

# VOLCANIC ERUPTION

## RECOMMENDED ACTIONS FOR AIRPORTS



Quito airport, 2002



### REDUCTION

#### Develop a Volcanic Hazard Management Plan

Ensure this includes designated ash disposal sites.

#### Maintain Volcanic Hazard Management Plan

Regularly review plan to ensure it is up to date.

#### Conduct regular exercises and training

### READINESS

If warning is given that an eruption may occur, ensure stocks of the following equipment are available:

#### Tarpaulins / Plastic sheeting

Sufficient quantities to cover vulnerable parts of aircraft grounded during the eruption, i.e: windshields, nose cones, engine intakes, wheel assemblies. Further quantities to cover any machinery left outside.

#### Adhesive duct tape

Sufficient quantities to secure plastic sheeting to aircraft/machinery, sealing all edges.

#### Spare parts for essential vehicles and machinery

Air filters, oil filters, fuel filters, hydraulic fluids, seals, lubricants.

#### Cleaning supplies

Additional brooms, vacuum cleaner bags, cleaning fluids.

#### Filtration / dust masks and goggles

Sufficient masks for all involved staff for at least one week.

Sufficient goggles for workers cleaning up ash.

Adequate harnesses to secure workers to slippery roofs.

Prior to ashfall establish a tip site where ash may be dumped.

### RESPONSE

Should an ash plume be generated that is likely to impact the airport, the following steps should be taken;

**Activate:** Emergency teams, Business Continuity Plan and ensure health and safety issues are identified for all personnel.

**Decide:** Fly aircraft out, cover aircraft. Immediately confirm which aircraft are to remain grounded.

#### Grounded Aircraft

Need to have vulnerable parts covered. Immediately confirm which aircraft are to remain grounded.

Vulnerable parts include: windcreens, pitot tubes, nose cones, engine intakes, wheel assemblies.

Use plastic sheeting/tarpaulins and adhesive (duct) tape.

All flaps, spoilers etc should be fully closed.

If a significant ashfall is expected (> 5cm), **anchor** any aircraft to the ground at the nose that have:

- engines at the tail.
- large surface areas (i.e. horizontal stabilizers) at rear of aircraft.

#### Infrastructure

Take extreme care due to slipperiness of ash.

Use as few entries/exits as possible for buildings (reduces ash entrainment from outside).

Cover electronic equipment inside buildings as fine ash may penetrate even closed buildings.

Close buildings not essential for running the airport.

Cover (where possible) intake fans or heat pump units on building exteriors.

Do not use air-conditioning systems that pump in outside air.

Damp volcanic ash may induce flashover on electrical components (causing failure and fire risk).

Some use of systems that re-circulate interior air may be possible during ashfall (expect abrasion to fan blades, bearings etc).

Clean roofs frequently during a long-term eruption to prevent ash accumulating (especially wide-span hangar-type roofs).

### RECOVERY

Volcanic ash is highly abrasive and can be extremely corrosive

- take this into account when cleaning (especially aircraft).
- clean aircraft as quickly as possible to mitigate corrosion.

Consult volcanic ash response plan (where present) before beginning aircraft and airport clean-up.

- ensure correct procedures are followed.

Ensure ash is disposed in appropriate/safe manner.

Check navigation systems and friction test of the runway.

Further information on dealing with volcanic ash may be found in the following locations:

<http://www.geonet.org.nz>

<http://www.gns.cri.nz/ce/here/what/earthact/volcanoes/whattodo.html>

<http://volcanoes.usgs.gov/ash/index.html>

<http://www.icao.int/anb/IAVWOPSG/Doc9691.pdf>

<http://www.caa.govt.nz/>