Title | Operate boiler electrostatic precipitators in a thermal electricity generation power station
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Level | 4
Credits | 2

**Purpose**
People credited with this standard are able to: demonstrate knowledge of boiler electrostatic precipitators systems and controls; operate and monitor boiler electrostatic precipitators systems; and identify and respond to deviations.

**Classification**
Electricity Supply > Electricity Supply - Thermal Operations and Control

**Available grade**
Achieved

**Prerequisites**
Unit 17423, *Operate coal firing in a thermal electricity generation power station*; or demonstrate equivalent knowledge and skills.

**Guidance Information**

1. This unit standard is intended for, but not restricted to, workplace assessment. The range statements within the unit standard can be applied according to industry specific equipment, procedures and processes.

2. Safety of personnel and plant must be a priority throughout the assessment. If the safety requirements are not met the assessment must stop and the candidate will be assessed as not yet competent.

3. Performance and work practices in relation to the outcomes and performance criteria must comply with all current legislation, especially the Electricity Act 1992, and any regulations and codes of practice recognised under that statute; the Health and Safety at Work Act 2015; and the Resource Management Act 1991. Electricity supply industry codes of practice and documented industry procedures include the *Safety Manual – Electricity Industry (SM-EI)* Wellington: Electricity Engineers’ Association. A full list of current legislation and industry codes is available from Connexis Infrastructure ITO.

4. ‘Industry requirements’ include all the documented workplace policies, procedures, specifications, business and quality management requirements relevant to the workplace in which assessment is carried out.

5. The term ‘operate’ is defined as manual operation and testing of thermal electricity generation plant including plant adjustments, isolations and restorations.
Outcomes and performance criteria

Outcome 1
Demonstrate knowledge of boiler electrostatic precipitator systems and controls.

Performance criteria

1.1 The location, operation and components of plant boiler electrostatic precipitator systems are described in accordance with industry requirements.
   Range includes but is not limited to – zones, collecting electrodes, emitting electrodes, rappers, high voltage transformer rectifier units, hoppers, control boards, gas distribution screens, inlet and outlet dampers.

1.2 Boiler electrostatic precipitator controls are described in accordance with industry requirements.
   Range includes but is not limited to – cell selection modes, rapping modes.

1.3 Operating parameters are identified in accordance with industry requirements.
   Range includes but is not limited to – amps, volts, levels.

Outcome 2
Operate and monitor boiler electrostatic precipitator systems.

Performance criteria

2.1 Current status of system is identified in accordance with industry requirements.

2.2 Operations are carried out in accordance with industry requirements.
   Range includes but is not limited to – isolations, restorations, routine tests, earthing of electrostatic precipitators.

2.3 Operating and monitoring actions are logged in accordance with industry requirements.

2.4 Operating decisions are determined in accordance with plant status and industry requirements.
   Range includes but is not limited to – plant availability and service condition, resource consent and loading limits, impact on operations, options.

2.5 Plant and equipment are monitored in accordance with industry requirements.
Outcome 3

Identify and respond to deviations in the normal operation of boiler electrostatic precipitators.

Performance criteria

3.1 Deviations from normal operating conditions are identified, logged and acted upon in accordance with industry requirements.

Range includes but is not limited to – electrode malfunctions, failed hopper heaters, rapper abnormalities, oil level abnormalities.

3.2 Plant safety, fire and emergency procedures are followed in accordance with industry requirements.

3.3 Isolations are prepared and checked in accordance with site procedures.

Range includes but is not limited to – Castell key system, earthing, confined space entry permit, atmosphere check.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

<table>
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<tr>
<th>Process</th>
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<td>Registration</td>
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<td>29 August 2000</td>
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Consent and Moderation Requirements (CMR) reference 0120

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.