

SESSION PLAN

ABB RTU 210 TELEMETRY

TC 100

Diagnostics, Configuration Transfer and Communication Systems

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Course Summary and Equipment Requirements

This is a Skills/Information Session.

The objective of this session is to gain the skills to be able to carry out telemetry maintenance to satisfy the Safe Work Instruction requirements.

It is broken up into the following modules

Module 1 - Diagnostics check and download -Skill
Duration - 30 minutes

Module 2 - Configuration file transfer - Skill
Duration - 30 minutes

Module 3 - NFK communication using master / listen mode - Skill
Duration - 30 minutes

Module 4 - Communication systems - Knowledge
Duration - 15 minutes

Module 5 - Programming radio systems - Skill
Duration - 30 minutes

Module 6 - Radio system fault finding - Knowledge
Duration - 30 minutes

The following equipment is required

- Item 1 – ABB RTU training unit
- Item 2 – Projector
- Item 3 – PCTC PC
- Item 4 – RTU communications lead
- Item 5 – RTU 210 PowerPoint presentation
- Item 6 – Training notes and module activity sheets

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1 Purpose Statement

At the end of the session the participants will be able to carry out telemetry maintenance to satisfy the Safe Work Instruction requirements.

2 Introduction

2.1 Why the Participants have been Chosen

The participants of this course have been chosen because of the requirement to maintain the ABB telemetry system. This will enable each participant to become familiar with the various processes available for use with this telemetry system.

2.2 Where This Course Fits in

This course is a stand-alone designed to cover all the requirements for maintenance and callout situations.

2.3 Objectives of the Course

- Module1: At the end of this session you will be able to download the diagnostic messages and determine what the condition of the RTU is.
- Module 2: At the end of this session you will be able to load the telemetry unit with its configuration files and place it into run mode.
- Module 3: At the end of this session you will be able to check that the telemetry unit is communicating with a master unit (laptop) via the NFK port.
- Module 4: At the end of this session you will be able to describe the three forms of master / slave communications.
- Module 5: At the end of this session you will be able to change the frequency of either a MDS 1000 or Motorola Darcom radio.
- Module 6: At the end of this session you will be able to fault find the radio communications system using the provided flow charts.

2.4 How the Session Will Run

This session is fully described in the training notes "RTU 210.ppt".

Skills Session –

A Skills session requires the following Skills demonstration and practice sessions. If there are more than 5 to 7 steps in a description of a skill, the session may be divided up into smaller sessions that each repeats the following structure.

Demonstration Section

- Silent demonstration
- Explanation Demonstration
- Check Demonstration

Practice Section

- Controlled Practice
- Own Pace Practice
- Test

Knowledge Session –

A Knowledge session requires the following structure. If a given session becomes extended it can be divided up into smaller sessions. Half an hour for a whole EAR session is suggested.

Explanation

Activity

Revise

2.5 Motivation for the Participants

This session will enable the participants to easily work with the ABB RTU 210 telemetry system. The knowledge gained will provide the participant with the tools required maintaining or repairing the telemetry unit in all situations.

2.6 Prior Experience

Determine who has had prior experience.

Do they want to proceed directly to the test?

Would they be willing to demonstrate what they know as it is addressed in the course?

3 Test

The test for this session is:

Module 1: Given a test scenario on the Telemetry training unit, download the diagnostics using the correct software and rectify the fault if there is one.

Module 2: Using a supplied set of configuration files, download the files and then ensure that the telemetry unit runs as the correct site.

Module 3: Using NFK communication methods, verify that the telemetry unit is responding with real data to a master station.

Module 4: Describe the three types of communication systems and how they operate.

Module 5: Program both types of radio with a frequency specified by the trainer.

Module 6: Given a fault scenario, use the fault diagnosis flow charts to determine the problem and suggest a way to fix the fault.

Note: test must be

- Valid to the material covered
- Quick to set and take
- Reliable – clear answers
- Cover a good sample of the course
- Discriminate between participants who now know the material and those who don't.

4 Summary

Help is available from the Process Control Training Centre staff, the local ABB representative, System Support Group members.

What happens next

Participants are welcome to book an appointment at the PCTC to refresh their skills and clarify or discuss any issues arising from field experiences.