



PREVENTATIVE MAINTENANCE PROCEDURES

Introduction

This document is provided as a guide to maintenance of electrical switchboards only.

As detailed in AS3439.1 2002 clause 5.3, 'it is the responsibility of the owner to institute a system of maintenance. The manufacturers recommendations should be addressed as well as recommendations in AS2467 considered, in a planned preventative maintenance programme'.

A well-executed maintenance programme will provide the following benefits;

1. Longer life of the switchboard and less switchgear replacements
2. Less risk of unexpected shutdowns and failures
3. Reduction in the risk of injury and damage to property
4. Reduced repair time, corrective action can be planned and scheduled to a more opportune time.
5. Good record keeping, so that maintenance can be focused in areas that are needed most.

Recommendations

All switchboards, including newly commissioned switchboards, should be inspected annually.

Maintenance should only be carried out by a qualified electrician in accordance with local regulations. Warning: there is an element of risk with all electrical work, no maintenance work should be carried out on a switchboard unless it has been isolated and made safe.

	Recommended Annual Maintenance
Item	Description
1	Check Switchboard condition (check for weather/mechanical damage, rodent activity)
2	Check that doors and/or covers and installed correctly and seals are in good condition
3	Clean air filters on vents and fans if fitted. If heater is fitted on outdoor board check operation
4	Isolate the switchboard check tightness of all bolts and connections
5	Visually inspect cable connections (check for signs of over-heating, over current/loose connection)
6	Check insulation for signs of cracking, tracking or other damage
7	If switchboards are mounted outdoors check for condensation
8	Check condition of busbar, supports/insulators and covers
9	Visually inspect condition and operation of electrical switchgear and equipment
10	Check status of Surge Arrestors & filters if fitted
11	Check operation of meters and indicators
12	Check Legend cards are accurate to circuits installed, update as necessary
13	A thermal-graphic survey should be carried out to check for hot spots and other possible issues
14	Report and/or rectify any issues found during inspection and thermal-graphical survey
15	Record maintenance work carried out in a schedule or log book kept with the switchboard

Note the above checklist may not cover all types of switchboards and applications.

More frequent checks may be necessary depending on environmental conditions and frequency of use.



ADDITIONAL MAINTENANCE INFORMATION

Switchboard documentation

All switchboards are provided with drawings including a general arrangement, single line diagram, technical notes, construction notes and equipment list. The equipment list details all the information necessary for identification of switchgear that may need to be replaced. As supplier information is available via the internet we do not provide catalogues for maintenance manuals.

Switchgear, busbar and cable connections

All connections should be checked for tightness.

The recommended torque settings for high tensile bolts are as follows.

BOLT SIZE	TORQUE SETTING
M6	9NM
M8	22NM
M10	44NM
M12	77NM

Note: check manufacturers data for torque setting of connections on switchgear such as circuit breakers. e.g Schneider MCCBs as per table below

SCHNEIDER MCCB TYPE	TORQUE SETTING
NSX100	10NM
NSX250	15NM
NSX400/630	50NM

Maintenance After 10 years

Recommended Maintenance After 10 Years	
Item	Description
	Additional items to check over and above recommended Annual maintenance
1	Check switchboard enclosure, locks and seals. Replace as necessary
2	Check cable and busbar insulation, perform insulation testing. Replace\Rectify as necessary
3	Overhaul switchgear, check and do full function testing. Replace faulty switchgear as necessary
	Note: if switchgear is obsolete and factors like availability of spare parts or reliability is a problem a new switchboard maybe a more cost-effective option.

Note: all electronic equipment which may affect this test or be damaged by high voltage should be removed from the circuit before carrying out insulation testing.

