Title Carry out in-service visual inspection checks on substation auxiliary plant and equipment

Level 3 Credits 4

Purpose People credited with this unit standard are able, for substation auxiliary plant and equipment, to: prepare for visual inspection checks; carry out safety and operational inspection checks; complete the inspection check report forms; and initiate requests for corrective action.

Classification Electricity Supply > Electricity Supply - Power System Maintenance

Available grade Achieved

Entry information

Critical health and safety prerequisites Core electrical theory is essential knowledge underpinning the performances required by this unit standard.

Explanatory notes

1 This unit standard can be assessed against in a workplace environment, or in a training or educational environment if simulated equipment response and examples are able to be provided, or in a combination of both environments.


3 The phrase in accordance with industry requirements is implicit in all outcomes and evidence requirements in this unit standard.

4 Industry requirements include all asset owner requirements; manufacturers’ specifications; and enterprise requirements which cover the documented workplace policies, procedures, specifications, business, and quality management requirements relevant to the workplace in which assessment is carried out.
5 All work practices shall meet documented enterprise maintenance standards, including the quality management requirements, and the documentation of activities, events, and decisions.

6 The range of this unit standard is limited to safety and operational service checks on substations auxiliary plant and equipment normally applied at electricity supply substations. Auxiliary plant and equipment is defined as being equipment that does not carry high voltage current, but provides service for main high voltage bus equipment such as pumps, compressors, battery banks, safety features, earth sticks, ladders, safety gloves, and equipment.

7 The following terms and abbreviations relate to this unit standard:

ER = Electricity Regulations.

Outcomes and evidence requirements

Outcome 1

Prepare for visual inspection checks of auxiliary plant and equipment.

Evidence requirements

1.1 The ‘check list’ for inspection and service of auxiliary plant and equipment is selected in terms of client requirements.

Range may include but is not limited to ‘check list’ requirements and identified by equipment make, type, and system number.

1.2 Operational reports are reviewed for any abnormal incidents.

Range may include but is not limited to reference to any recurring problems, especially those relating to design or material deficiencies.

1.3 Operational status of auxiliary plant and equipment is determined, and entry authority is obtained in terms of client requirements.

Range may include but is not limited to equipment releases where required.

Outcome 2

Carry out safety and operational inspection checks on substation auxiliary plant and equipment.
Evidence requirements

2.1 Equipment being inspected is identified with the associated ‘check list’, in terms of client requirements.

Range may include but is not limited to procedure sheets and manufacturer's manual, where appropriate, for – pumps, compressed air systems, battery banks, earth sticks, safety gloves, ladders, voltage detectors, enclosure security integrity, decondensation heaters.

2.2 Required safety and operational service checks of auxiliary plant and equipment are completed to the required standard.

Range may include but is not limited to – test operations, operation cyclo readings, insulation conditions, connections conditional, operational tests under load.

Outcome 3

Complete inspection check report forms.

Evidence requirements

3.1 Recorded results of safety and operational inspection checks are analysed.

Range may include but is not limited to – the results being provided in a manner approved by the client, analysis of the inspection results, trends are noted.

3.2 Any important report items requiring further urgent attention are noted for further action.

Range may include but is not limited to – items which will cause a hazard to staff or public if not corrected urgently, danger to equipment, loss of supply, lower reliability or system security, environmental issues, ‘non-compliant’ items ER regulation 69.

Outcome 4

Initiate request for corrective action.

Evidence requirements

4.1 The necessary documentation, with details of defective equipment, is completed.

Range may include but is not limited to an evaluation of the cause of the defect.
4.2 Documentation of the recommended corrective action is provided for each defect.

Range may include but is not limited to recommendations for further investigation where it proves impossible to readily identify the cause of the defect.

4.3 Documentation is transmitted to the client within the time frame prescribed.

Range may include but is not limited to the requisite documentation to obtain approval to carry out repairs or recommendations for further investigation.

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**Planned review date**

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**Consent and Moderation Requirements (CMR) reference** 0120


**Please note**

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMRs). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.
Comments on this unit standard

Please contact the Electricity Supply Industry Training Organisation info@esito.org.nz if you wish to suggest changes to the content of this unit standard.