on fire.

8 In the event of a fuel spill, all equipment must be shut down.

Spilled fuel and hot engines do not mix.

9 The emergency stop buttons located at various points on the apron shut down the fuel supply in an emergency.

The area around the emergency stop must be kept clear at all times so that it is readily accessible. You should activate the emergency stop when you anticipate a serious incident and you think there is a real danger.

10 Sources of ignition

Do you carry lighters, matches, mobile phones, two-way radios or personal CD players? These are all potential sources of ignition.

Unsafe equipment must not be carried or used within a 15 m radius of a refueling safety zone while an aircraft is being refueled. If this equipment is used within the refueling safety zone, refueling operations must be stopped immediately until it is removed.

Take the time to look around the part of the airport you work in, to identify:

- Emergency stop buttons.
- Safety showers.
- Fuel hydrant pits.
- Refuelling safety zones.

Do not hesitate to ask your refueling operator if you have any questions.

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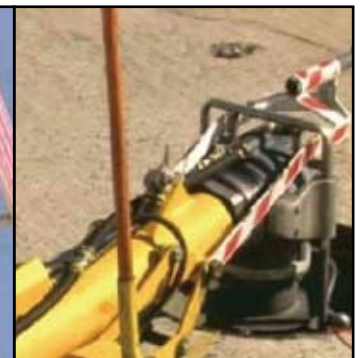
Refuelling aircraft with a hydrant dispenser



Refuelling vehicle emergency stop button



Refuelling hydrant emergency stop button



Hydrant pit