Safety Alert

# Instability of building maintenance units

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## Building maintenance units can be affected by high winds and become unstable, putting workers and the public at risk.

### Incident

A building maintenance unit (BMU) became unstable when it was affected by localised wind gusts while operating on a high rise building. The wind gusts caused the BMU to swing away from the building's facade. The BMU then swung back into the building, damaged a window and rotated, causing its suspension ropes to become tangled.

### Contributing factors

WorkSafe believes a range of factors could have contributed to the incident, including:

- localised wind patterns and gusts around buildings in the area
- the BMU platform being wider than the face of building being worked on so that its edges protruded and could be caught by the wind
- a failure of the duty holder to specify a maximum wind speed limit for operating the BMU
- an absence of a system of work to monitor wind speeds near the BMU and determine if it was safe to operate under localised weather conditions
- a fan suction system being used to hold the BMU platform against the facade of the building, rather than a mechanical restraint. The fan system may have been inadequate because of sections of the BMU overhanging the edge of the building and poor compatibility with the building's facade design.

### The safety risks

The stability of a BMU can be compromised if it operates in wind conditions that exceed its design limits or if its design is unsuitable for the building shape and design, allowing the platform to be affected by localised gusts.

If the BMU platform moves or rotates uncontrollably in the wind, it could strike the building and its suspension ropes could become tangled.

As a result, the BMU platform and the building facade can sustain damage and the platform or facade materials, such as glass or other cladding, can fall from height. Workers on the BMU or people in the area beneath may be killed or seriously injured.

### Recommended control measures

#### Use the right BMU

- Use the right BMU for a building (for example, a BMU with a platform that doesn't overhang the building)

#### Monitor wind speeds

- Ensure workers don't use a BMU unless a suitably competent person has assessed the BMU and the building to determine an

operational wind speed limit for the equipment.

- Give workers using a BMU (including facade cleaning contractors) information about its operational wind speed limits and any other constraints.
- Implement a system of work to assess and monitor local wind speeds and weather conditions before, and while, using a BMU. This could include using building, BMU-mounted and / or handheld wind speed meters (anemometers) and monitoring local weather updates online, to ensure the BMU operates only within acceptable limits.

### Consider restraint systems

- If a BMU uses a building facade restraint system, ensure it provides the highest degree of platform stability, so far as is reasonably practicable.
- If the BMU doesn't use a building facade restraint system, a mechanical facade restraint system (such as wire ropes, lanyards, plug and socket systems or continuous guide channels) is preferable to a fan or suction system.
- Ensure the BMU and its associated equipment are inspected and maintained to ensure it is safe to use for building maintenance tasks.

### Provide training and document risks

- Provide workers using BMUs with information, instruction and training, and ensure that only suitably competent people work on, and operate, the machine. This includes information about operating, inspecting and maintaining the BMU, which may be found in the BMU's manuals.
- Document tasks and procedures not covered in the BMU manuals, for example, by using safe work method statements. This information should cover specific hazards and risks, such as local weather conditions, on the day work is taking place.

### Legal duties

Duty holders with management or control of a BMU must eliminate the risk of the BMU becoming unstable, including in windy conditions, where it is reasonable and possible to do so. If the risk cannot be eliminated, it must be reduced as much as possible.

Duty holders must also provide enough information, instruction, training or supervision to workers to do their work safely. In addition, duty holders must keep a record of any inspection and maintenance carried out on a BMU for the time they &manage or control the plant.

### Further information

Australian Standards:

AS 2550.1 - Cranes, hoists and winches – Safe use – General Requirements

AS 2550.13 - Cranes-Safe use, Building Maintenance Units

WorkSafe publication – Compliance Code – Plant