



Australian Government

UEPOPS101 Operate and monitor HRSG hot gas control system

Release: 1

UEPOPS101 Operate and monitor HRSG hot gas control system

Modification History

Release 1. This is the first release of this unit of competency in the UEP Electricity Supply Industry – Generation Sector Training Package Release 2.0.

Application

This unit involves the skills and knowledge required to operate, inspect and monitor heat recovery steam generator (HRSG) hot gas control systems.

HRSGs are used to recover heat from hot gas streams which is then supplied to a steam turbine to generate additional electric power. The hot gas control system is used to operate the internal gas return and bypass system in the HRSG.

Competency in this unit requires the ability to plan work, operate HRSG plant, test HRSG plant, analyse HRSG plant faults, monitor and inspect HRSG plant, and complete all documentation. Individuals will, in general, work under supervision, in a power generation facility as an operator.

Power generation plant operators are trained and authorised to isolate, prepare plant and issue permits to work.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

There are no prerequisite units

Competency Field

Operations

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

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| 1 Plan and prepare work | <ul style="list-style-type: none">1.1 Work health and safety (WHS)/occupational health and safety (OHS) regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, environmental requirements and workplace procedures are identified, applied and monitored1.2 Work requirements are identified from relevant personnel and documentation in accordance with workplace procedures1.3 Documentation to determine HRSG hot gas control system plant status is assessed and evaluated in accordance with workplace procedures1.4 Inspection and field preparation for HRSG hot gas control system plant service is carried out in accordance with manufacturers' recommendations and specifications, and workplace procedures1.5 HRSG hot gas control system plant operational prerequisites are established in accordance with manufacturers' recommendations and specifications, and workplace procedures1.6 Sequence for recommissioning of HRSG hot gas control system plant is determined to suit existing circumstances in accordance with workplace procedures |
| 2 Operate HRSG hot gas control system plant | <ul style="list-style-type: none">2.1 HRSG hot gas control system plant is operated in accordance with manufacturers' recommendations and specifications, and workplace procedures2.2 HRSG hot gas control system plant is monitored and observed to detect deviations from normal operating conditions in accordance with workplace procedures2.3 Corrective actions are taken to rectify HRSG hot gas control system plant abnormalities in accordance with manufacturers' recommendations and specifications, and workplace procedures |
| 3 Test and analyse HRSG hot gas control system plant operation | <ul style="list-style-type: none">3.1 Operational tests are performed in accordance with workplace procedures3.2 HRSG hot gas control system plant is observed for correct operational response in accordance with workplace procedures |

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| | 3.3 | HRSG hot gas control system plant is returned to required operational status upon completion of test in accordance with workplace procedures |
| | 3.4 | Cause of abnormal HRSG hot gas control system plant operating conditions are identified by analysing technical and operational information in accordance with workplace procedures |
| 4 Monitor and inspect HRSG hot gas control system plant | 4.1 | HRSG hot gas control system plant to be monitored and inspected is physically identified in accordance with workplace procedures |
| | 4.2 | HRSG hot gas control system plant is monitored and inspected for normal operation and to detect deviations in accordance with workplace procedures |
| 5 Complete documentation | 5.1 | HRSG hot gas control system plant problems, movements, abnormalities and status are reported in accordance with workplace procedures |
| | 5.2 | Documentation is updated in accordance with workplace procedures |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEP Electricity Supply Industry – Generation Sector Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS333 Operate and monitor HRSG hot gas control system.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

Assessment Requirements for UEPOPS101 Operate and monitor HRSG hot gas control system

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least two separate occasions and include:

- analysing heat recovery steam generator (HRSG) hot gas control system plant faults using data analysis techniques and tools
- applying work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency procedures
 - risk control measures
 - safe working practices
- communicating with personnel
- completing documentation using recording procedures
- identifying HRSG hot gas control system plant status
- implementing regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- interpreting manuals
- monitoring and inspecting HRSG hot gas control system plant operations
- operating HRSG hot gas control system
- organising resources
- preparing and planning work
- recognising and responding to abnormal HRSG hot gas control system plant operating conditions
- testing HRSG hot gas control system plant operationally using diagnostic and testing techniques
- using permits working with HRSG hot gas control system plant and equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- arrangements of power production plant

- HRSG hot gas control system plant and equipment, location and operating parameters
- HRSG hot gas control system plant status
- manuals
- permit to work system
- regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- WHS/OHS requirements, including:
 - emergency procedures
 - risk control measures
 - safe working practices
- workplace documentation
- workplace policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

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