1. Module details

Module name

Reduce the energy consumption within a building – Work performance

Module duration

The time taken to complete this module will vary depending on the opportunities in the work place for student's to develop their skills and the method used to obtain evidence of competent performance. Where evidence is obtained through formalised assessment event(s) under simulated conditions it would normally take a student 4 hours to successfully complete the module.

Module code

NEWP 413 A

Discipline code

2. Module purpose

This module provides methods and criteria for gathering evidence that shows a person has achieved the levels of performance specified in Unit NES 413A "Reduce the energy consumption within a building".

3. Prerequisites

This module shall be undertaken in conjunction with modules that provide the knowledge and skills underpinning performance.

4. Relationship to competency standards

This module supports Unit NES 413A "Reduce the energy consumption within a building" of the Electrotechnology Competency Standard

5. Assessment strategy

Assessment methods

Evidence of competent performance may be gathered from real work activities, which are recorded by the use of work reports, logbooks, profiles or portfolios. The student's immediate supervisor shall confirm the accuracy of the evidence the student presents in this way. The supervisor must be competent in the area.

Conditions of assessment

Evidence of competent performance can be gathered from the workplace or a simulated work environment. A simulated environment would necessarily include equipment and wiring systems similar to those encountered in a real workplace. As well as the generic aspects of competency, assessment should take into account variations between particular industry sectors and different enterprises. For example equipment used in process industry will be different in some respects to that used in mining.

Assessment criteria	In judging work performance it is essential that evidence regarding the following aspects of competency is considered. • Performance is autonomous and to requirements and **occurs on at least 2 occasions for each of the following elements:** – Plan and prepare to reduce the energy consumption within a building – Reduce the energy consumption within a building – Complete the reduction process • **and in relation to the following apparatus and associated circuits and systems:** Energy monitoring; energy reduction; automatic timing control; sensor control; spatial design; natural lighting; ventillation; insulation; shading. Photovoltaic cells; arrays; solar tracking systems; wind energy conversion equipment, micro-hydro systems; hybrid systems; storage cells and batteries; electronic inverters; control circuitry; standby generation equipment; motors and generators used in renewable energy applications; solar thermal equipment; fuel cells. Any three of the above methods and techniques must be appropriately demonstrated on-the-job in real work activities. The remainder may be achieved by the combined effect of relevant off-the-job training and the skill transfer from prior satisfactory completion of other apparatus and associated systems and circuits. • Applying **techniques, procedures, information and resources** relevant to performance. Judgement should be made on evidence gathered from a number of events and over a period showing the development of competent work performance.
Resource requirements	Resources should be sufficient for participants to carry out activities, from which evidence may be gathered, on an individual basis. This will include access to tools, equipment, standards and other documents that are necessary to perform the activities required.
Occupational health and safety requirements	A safe and healthy environment will be provided for participants and assessors as well as safety procedure with regard to assessment activity.