INSTRUMENT FUNCTION OUTLINE

DEPARTMENT 246

TITLE #8 CHLORINATOR TO COOLER TEMP. CONTROL & ALARM

LOOP NUMBER 014

SHEET 1 OF 4

CLASSIFICATION TICA-14

1.0 NEED FOR LOOP

THIS LOOP IS NEEDED TO REMOVE HEAT FROM THE CHLORINATED BIPHENYL (HEAT INJECTED BY THIS PROCESS) AND THUS PREPARE THE CHLORINATED BIPHENYL FOR RETURN TO THE CHLORINATORS.

1.1 DESCRIPTION OF LOOP

1.1.1 FUNCTION

THE FUNCTION OF THIS LOOP IS TO CONTROL THE TEMPERATURE OF CHLORINATED BIPHENYL IN THE CHLORINATOR. IF THE TEMPERATURE BECOMES TOO LOW, AN ALARM IS SOUNDED AND THE FAN MOTOR IS STOPPED.

1.1.2 SYSTEM PERFORMANCE REQUIRED

THE TEMPERATURE SHOULD BE MAINTAINED ± 5°C. OF SET POINT.

1.1.3 ACCOMPLISHMENT OF FUNCTION

THE TEMPERATURE IN THE LINE IS SENSED BY A THERMOCOUPLE. A MILLIVOLT TO PRESSURE TRANSDUCER RECEIVES THE THERMOCOUPLE OUTPUT AND SENDS OUT A CORRESPONDING 3-15 PSIG AIR SIGNAL TO A TEMPERATURE INDICATING CONTROLLER. THE CONTROLLER COMPARES THIS SIGNAL WITH A SET POINT AND SENDS A 3-15 PSIG AIR SIGNAL TO AN ACTUATOR THAT CONTROLS THE COOLING OF THE CHLORINATED BIPHENYL. BY OPENING OR CLOSING LOUVRES ON TOP OF THE AIR COOLED HEAT EXCHANGER. THE TRANSDUCER ALSO SENDS AN AIR SIGNAL TO A PRESSURE SWITCH WHICH ACTIVATES AN ALARM ON LOW TEMPERATURE.

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