

SESSION PLAN

Pressure Control Systems

TC 215

Operating Principals and Fault Diagnosis

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Course Summary and Equipment Requirements

This is a Skills/Information Session.

The objective of this session is to create an understanding of how a control valve works and the basic steps to take when faults appear.

It is broken up into the following modules

Introduction	
Duration	- 2 minutes
Module 1	- Control valve operating description – Knowledge
Duration	- 30 minutes
Module 2	- SCADA Controls – Knowledge
Duration	- 15 minutes
Module 3	- Telemetry description – Knowledge
Duration	- 30 minutes
Module 4	- Basic Faults – Knowledge
Duration	- 30 minutes

The following equipment is required

- Item 1 – PCTC PC
- Item 2 – Projector
- Item 3 – 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 describe how a control valve works and the basic steps to take when faults appear.

2 Introduction

2.1 Why the Participants have been Chosen

The participants of this course have been chosen because of the need to understand how a control valve functions. This will allow operations personnel to make changes to the system with the knowledge of how the control valve will respond. The course will also give information to new employees who need to maintain these valves.

2.2 Where This Course Fits in

This course is a stand-alone designed to meet the requirements of Water Distribution Control operators. It is however also useful for new employees.

2.3 Objectives of the Course

- Module 1: At the end of this session you will be able to name the different types of control valve and describe how the most basic form works.
- Module 2: At the end of this session you will be able to describe the method of changing a fullways position at WDC.
- Module 3: At the end of this session you will be able to describe the three forms of communication that exchanges data between WDC and the field.
- Module 4: At the end of this session you will be able to make accurate decisions with how to deal with control valve faults using the information provided.

2.4 How the Session Will Run

This session is fully described in the training notes "prv.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 operate the control valves more efficiently without causing them to fault.

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: Name the different types of control valve and describe how the most basic form works.
- Module 2: No test required for this module.
- Module 3: Draw the three forms of communication that exchanges data between WDC and the field.
- Module 4: Using the information provided, determine what action is to be taken for the scenario given by the trainer.

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 Process Control Training Centre staff or Peter Vandervaart.

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.