ADVICE FOR ROADING MANAGERS

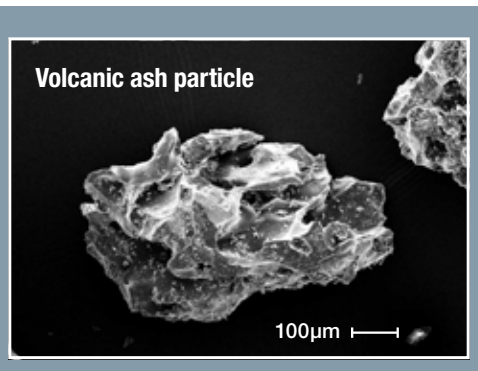
VOLCANIC ASH IS: HARD, HIGHLY ABRASIVE, MILDLY CORROSIVE AND CONDUCTIVE WHEN WET.

IMPACTS ON ROAD NETWORKS

ROAD NETWORKS ARE VULNERABLE TO ASH IMPACTS, BUT CAN BE KEPT OPERATIONAL:

- Visibility can be severely reduced during an ashfall;
- Visibility can be severely reduced after an ashfall if there is remobilisation of ash by wind or traffic;
- Ashfalls >1 mm depth may cover road markings;
- Ash reduces traction, in both dry and wet conditions. Ashfalls >50 mm may make roads impassible when wet;
- Very thick ashfalls may create extra loading on bridges, especially when wet. Ash remobilised in rivers may also create a risk of mud-flows (lahars).

The road closure threshold is dependent on the ash fall depth and characteristics, road gradient and local weather conditions.



DAMAGE TO VEHICLES

ASH MAY CAUSE A RANGE OF DAMAGE TO VEHICLES:

- abrasion to windscreens
- clogging of air and oil filters
- abrasion of moving engine parts
- corrosion of exposed metal surfaces.
- abrasion damage to paintwork

CASE STUDY FUTALEUFU, CHILE

The May 2008 eruption of Chaiten volcano, Chile, deposited 30-40 mm of fine-grained rhyolitic ashfall on the town of Futaleufu, Chile.

Clearing main road in the town of Futaleufu, Chile

Driving in approximately 10 mm ashfall, near Futaleufu.

RECOMMENDED ACTIONS

WHERE TO FIND WARNING INFORMATION

See www.geonet.org.nz for ashfall forecasts in the event of an explosive eruption.

HOW TO PREPARE

PLANNING

At-risk regions should develop operational plans for volcanic ashfall. These should include:

- Identification of a hierarchy of roads for priority of cleanup;
- Road closure protocols;
- Equipment and labour requirements for cleanup operations;
- Identification of ash disposal sites;
- Coordination of plans with local and regional emergency plans.

HOW TO RESPOND

IF OPERATING MACHINERY OR VEHICLES:

Check, clean and replace air and oil filters regularly.

Wash windscreens, painted and metals surfaces rather than wiping, to avoid abrasion damage. Avoid using windscreen wipers.

Apply lubricant/grease more frequently and check for wear.

MANAGEMENT OF ROADING NETWORK

Advise public to reduce non-essential travel.

If ashfalls are causing traction or visibility problems, implement safety measures such as reduced speed advisories, one-way rules, headlights on and ensuring a safe following distance.

CLEANUP

Ash cleanup can be expensive and time-consuming. It can be complicated by ongoing volcanic activity producing further ashfalls, or by wind remobilisation of deposited ash. See 'Advice for ash cleanup' poster in this series for more specific guidance. General principles are to:

- Clean roads as soon as possible, to reduce remobilisation problems and to make safe;
- In urban areas, take steps to prevent ash from entering storm drains or sewers, as it can block underground pipework and be extremely difficult to remove, and can cause severe damage to wastewater treatment plants;
- Ensure that field crews wear appropriate protective clothing (long-sleeved clothing, approved face masks and goggles) when operating in ashy environments;
- Dispose of ash in appropriate sites;
- Communicate work schedule with other stakeholders and the public.

THE FOLLOWING RESOURCES PROVIDE FURTHER INFORMATION ON VOLCANIC HAZARDS:

http://www.geonet.org.nz
http://www.gns.cri.nz
http://volcanoes.usgs.gov/ash/index.html
http://www.ivhhn.org

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