



## STUDENT INFORMATION GUIDE

### Electrical Equipment in Hazardous Areas

#### About Future Skills

Future Skills is an industry owned and operated registered training organisation, specialising in post trade electrical and work health and safety training in Queensland and the Northern Territory. We have scope to deliver and assess against a range of qualifications in these areas, including Electrical Equipment in Hazardous areas training, and the UEE42611 Certificate IV in Hazardous areas – Electrical national industry qualification. Our national training provider number is 32052 (refer to [www.training.gov.au](http://www.training.gov.au) for further information).

#### About this Program

This training program is designed to provide you with the practical skills and knowledge to be able to select, install, commission, maintain and test explosion-protected equipment and systems for control and monitoring of plant and processes. The program is mapped directly to the *AS/NZS 4761.1 Competencies for working with electrical equipment for hazardous areas – Units of competency* and covers gas atmospheres, dust atmospheres and pressurisation.

#### Licensing Requirements:

In order to enrol in the full Electrical Equipment in Hazardous areas (EEHA) you **MUST** hold a current electrical mechanic or electrical mechanic fitter's licence.

Engineers who do not hold an electrical licence will receive a "Statement of Attainment" for reporting on the integrity of explosion-protected equipment in a hazardous area. A 'Statement of Completion' will be issued for the remainder of the course.

Engineers who complete the Certificate IV in Hazardous areas – Electrical upgrade course will also be eligible for a number of more generic supervisory related competencies.

#### Course Structure

The objective of this post trade course is to provide existing licensed electricians with the skills and knowledge to install, attend to breakdowns, maintain, test and conduct visual and detailed inspections in hazardous areas and installations relating to gas and dust atmospheres and pressurisation.

The course is comprised of a total of seventeen (17) units of competency, all of which are specific to hazardous areas:

Student Information Guide  
Electrical Equipment in Hazardous Areas (EEHA)  
Future Skills Limited  
Version 1.1 June 2016  
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- UEENEEM080A Report on the integrity of explosion-protected equipment in a Hazardous Areas
- UEENEEM020A Attend to breakdowns in hazardous areas - Gas atmospheres
- UEENEEM021A Attend to breakdowns in hazardous areas - Dust atmospheres
- UEENEEM022A Attend to breakdowns in hazardous areas - Pressurisation
- UEENEEM024A Install explosion-protected equipment and wiring systems - Gas atmospheres
- UEENEEM025A Install explosion-protected equipment and wiring systems - Dust atmospheres
- UEENEEM026A Install explosion-protected equipment and wiring systems - Pressurisation
- UEENEEM028A Maintain equipment in hazardous areas - Gas atmospheres
- UEENEEM029A Maintain equipment in hazardous areas – Dust atmospheres
- UEENEEM030A Maintain equipment in hazardous areas – Pressurisation
- UEENEEM039A Conduct testing of hazardous areas installations - Gas atmospheres
- UEENEEM040A Conduct testing of hazardous areas installations - Dust atmospheres
- UEENEEM041A Conduct testing of hazardous areas installations - Pressurisation
- UEENEEM042A Conduct visual inspection of hazardous areas installations
- UEENEEM044A Conduct detailed inspection of hazardous areas installations - Gas atmospheres
- UEENEEM045A Conduct detailed inspection of hazardous areas installations - Dust atmospheres
- UEENEEM046A Conduct detailed inspection of hazardous areas installations - pressurisation

## Gap Training for Certificate IV in Hazardous areas – Electrical qualification

On completion of the EEHA course program, you may also enrol to undertake gap training to achieve the full Certificate IV in Hazardous areas – Electrical national qualification, which is aimed at those seeking to become an electrical supervisor in hazardous areas or in a hazardous area installation.

Future Skills is offering the gap training as a two (2) day additional course in 2015. Alternately, you can seek to enrol in the program and complete assessments on a distance learning basis.

To complete the full Certificate IV qualification requires the completion of a further four (4) units of competency which are detailed below.

- UEENEEE038B Participate in development and follow a personal competency development plan
- UEENEEE117A Implement and monitor energy sector OHS policies and procedures
- UEENEEE124A Compile and produce an energy sector detailed report
- UEENEEK145A Implement and monitor energy sector environmental and sustainable policies and procedures

In the face to face training provided by Future Skills, we also offer one further unit of competency:

- UEENEEM078A Manage compliance of hazardous areas

## Refresher Training

- Where previous hazardous areas training has been undertaken, participants may be eligible to enrol in Refresher training only. In this case, they must hold a current electrical fitter mechanic's licence and provide copies of all relevant units of competency in hazardous areas at enrolment.
- Students will be required to demonstrate the currency of this training and its application within industry.

## Training Program

The course program is structured to provide students with four (4) days of face to face training. This is an intensive course program and participants will be expected to attend all training days and complete practical based assignments during the course of the week.

### The following areas will be covered:

Development of Hazardous areas controls  
Explosion Protection for Gases and Vapours  
Explosion Protection for Combustible Dusts  
Gas Detection  
Area Classification  
Grouping for HA Electrical Equipment  
(eg Goup I, II, and III)  
Explosion Protection methods  
(eg Ex d, Ex e, Ex i)  
Explosion Protection Levels (EPLs)  
Verification Dossier

Certificate of Conformity  
Conformity Assessment Document  
Hazardous Area schemes  
Equipment marking and identification  
Testing HA equipment - Inspections & tools  
Install equipment and wiring in Hazardous Areas  
Conduit systems and seals  
Barrier Glands  
**Practical activities:**  
Installing Barrier Glands  
Inspections and Testing

Assessments are conducted in class. It is therefore mandatory for students to attend all of the scheduled training dates to ensure they are able to undertake the learning and practical assessments that are required.

## Language, Literacy and Numeracy

In order to successfully complete this learning program you must have sufficient reading and writing skills.

For example, you will need to be able to read and interpret technical standards and manuals and to write short answer questions.

To assist all learners to achieve their goals through training, Future Skills seeks to assess each applicant's existing language, literacy and numeracy abilities and learning needs prior to the commencement of training.

This enables Future Skills to understand the skills and needs of each individual learner so we can offer suitable assistance or learning support if needed, or outline alternative pathways for learners to achieve their desired goals.

The **Australian Core Skills Framework** sets out five key areas that RTOs such as Future Skills can investigate to determine if any additional support or alternative pathways should be offered to a learner.

These five areas are: **Learning, Reading, Writing, Oral Communication** and **Numeracy**.

To help diagnose an individual learner's core skill levels, Future Skills uses a pre course questionnaire which all students are required to complete prior to commencement of the course. A copy of the course questionnaire will be provided to you on confirmation of your enrolment in the program.

**Please note:** it is your responsibility to complete and return this questionnaire prior to the commencement of the course. Failure to do so will mean that Future Skills is not obliged to provide any further assistance or learning support than would ordinarily be provided to all students in a program.

For the hazardous areas units of competency, Future Skills has made an assessment that the following core skill levels apply. A number of generic sample activities of what a student would be expected to be able to competently do at these levels have also been included for each nominated level.

Core Skill	Sample Activities
Learning (4 )	<ul style="list-style-type: none"> <li>Makes changes to work routine to meet deadlines, drawing on insights gained from previous experiences</li> <li>Participates in and contributes to change management in the workplace</li> </ul>
Reading (3))	<ul style="list-style-type: none"> <li>Selects and applies the procedures and strategies need to perform a range of tasks after reading appropriate texts, e.g., machinery/equipment manuals, standard operating procedures or work instructions</li> <li>Interprets information gained from tables, charts and other graphic information</li> <li>Reads and interprets diagrammatic/graphic texts e.g., a flow chart</li> <li>Identifies relevant information from a range of written texts</li> </ul>
Writing (3)	<ul style="list-style-type: none"> <li>Writes clear sequenced instructions for using routine/everyday technology e.g., machinery</li> <li>Writes a routine report e.g., an accident or incident report</li> <li>Completes workplace records and forms accurately and legibly</li> </ul>
Oral Communication (3)	<ul style="list-style-type: none"> <li>Listens to clear, sequenced instructions of several steps and asks clarifying questions as required</li> </ul>

	<ul style="list-style-type: none"> <li>• Presents information to a small group on a particular topic and responds to questions</li> </ul>
Numeracy (3)	<ul style="list-style-type: none"> <li>• Uses appropriate technological devices to measure and record data and interpret the results</li> <li>• Uses rate of application to work out the quantities required for a routine task</li> </ul>

Where your skills are assessed at a level lower, Future Skills may require you to undertake learning in the area prior to the course commencement. For example, you may need to review your skills in relation to essential report writing. In this case, Future Skills may refer to you complete a course in report writing or offer some reasonable additional assistance/adjustments.

### Recognition of Prior Learning

You can apply for Recognition of Prior Learning (RPL) for any of the hazardous areas competencies. You will need to provide valid, sufficient, current and authentic evidence of your skills and knowledge.

Please talk to a Future Skills trainer prior to, or at enrolment, in this program to discuss the types of evidence you can submit with such an application and the full process and procedures that this entails.

### Student Guarantees

Future Skills is required to outline the nature of the guarantee given by Future Skills to prospective clients and clients to complete the training and/or assessment once they have commenced study in their chosen qualification or course.

This guarantee is outlined as follows:

Where a student commences training and/or assessment in the Future Skills course program they have enrolled within, Future Skills provides a guarantee that the course program as advertised will proceed as advertised, except in the following circumstances:

- (i) where a cancellation of a course or week of training is outside of its control e.g., where a trainer is ill and unable to take the course and a backup trainer is not available to take the course; or
- (ii) by agreement between Future Skills and the majority of students enrolled within a course to transfer dates of the whole or part of the course.

In both such cases, Future Skills will liaise directly with the students concerned and provide them with the option to transfer to a further scheduled course by Future Skills without incurring any additional transfer fees, or where the course has not already commenced, a full refund of all fees paid for the course.



**Please note:** Future Skills is not liable for any additional costs incurred by the student as a result of these changes.

## Completion of Training

On completion of training each student is required to have completed or submit the assessment tasks and activities for the program.

A Future Skills trainer/assessor will complete marking of these assessments and where you are deemed *Competent* in all aspects of the program, you will be issued with your qualification or relevant Statements of Attainment within a twenty-one (21) day period from receipt of the final assessments.

For those students who are deemed *Not Yet Competent* on completion of training and assessment in a course program for either the whole qualification or for a unit(s) of competency, the following will apply.

Each student will be provided with two (2) assessment attempts for each assessment, either during the training program or afterwards.

For written or project based assessments students will be asked to provide additional evidence, or the trainer/assessor may make a reasonable adjustment to the assessment, such as asking additional questions to determine competency, either orally or in writing.

Where the assessment involves a practical skills based assessment, a time to undertake the second assessment attempt is to be offered within a six (6) month period at a time nominated by Future Skills.

**Please note:** an assessment of Not Yet Competent (NYC) is not a failure. It simply means that you will need to provide further information or further confirmation of the knowledge and skills required.

## Outline of Assessment Activities

In order to complete this program you will need to demonstrate that you have the requisite knowledge and skills to perform specific work activities and tasks to the standard required for each unit of competency.

The Future Skills Electrical Equipment in Hazardous areas training course includes three (3) major assessment activities, which are summarised following.

Each assessment projects includes a number of different methods of assessment, including completion of practical activities, writing short answer questions, reviewing different scenarios and case studies, and through direct observations of your ongoing learning and performance by the relevant trainer.

### Assessment Project No. 1 – Australian Standards and Hazardous Areas

#### Part 1: Australian Standards and Hazardous areas

This assessment activity requires you to demonstrate your knowledge of how to apply information in

the relevant Australian Standards to working in a hazardous area.

### **Part 2: Area Classification**

This assessment activity requires you to interpret information relating to area classification of hazardous areas using a range of different scenarios.

## **Assessment Project No 2 - Selection & Installation and Maintenance of Hazardous Area Electrical Equipment**

### **Part 1: Selection & Installation of Hazardous Area Electrical Equipment**

In the context of an industry scenarios, you will be required to select a number of items of hazardous area apparatus to install into hazardous areas within a number of different jobs on a refinery site.

### **Part 2: Hazardous Areas Installation Practicals**

You will be required to undertake two (2) practical activities where you will be required to install a Hazardous Area Steel Wired Cable Gland with Barrier in a Pressurised Enclosure with Gas Atmosphere and then secondly install a Multipair, SWA, overall screened, individual cable into a dust proof enclosure.

## **Assessment Project No 3 – Maintenance, breakdowns, testings and inspections**

### **Part 1: Conduct visual and detailed inspections**

In the context of four (4) practical assessments and two (2) industry scenarios, where you are to attend to a breakdown or undertake maintenance on a variety of explosion-protected electrical equipment in hazardous areas, you will be required to complete maintenance schedules, fault diagnose and rectify breakdowns in equipment, as well as conduct appropriate testing, undertake visual and detailed inspections and detail your finding using Inspection Check Sheets, Maintenance Schedules and Electrical Test Sheets.

### **Part 2: Questions**

You will be required to answer a series of questions about the application of maintenance and attending to breakdowns in hazardous areas as well as conducting testing and inspections in a hazardous areas installation.