

## Suggested ISMP Format & Guide for Inspection of High Voltage Customer Installation



The following information has been compiled to assist the High Voltage (HV) Customer with the preparation of an Installation Safety Management Plan (ISMP).

- The Suggested ISMP Format document is provided as a guide and does not remove the responsibility from the HV Customer to include all relevant information in their ISMP. (It is the HV Customers responsibility to demonstrate that they have fulfilled their responsibilities as a HV customer).
- Ausgrid does not undertake to approve any ISMP that is presented nor does Ausgrid assume responsibility for the accuracy or completeness of such Customer documentation. While Ausgrid may acknowledge the presentation of a plan and perhaps comment on it, this is not to be construed as an approval or verification of the completeness of such a plan.
- Some of the information required to be included in this ISMP may already form part of a larger “site” ISMP, as such those items can be made reference to in this ISMP.
- The following documents may be of assistance when preparing the ISMP:
  - Ausgrid’s ES1 Document- “Premise Connection Requirements” (In particular clauses 4:1 and 5:1).
  - The Service & Installations Rules of NSW, In particular section 7 (attachments “A” and “B”).
  - Ausgrid’s NS195 Document-High Voltage Customer Connections” (HVC’s).
  - AS/NZS 3000 Wiring Rules-(In particular Section 7.6 High Voltage Electrical Installations)
  - Current Work Health and Safety Legislation (Acts and Regulations)
  - Electricity Supply Act.
  - ISSC3 - Guide for the Management of Vegetation in the Vicinity of Electricity Assets
- The “Guide for Inspection of High Voltage Customer Installations” form is used by Ausgrid’s Installation Inspectors as a guide ONLY and should be treated as such by the HV Customer in preparation of documentation, the ISMP and work on the site prior to inspection. (Additional documentation/site works, not detailed in this document, may also be required by the Installation Inspectors).
- The HV Customer should engage a qualified electrical professional to ensure that the Installation is safe and meets current Standards and Guidelines.

	Comments
<b>1. DESCRIPTION OF HV INSTALLATION</b>	
Supply arrangements/retailer/NMI/metering etc	
<b>2. REVIEW</b>	
Frequency of Review of ISMP	
<b>3. DOCUMENTS/STANDARDS</b>	
Standards/Reference Documents etc, used as reference for the ISMP	
<b>4. SINGLE LINE DIAGRAM (INCLUDING PROTECTION SCHEMES)</b>	
Switch/CB/TX/Equipment etc, details & characteristics	
Equipment labelling	
<b>5. PROTECTION</b>	
Details of Loading to include the maximum load value, load characteristics, duty cycles and large motor start data.	
Fuse Details: make/type (including breaking capacity), load current rating and time-current curve.	
Circuit Breaker details: <ul style="list-style-type: none"> <li>a) Control &amp; Protection Schematic for Incoming Circuit Breaker.</li> <li>b) Make/type (including breaking capacity), load current rating.</li> <li>c) Protection Relay Details: make/type, setting range, characteristic curves, thermal ratings of input circuit, tripping and control supply details.</li> <li>d) Protection Current Transformer (CT): make/type, primary/secondary current rating, CT class, short time rating, proposed location of C/T and length/size of secondary circuit wiring.</li> <li>e) NATA or equivalent certified accuracy tests.</li> </ul>	
Second Line Protection study to confirm grading.	
Voltage Transformer (VT) details: <ul style="list-style-type: none"> <li>a) Make/type, primary/secondary voltage rating, category of performance, rated burden, accuracy class, rated voltage factor/duration.</li> <li>b) NATA or equivalent certified accuracy tests.</li> </ul>	
<b>6. AUSGRID SYSTEM DIAGRAM</b>	
<b>7. SITE SPECIFIC SAFETY RULES-CUSTOMER</b>	
Procedures to ensure HV equipment is only accessible to authorised persons and only persons trained in the operation of the Installations HV equipment are permitted to perform switching and to issue access permits, authorising persons to work on isolated/earthed sections within the Installation.	
Operating Procedure/Switching Guidelines (Site Specific)	
Emergency Isolation	
Operation of Equipment (Isolation/Restoration/Energisation)	
Switchgear/equipment instructions (how to operate safely) (location of above instructions if not part of this ISMP)	
Use of tape/barriers/locks/tags etc and where they are located	
<b>8. CONTACTS - PLANNED &amp; EMERGENCY</b>	
Include Roles and responsibilities	
<b>9. HV AUTHORISED PERSONS/TRAINING</b>	
Proof of Qualifications and Training and familiarity with Installed equipment of Persons authorised to work/operate the HV Installation.	
Proof of Training in: <ul style="list-style-type: none"> <li>a) Resuscitation</li> <li>b) Release from live electricity</li> </ul>	

c) Rescue from pole/structure/elevated platform	
d) Rescue from confined space	
Record of Training/refresher training/accreditation procedure	
Record of Authorised persons having received a copy of the site specific Safety Rules	
Each Persons level of Authority for switching/operating etc	
Record of Training in the use of mats/screens, earthing of equipment, protection equipment familiarisation/operation etc.	
Calibration and test records of all equipment used for electrical testing on the Installation.	
<b>10. INDUCTION PROCEDURES FOR NON-EMPLOYEES</b>	
<b>11. INSPECTION/MAINTENANCE PROGRAM &amp; PROCEDURE</b>	
Identification of the equipment & Location	
Location of Equipment records including Main switchboard and Substation	
Equipment Assessment/Replacement/Refurbishment Schedule	
Inspection/Maintenance procedure:	
a) Substations	
b) Overhead Network	
c) Main Switchboards	
d) Underground Network	
Inspection/Maintenance plan	
Defect/Hazard Treatment	
<ul style="list-style-type: none"> <li>• The HVC should have a plan that documents the process that is used to track, escalate and eliminate all defects or hazards identified on their private network.</li> <li>• This process should reduce the risk so far as is reasonably practicable (SFAIRP) or where not reasonably practicable to reduce risks to as low as reasonably practicable (ALARP)</li> </ul>	
Protection scheme operation/inspection.	
Testing regime.	
<b>12. BUSHFIRE MITIGATION</b>	
<ul style="list-style-type: none"> <li>• Maintenance and Inspection program of overhead assets that are within a bushfire risk area</li> <li>• The HVC owner has an obligation to eliminate hazards associated with their electrical installation so far as is reasonably practicable (SFAIRP) or where not reasonably practicable, to reduce risks to as low as reasonably practicable (ALARP). This is to be completed before the nominated annual bushfire period.</li> <li>• Consideration of ISSC3 Guide for the Management of Vegetation in the Vicinity of Electricity Assets should be considered to assist in the mitigation of vegetation related defects (including the risk of fall in vegetation hazards) encroaching on HVC overhead assets.</li> </ul>	
<b>13. REPAIR/REPLACEMENT PROGRAM</b>	
Ageing/non-compliant equipment (testing/refurbishment/upgrade and replacement programs)	
<b>14. AUSGRID NOTIFICATION PRIOR TO PLANT EXTENSION/ALTERATION</b>	
Notification procedure, to Ausgrid, for alterations/extensions to the HV Installation	
Amend Safety rules, diagrams, switching instructions, maintenance plan, training etc to reflect addition/alteration.	
Provide tests for new/modified equipment	
<b>15. HAZARDS</b>	
Identification	
Site specific hazards/risks & mitigation/control measures/procedures	
General hazards/risks and mitigation/control measures/procedures	
Risk Matrix or equivalent	

Safe Work Method Statement (SWMS)	
Procedures for safe handling of equipment oils and other substances including environmental considerations	
Hazardous area/confined space procedures	
Procedures to mitigate the risk associated with mobile plant and earth moving equipment damaging overhead/underground cables.	
Bushfire risk including risk mitigation methodology for areas designated as Bushfire Prone land in accordance with Electricity Supply act 1995 section 53A,as amended in 2014 (see above point 12)	
<b>16. ACCESS PERMIT FORM</b>	
<b>17. OPERATING PROTOCOL</b>	