

### Dates

Tuesday, 20 October	10.00am-12.00pm (AEST)
Thursday, 22 October	10.00am-12.00pm (AEST)
Tuesday, 27 October	10.00am-12.00pm (AEST)

### Course length

Six hours (3 x 2 hours)

### Delivery method

Online

### Pricing

\$900 +GST

### Prerequisites

Nil. This course is designed for the student (individual) new to the radio/critical communication industry.

### Course Objectives

This course will provide students with the skills to be able to recognise the key elements and components of a typical AC/DC radio communication power system. Students will be able to demonstrate the principles and calculations for designing a basic DC power system and demonstrate the relevant procedures for safe inspection and testing of those systems.

Students will be able to understand and identify the risks associated with live working on AC and DC systems and understand the correct procedures for managing those risks.

## COURSE OUTLINE

### 1. Electrical Circuit Principles

- Current flow
- Voltage sources
- Resistance
- Ohm's law and electrical circuits
- Electrical power
- Alternating current

### 2. Review of the Dangers of Electricity

- The effects of electricity (AC & DC) on the human body
- Methods of protection
- Safe working practices

### 3. Basic Requirements for Radio Communications Power Systems

- Direct current power system elements
- Power sources and loads
- General design considerations
- Standards, practices and codes

### 4. DC Power System Components

- Nominal system and operating voltages
- Rectifier systems
- Monitoring and control
- Batteries for radio communications systems

### 5. Batteries and Cells

- Battery types
- Battery voltages
- Temperature performance
- Battery life
- Cell impedance and conductance
- Short-circuit currents
- Cell gassing and ventilation

### 6. AC Power Systems Components

- Nominal voltages
- Earthing and bonding
- Over current protection

### 7. Installation and Commissioning

- Installation safety guidelines
- Circuit wiring
- Terminations
- Inspection and testing

### 8. System Maintenance

- Overall maintenance requirements
- Annual system maintenance check
- Battery system maintenance