



Australian Government

UEPOPS006 Collect and analyse hydrological and meteorological data

Release: 1

UEPOPS006 Collect and analyse hydrological and meteorological data

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 predict and determine inflows in catchment areas within a hydro-powered electricity generation system.

Inflow forecasting for hydro-powered electricity generation systems depends on several elements such as weather, snow cover, ground conditions and the run-off process in catchment areas. All these elements help give insight into future water availability.

Competency in this unit requires the ability to plan for work, plan and prepare to conduct data collection, undertake data collection, verify and report data collection and complete documentation. Individuals will, in general, work under supervision, in a power generation facility as an operator.

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

Pre-requisite Unit

UEPOPS122 Perform process plant inspection

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 for work related issues | 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 monitored |
| | 1.2 Work requirements are identified from relevant personnel and documentation in accordance with workplace procedures |
| | 1.3 Preoperational check on hydrological and meteorological equipment is carried out in accordance with workplace procedures |
| 2 Plan and prepare to conduct data collection | 2.1 Hydrological and meteorological equipment is selected to conduct data collection in accordance with workplace procedures |
| | 2.2 Hydrological and meteorological equipment is recalibrated for preparation of survey in accordance with manufacturers' recommendations and specifications, and workplace procedures |
| | 2.3 Potential hydrological and meteorological hazards are assessed, and risk control measures are implemented in accordance with workplace procedures |
| | 2.4 Meteorological charts and data are assessed for use in accordance with workplace procedures |
| 3 Undertake data collection | 3.1 Measurement site in catchment area is established in accordance with workplace procedures |
| | 3.2 Hydrological and meteorological instrumentation is set out in the catchment area in accordance with manufacturers' recommendations and specifications, and workplace procedures |
| | 3.3 Measurements are taken in accordance with workplace procedures |
| | 3.4 Measurements are recorded in accordance with workplace procedures |
| | 3.5 Tools and equipment are cleaned and stored in accordance with workplace procedures |
| 4 Verify and report data | 4.1 Measurements are analysed to verify accuracy of |

findings, and data is entered into data system in accordance with workplace procedures

- 4.2** Work order requirements are completed 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 UEPOPS431 Collect and analyse hydrological and meteorological data.

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 UEPOPS006 Collect and analyse hydrological and meteorological data

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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 meteorological and hydrographical data using 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
- completing documentation
- coordinating the operation of meteorological and hydrographical instrumentation and equipment to:
 - conduct and calculate depth measurements
 - determine inflows based on snow melt
 - measure snow depth and stream flows
- displaying safety procedures in remote locations, including survival techniques
- implementing regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- planning and preparing to conduct data collection
- recognising abnormal meteorological and hydrographical conditions
- interpreting manuals
- undertaking data collection
- verifying and reporting data collection.

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:

- calibration of meteorological and hydrographical instrumentation
- inflow forecasting
- interpretation of hydrological and meteorological data using analysing tools and techniques

- interpreting meteorological charts
- manuals
- meteorological and hydrographical equipment, location and operating parameters
- personal safety and working alone in remote locations
- regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- snow depth gauging
- stream gauging
- survival techniques, including hypothermia and snake avoidance
- water quality monitoring
- WHS/OHS requirements, including:
 - risk control measures
 - emergency procedures
 - 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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