



Australian Government

Assessment Requirements for AHCIRG341 Operate and maintain irrigation pumping systems

Release: 1

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Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 4.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit. There must be evidence that the individual has operated and maintained irrigation pumping equipment on at least two occasions and has:

- selected tools and equipment appropriate to the scope of works
- applied workplace health and safety requirements
- carried out the following operation and maintenance tasks:
 - inspected and cleaned pumps
 - adjusted pump settings
 - primed a pump
 - checked and cleared or replaced filters
 - replaced worn components, including pump seals, liners and impellers
 - tensioned fasteners and y-belts
 - monitored pressures and flows
 - used amperage testing equipment
 - replaced belts
 - set valves and checked for wear and leakages
 - cleared blockages
 - checked and topped-up fluids, including coolants, lubricants and hydraulic oils
 - checked oil quality and levels
 - lubricated pumps
- performed start up and shutdown procedures
- maintained clean work area and equipment.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- workplace requirements applicable to health and safety in the workplace for operating and maintaining irrigation pumping systems
- advantages and disadvantages of each pump type
- pump performance and fault finding
- pumps and their application in irrigation, such as centrifugal, vertical turbine, submersible and propeller
- pumps that are suitable as booster and floating pumps
- automatic pump switches, including:
 - timers,
 - pressure switches,
 - irrigation controllers, and
 - flow switches
- properties of water including pressure and flow rates
- irrigation pump system operation and maintenance manual
- reading pump gauges and controls
- amperage testing equipment
- service and maintenance requirements of pumps
- basic principles of hydraulics flow versus pressure
- discharge and flow rates
- impellers, rotors and stators
- pump components and their principles of operation
- valves and their uses.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - irrigation pump system operation and maintenance manual
 - irrigation pump system equipment
 - irrigation pump system oil, lubricant, coolant and cleaning agents
 - amperage testing equipment
 - personal protective equipment applicable to operating and maintaining irrigation pumping systems
- specifications:
 - work instructions and workplace procedures applicable to operating and maintaining irrigation pumping systems
 - workplace requirements applicable to health and safety in the workplace and operating and maintaining irrigation pumping systems
 - irrigation pump system tools and equipment and procedures
 - servicing and maintenance recording procedures

- environmental procedures for collection, treatment, disposal or recycling of waste
- timeframes:
 - according to job requirements.

Assessors of this unit must satisfy the requirements of assessors in applicable vocational education and training, legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>