QUEENSLAND URBAN UTILITIES

SEWAGE PUMP STATION
SP120 - ASHRIDGE STREET

ELECTRICAL & MECHANICAL
OPERATION AND MAINTENANCE MANUAL

Developed by:

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CONTENTS

1 Introduction

1.1 Operating Instructions

1 INTRODUCTION

These operating instructions cover the Queensland Urban Utilities, Sewage Pump Station SP120-Ashridge Street Upgrade equipment supplied by J & P Richardson Industries Pty Ltd in 2013.

1.1 OPERATING INSTRUCTIONS

Normal operation of the pumping station is in the automatic mode with control by means of a Motorola RTU, which receives level signals from the Level Measurement System in the wet well.
Manual controls and Manual Emergency operation of the station is available by means of selector switches on the common control compartment of the switchboard.

2 Description Of Operation

2.1 Mode Selection

2.2 Manual Emergency Control

2.3 Automatic Control

2 DESCRIPTION OF OPERATION

2.1 MODE SELECTION

The station can be operated either in Local-Remote (automatic) or manual emergency mode with selection being made by means of the mode selector switches mounted on common control section escutcheon of the switchboard. The selector switch designated for Manual Emergency Mode is made by means with the following mode selections OFF-ON.

2.2 MANUAL EMERGENCY CONTROL

Each pumping unit can be run in manual emergency control from the common control section by: -

1. Selecting the "ON" setting on the "MODE SELECTOR SWITCH" as described in Clause 2.1.
2. The Duty Pump will start.
3. After a time delay, the Standby Pump will start.
4. Return the selector switch back to “OFF”.

N.B. DO NOT LEAVE THE STATION IN MANUAL EMERGENCY CONTROL WHILE UNATTENDED

2.3 MANUAL CONTROL

For manual control of the station: -

1. Select the "MANUAL" position on the "MODE SELECTOR SWITCH" on the common control section escutcheon.
2. Starting and stopping of each pump is now controlled via the "START" and "STOP" push buttons located on the common control section escutcheon.
3. To return to Automatic Control, return the selector switch back to “REMOTE”.

N.B. DO NOT LEAVE THE STATION IN MANUAL CONTROL WHILE UNATTEND

2.4 AUTOMATIC CONTROL

For automatic control of the station: -

1. The "MODE SELECTOR SWITCH" on the common control section should be in the "REMOTE" position.
2. The automatic starting and stopping of the pumps is controlled by signals from the Motorola RTU.

For NORMAL OPERATION, each of the pump selector switches should have "EMERGENCY PUMP OFF" mode selected.

In the REMOTE mode the selected Duty Pump unit will start automatically as pre-set by the level in the wet well. In the event of the duty pump not being capable of supplying enough flow to continue draining the wet well and the well level rises to a second pre-set level, then the Standby Pump unit will automatically start to provide additional pumping. The supplementary pump unit also takes over for the respective pump duty on the occurrence of the Duty Pump unit failing. Duty and Standby pump delegation is assigned via the RTU programming.

3 Pumps

Click here to open the relevant section as a separate file.
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The file will provide links to get back to this main document.

3 PUMPS

SUPPLIER:	Weir Minerals Level 4, Garden City Commerce Tower 14 Mt. Gravatt, Capalaba Rd Upper Mt. Gravatt Qld 4122 Tel: 3347 1400 Fax: 3347 1499
MODEL:	**Hidrostal** **H05K-S03R + HE130X4-XBEK1 + NE1B7V-15**
RATING:	100 kW
FULL LOAD CURRENT:	180 Amp
VOLTAGE:	415 Volts

4 Valves

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The file will provide links to get back to this main document.

4 VALVES

SUPPLIER: Tyco Northgate
88 Frederick Street
Northgate Qld 4013
Ph: (07) 3266 2255
Fax: (07) 3260 5221

MODEL: **200 Dia DF M.S. Sluice Valve**
375 Dia DF M.S. Sluice Valve

SUPPLIER: Valveco Industries
49 Sherwood Rd
Toowong Qld 4066
Ph: (07) 3859 6860
Fax: (07) 3859 6869

MODEL: **200 Dia Valmatic Swing Flex Check Valve**
c/w Backflow Actuator + Open Signal Proximity Switch

5 Flowmeters

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5 FLOWMETERS

SUPPLIER: Endress & Hauser Australia
2/35 Miles Platting Rd.
Eight Mile Plains Qld 4113
Ph: (07) 3457 0200
Fax: (07) 3457 0299

MODEL: **DN200 PROMAG 50W2H**

6 Overhead Gantry Chain Hoist

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6 OVERHEAD GANTRY CHAIN HOIST

SUPPLIER:

Demag Cranes & Components Pty Ltd
56 Mica Street
Carole Park QLD 4300
Australia
www.demag.com.au
Ph: (07) 3331 2-021
Fax: (07) 3331 2-099

MODEL: **Demag DC-COM 1-10 Chain Hoist**

7 Switchboard & Electrical Equipment

7 SWITCHBOARD ELECTRICAL EQUIPMENT

8 “As Constructed”Drawings

Click here to open the relevant section as a separate file.
This was done due to the large file size of this section.
The file will provide links to get back to this main document.

8 “AS CONSTRUCTED” DRAWINGS

8 “AS CONSTRUCTED” DRAWINGS

9 Switchboard Service And Maintenance

9 SWITCHBOARD SERVICE AND MAINTENANCE

This product is designed to operate under specific environmental, supply and load conditions. Should these conditions change, consult a licenced electrician or electrical engineer before operating this product.

These procedures are to be performed only by a licenced electrician as they may expose live equipment.

The Switchgear and Controlgear Assembly is essentially maintenance free, however the following safety measures and routine maintenance is recommended.

- Where fitted, ensure cabinet vents and filters are clear and clean.
- During operation, ensure all doors and covers are secure and closed.
- All faults are to be investigated and repaired by an appropriately licenced electrician.
- All components to be operated in accordance with manufacturers data.
- The protective devices within switchboards are designed to operate in the event of a short circuit or overload condition. In the event of these devices operating under such conditions the device or devices must be inspected and tested by a suitably trained person to ascertain its condition prior to reconnecting the protective device to the supply.

<u>Periodic checks should ensure</u>

- The switchboard is clean and free of any contaminants, which could reduce the insulation properties of the switchboard.
- All entries are sealed to ensure no vermin can enter.
- There is no evidence of overheating, arcing or moisture.
- The earthing system is maintained and is adequate to allow correct operation of protective devices.
- Insulation resistance is maintained to appropriate levels.
- Check terminations for correct tension.
- Test operation of protective devices.
- Re-calibrate instrument loops as required.

Refer to AS-CONSTRUCTED electrical drawings for details of protection equipment settings.

No special tools or equipment are required to perform routine maintenance.

10 Project Photographs

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10 PROJECT PHOTOGRAPHS

11 Generator

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The file will provide links to get back to this main document.

11 GENERATOR

SUPPLIER:

Eneraque
1937 Ipswich Road, Rocklea 4106 Brisbane QLD
PO Box 3306 Tingalpa B.C. Qld 4173
www.eneraque.com
Ph: (07) 3434 3500
Fax: (07) 3434 3593

MODEL: **DVAS275 MEGAGEN VOLVO / MECCALTE**