Material Specification – 31

SUPERVISORY CONTROL AND DATA ACQUISITION

1. GENERAL
SCADA equipment listed in this Specification needs to be approved by Denver Water.

2. PLC FOR CONTROL SYSTEMS
PLC for control systems needs to be preapproved by Denver Water’s Process Control Section.

3. PRESSURE TRANSMITTERS
Pressure transmitters shall be Rosemount 3051S Series with 4 mA to 20 mA transmitter output, an LCD display, and NSF/ANSI 61 certified when required.

4. CONTROL ENCLOSURES
Control enclosures shall be Hoffman enclosures.

5. FLOW TRANSMITTERS
Flow transmitters shall be Rosemount differential pressure transmitter model 3051S Series with 4 mA to 20 mA transmitter output, an LCD display, and NSF/ANSI 61 certified when required. Two transmitters are required for flow indications. The high range transmitter shall be calibrated to 25% of the maximum design flow rate.

6. INTRUSION ALARMS
The limit switches for intrusion alarms shall be heavy duty precision turret head type. The limit switch assembly shall be enclosed in a die cast zinc standard box that is oil-tight and watertight with DPDT snap action, silver alloy type contacts. The turret head shall be a standard pretravel spring return with Viton shaft seals on the lever arm; the plunger and wobble stick boots shall be made of neoprene. The lever arm shall be operable in clockwise and counter-clockwise directions.

7. WATER ON THE FLOOR ALARMS
Water on the floor alarms shall not contain mercury. The float shall be SPDT and the alarm shall be wired normal closed.

8. PRESSURE SIGHT GAUGES
Pressure sight gauges shall be industry general service Grade 1A, 1.0% F.S. accuracy, 12-inch diameter face, epoxy painted aluminum case, AISI Type 316 stainless steel drawing C bourdon tube and socket, 1/4-inch NPT bottom piping connection, calibrated zero to maximum operational psi.

9. TERMINAL BLOCKS
Terminal blocks shall be Phoenix Controls UK 6, UK 6-FSI/C, UK 4-TG, and UK 5-MTK-P/P; din rail-mount with disconnect. Knife, plug, or lever fuse disconnects preferred.

10. QUALITY CONTROL
The Manufacturer shall submit a written statement that the inspection and all specified tests have been completed and that results comply with the requirements of these Standards. A copy of the certification shall be provided to Denver Water, if requested.

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