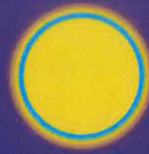


SAFETY NOTICE

NOTICE TO ALL NETWORK STAKEHOLDERS



POWERCO

ISSUE No. 002
November 2017

SAFETY NOTICE- Operation of ABB SDAF Series 2 Switchgear

Powerco has identified that an ABB SDAF3 Fused carrier failed unexpectedly during normal switchgear operation. This Safety Notice provides provisional instructions on operating similar switch types until a full investigation has been completed and findings reported.

Initial investigations indicate that the malfunction occurred when one of the fuse carrier arms within the fuse switch came into contact with the yellow phase busbar when the switch was operated. The pin that holds the fuse carrier arm onto the fuse carrier appears to have become loose and fallen out.

The fault caused the containment chamber to buckle and a significant quantity of oil was vented rearward (some upwardly) as a result. The location of the SDAF unit was important and in this case oil vented unobstructed to the rear of the unit.

A full Investigation continues, but at this stage, the event does not appear to be indicative of any general type problems with ABB SDAF type of switchgear.

As a precaution, however, a full situational assessment of ABB SDAF- series 2 units shall be undertaken before they are operated.

Situational assessment shall determine if the unit is located within a confined space.

For the purpose of this notice Confined space is defined as any obstruction closer than 2m to the rear of the equipment or where the means of egress from the switch are awkward or cluttered.

Where assessment identifies a confined operating limitation then risk management principles shall be applied;

Eliminate the hazard

- An alternate network switch location shall be utilised
- The SDAF unit shall be operated de energised

Isolate the hazard, where eliminate is not practicable

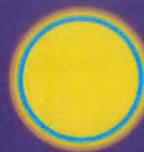
- A remote actuator shall be utilised

Minimise the hazard where isolate is not practicable (this is only to be considered as a control mechanism after thorough pursuit of all prior options)

- Cat 2 Enhanced PPE shall be used (Cat 2 Enhanced means all areas of exposed skin, including face and hands shall be protected by PPE to a minimum CAL rating of 8)

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Prior Planning of works is essential

For all planned works it is essential that prior to applying to access the network a full situational check is made and any operational restrictions required are identified and raised prior to the switching being written.

Please ensure this safety notice is discussed and brought to the attention of all operational staff immediately.

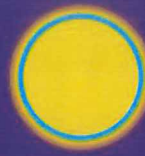
Please contact Phil Marsh Powerco NOC 06 759 6636 if you have any questions regarding this safety notice.

Phil Marsh

Network Operations Manager www.powerco.co.nz

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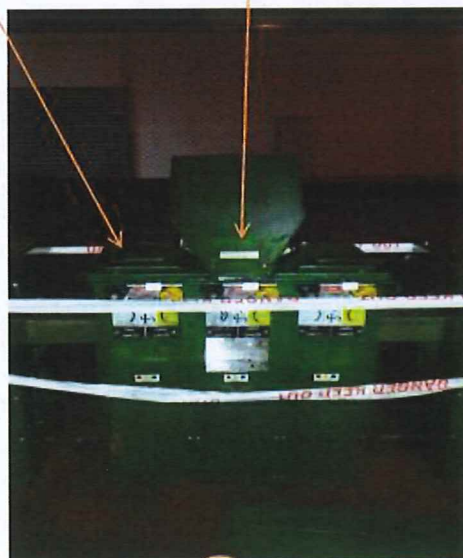
Appendix 1 additional equipment photographs

Tasman Quay ABB SDAF3 Unit



Switch S4632 was operated to phase out replacement RMU9290

Fuse Unit S4628 failed approx. 2 secs after S4632 was operated

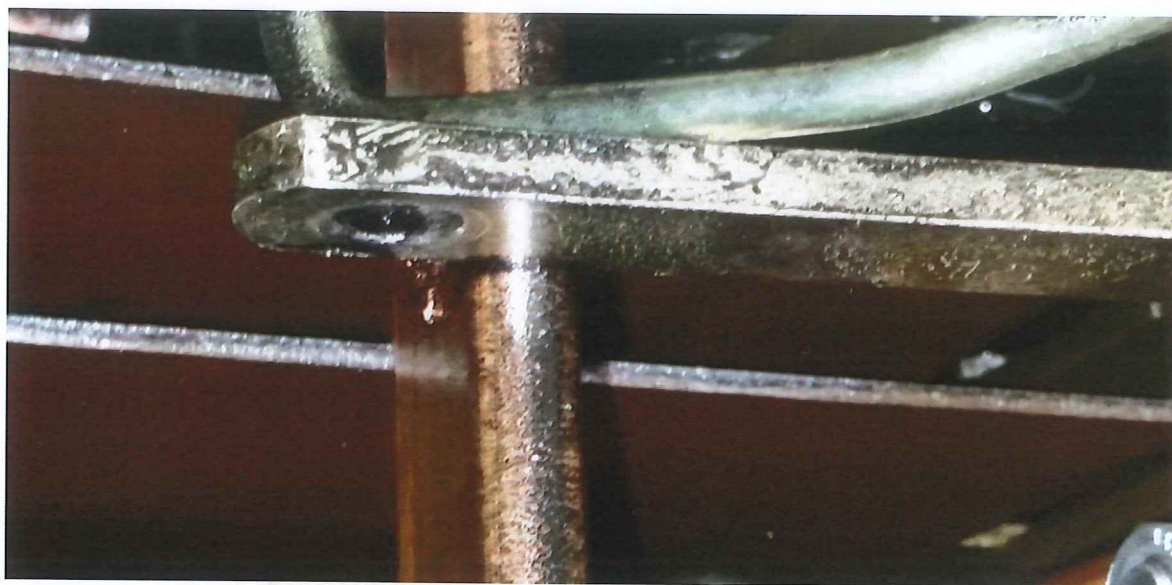


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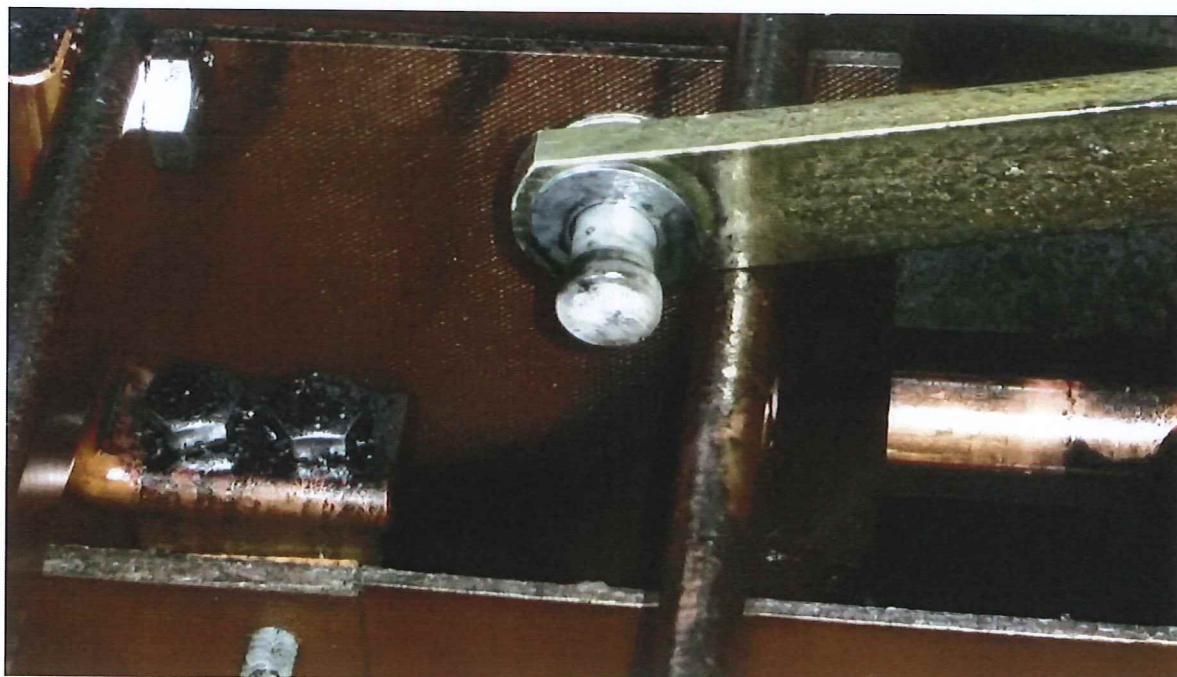
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When the equipment lid was removed the LH fuse carrier support arm was in contact with the yellow phase BUS and no pin could be found

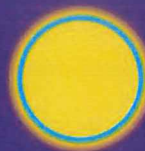


The RH fuse carrier arm still had a pin connected to the arm



SAFETY NOTICE

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RMU side view showing bent lid

