



Australian Government

UEPOPS422 Schedule generation

Release: 1

UEPOPS422 Schedule generation

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 undertake the scheduling of generation plant to meet forecast demand.

Scheduling is the process of optimising plant operations in the power generation process. The aim is to enhance overall energy delivery over different planning and time horizons.

Competency in this unit requires the ability to forecast from market data, identify generation unit availability and capability, prepare generation unit schedules and implement generation unit schedules. Individuals will, in general, work under supervision, in a power generation facility as an operator with responsibility for scheduling. 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

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

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

1 Forecast from market data

- 1.1** Information on all variables which have the potential to affect generation demand is obtained and employed, in accordance with workplace procedures, to enable a forecast
- 1.2** Forecast prediction is based on the interpretation of relevant information, in accordance with workplace procedures
- 1.3** Forecast outcomes are produced in a time frame that enables electricity system security and operational criteria to be maintained, in accordance with workplace procedures
- 1.4** Forecast prediction is continuously assessed, in accordance with workplace procedures, against real time trends and adjustments are made

2 Identify unit availability and capability

- 2.1** Information integrity is confirmed, in accordance with workplace procedures, and deficiencies are detected and rectified
- 2.2** Information is processed and recorded, in accordance with workplace procedures, in a time frame that enables scheduling to take place
- 2.3** Information on all factors which have the potential to affect generation unit status is obtained, in accordance with workplace procedures
- 2.4** Communication is maintained with remote and independent power generators, in accordance with workplace procedures
- 2.5** Power generation plant maintenance commitments are incorporated into setting priorities for committing generation units scheduling, in accordance with workplace procedures
- 2.6** Generation plant testing commitments are incorporated into setting scheduling priorities, in accordance with workplace procedures for committing units
- 2.7** Power station generation plant problems are accurately assessed, in accordance with workplace procedures, for impact on generation unit commitments and scheduling

- requirements
- 3 Prepare generation unit schedules**
- 3.1** Base load generation is scheduled, in accordance with workplace procedures and contractual obligations
- 3.2** Electricity system security criteria is applied and met, in accordance with workplace procedures
- 3.3** Schedule is produced and applied, in accordance with workplace procedures, to allow for power generation plant movements to occur within required timeframes
- 4 Implement generation unit schedules**
- 4.1** Circumstances resulting in unexpected changes to demand are identified and managed, in accordance with workplace procedures and electricity system requirements
- 4.2** Transmission system losses are identified and minimised, in accordance with workplace procedures and electricity system requirements
- 4.3** Transmission and generation system status changes are identified and accommodated, in accordance with workplace procedures and electricity system requirements
- 4.4** Fuel supply status changes are identified and accommodated, in accordance with workplace procedures and electricity system requirements
- 4.5** Generation outputs are monitored, in accordance with workplace procedures and electricity system requirements
- 4.6** Power generation plant problems are assessed, in accordance with workplace procedures, and impact on generation unit scheduling and electricity system requirements
- 4.7** Electricity system fault levels and transmission plant load levels are identified and not exceeded, in accordance with workplace procedures and electricity system requirements
- 4.8** Scheduling of generation units is timed to optimise electricity system efficiency, in accordance with workplace procedures
- 4.9** Scheduling information is recorded and communicated to all stakeholders, in accordance with workplace

procedures and electricity system requirements

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 UEPOPS422B Schedule generation.

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 UEPOPS422 Schedule generation

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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, performance criteria and range of conditions on at least two separate occasions and includes:

- applying Work, Health and Safety (WHS)/Occupational Health and Safety (OHS) requirements including:
 - emergency procedures
 - risk control measures
 - safety working practices
- communicating with personnel
- distinguishing power generation plant status
- forecasting load profiles
- identifying scheduling plant to meet demand
- implementing legislation, industry standards, codes of practice and regulations
- preparing and implementing generation schedules
- recognising generation unit status including availability and capability
- scheduling generating units to maintain optimum electricity system efficiency
- using data analysis techniques and tools

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:

- electricity system operating instructions
- generation schedules
- generation unit status
- legislation, industry standards, codes of practice and regulations
- load profile forecasting
- operating criteria including fuel strategies
- operation and loading characteristics of generation plant
- power generation plant status
- schedule techniques

- scheduling plant and equipment, its location and operating parameters
- typical arrangements of power production plant including operating parameters
- WHS/OHS legislated requirements including:
 - emergency procedures
 - safety working practices and procedures
 - risk control measures
- 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.

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