

ASP Safety Alert Network Compliance and Authorisations

Alert Number: SA22_19

10 December 2019

Subject: Dislodged Substation Louvre Doors

Key Messages

Ensure skeleton bolts on removable louvre ventilation substation panels are fully engaged when installed and after use. Any issues that prevent the bolts from being fully engaged should be addressed on installation or if in service, reported for follow up corrective action.

Description of incident or hazard

Two reported incidents have occurred, where removable louvre ventilation panels at ground level suburban chamber substations, were unexpectedly dislodged.

In one incident, the louvre panel fell inwards towards the transformer in the substation, while in the other incident, the louvre panel fell outwards onto the footpath. Fortunately, no persons were injured as a result of either incidents.

Extent of impact

Investigations determined the likely cause of the incident resulted from a lack of engagement of the skeleton bolts that secure the louvre panels. The skeleton bolts used in both incidents were compliant with design requirements and Network Standards, incorporating position retention springs which assist in ensuring the skeleton bolt does not move under gravity or vibration. These skeleton bolts by nature of location and panel characteristics, require close attention and manipulation during operation and installation to ensure full engagement. The need to apply pressure externally to the panel to hold it hard against the frame to allow the bolt to engage into the retainer block on the frame would likely require a two-man operation. It is not unusual for the skeleton bolt penetration to be obstructed by the panel frame which results in minimal engagement.

Immediate action to be taken to eliminate or control the risk

To secure substations from unauthorised access, prior to departing the site, staff are to confirm skeleton bolts are fully engaged.

Any issues that prevent the bolts from being fully engaged should be addressed on installation or if in service, reported for follow up corrective actions.

ASPs to communicate to all authorised employees, supervisors and project managers the requirements when installing, removing or altering louvre panels.

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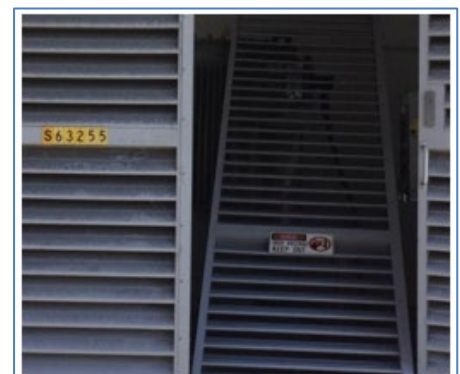


Figure 1: Panel fell into substation



Figure 2: Panel fell onto footpath



Retention leaf spring
Figure 3: Typical skeleton bolt