



Australian Government

UEPOPS333 Operate and monitor HRSG hot gas control system

Release: 1

UEPOPS333 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 Generation Training Package.

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

Competency in this unit requires the ability to plan work, operate heat recovery steam generator plant, test heat recovery steam generator plant, analyse heat recovery steam generator plant faults, monitor and inspect heat recovery steam generator 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 typically 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.

Note: Workplace practice

The application of the skills and knowledge described in this unit may require a licence or training permit to practice in the workplace where work is carried out on gas and electrical installations. Additional conditions may apply under state and territory legislative and regulatory licensing requirements.

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.

1 Plan and prepare work

- 1.1 Safety issues related to operating and monitoring Heat Recovery Steam Generator (HRSG) hot gas control system plant is identified, in accordance with workplace procedures and Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) regulations and legislative requirements
- 1.2 Work requirements are identified, in accordance with workplace procedures, and from appropriate personnel and documentation
- 1.3 Documentation to determine HRSG hot gas control system plant status is assessed and evaluated, in accordance with workplace procedures
- 1.4 Inspection and field preparation for HRSG hot gas control system plant service is carried out, in accordance with workplace procedures and manufacturers' recommendations
- 1.5 HRSG hot gas control system plant operational prerequisites are established, in accordance with workplace procedures and manufacturers' recommendations
- 1.6 Sequence for recommissioning of HRSG hot gas control system plant is determined to suit existing circumstances, in accordance with workplace procedures and site requirements

2 Operate HRSG hot gas control system plant

- 2.1 HRSG hot gas control system plant is operated, in accordance with workplace procedures and manufacturers' operating recommendations
- 2.2 HRSG hot gas control system plant is monitored and observed, in accordance with workplace procedures, to detect deviations from normal operating conditions
- 2.3 Corrective actions are taken to rectify HRSG hot gas control system plant abnormalities, in accordance with workplace procedures and manufacturers' recommendations

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| 3 Test HRSG hot gas control system plant operation | 3.1 Operational tests are performed, in accordance with workplace procedures |
| | 3.2 HRSG hot gas control system plant is observed for correct operational response, in accordance with workplace procedures |
| | 3.3 Corrective action is taken, in accordance with workplace procedures, when response, does not meet with documentation, HRSG hot gas control system plant integrity or personnel safety requirements |
| | 3.4 HRSG hot gas control system plant is returned to required operational status upon completion of test, in accordance with workplace procedures |
| 4 Analyse HRSG hot gas control system plant faults | 4.1 Cause of abnormal HRSG hot gas control system plant operating conditions are identified, in accordance with workplace procedures, and by analysing technical and operational information |
| | 4.2 Corrective action is taken, in accordance with workplace procedures |
| | 4.3 HRSG hot gas control system plant integrity and personnel safety is maintained, in accordance with workplace procedures, and in consultation with appropriate personnel and technical and operational documentation |
| 5 Monitor and inspect HRSG hot gas control system plant | 5.1 HRSG hot gas control system plant to be monitored or inspected is physically identified, in accordance with workplace procedures |
| | 5.2 HRSG hot gas control system plant is monitored or inspected, in accordance with workplace procedures, for normal operation or to detect deviations |
| | 5.3 Corrective action is taken, in accordance with workplace procedures |
| 6 Complete documentation | 6.1 HRSG hot gas control system plant problems, movements, abnormalities and status are reported, in accordance with workplace procedures |
| | 6.2 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 Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS333B Operate and monitor H.R.S.G. 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 UEPOPS333 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 Generation Training Package.

Performance Evidence

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

- analysing 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 legislation, industry standards, codes of practice and regulations
- interpreting manufacturers' specifications and 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 Heat Recovery Steam Generator (HRSG) hot gas control system plant operationally using diagnostic and test techniques
- using permit to work system
- working with HRSG hot gas control system plant and/or equipment

Knowledge Evidence

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

- HRSG hot gas control system plant and equipment, its location and operating parameters

- HRSG hot gas control system plant status
- legislation, industry standards, codes of practice and regulations
- manufacturers' specifications and manuals
- Permit to work system
- typical arrangements of power production plant
- WHS/OHS legislated requirements including:
 - emergency procedures
 - risk control measures
 - safe working practices
- workplace documentation
- workplace policies and procedures

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

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.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

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 currently used in industry
- applicable documentation including workplace procedures, industry standards, equipment specifications, regulations, codes of practice and operation manuals.

Links

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