

Underwater Temperature Measurement

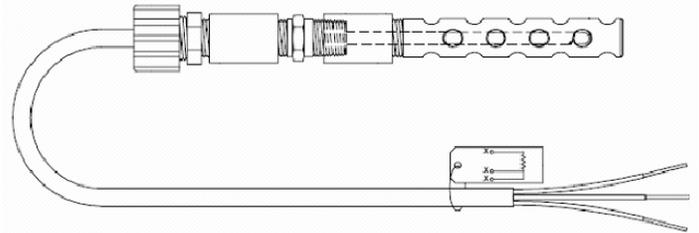
APPLICATION

As part of a requirement by a state Department of Natural Resources, a power generating facility was required to monitor the temperature of their cooling tower water discharge into a nearby river. Two locations were required, one at the settling basin and the other a short distance downstream of the discharge point where they wanted to obtain 5 points across the width of the river. Concern was that water which is too warm can damage fish and other aquatic life.

CHALLENGE

Sensor 1 was to be located on the bottom of the settling basin about 50 feet from shore. Sensors 2 through 6 locations were chosen downstream of the discharge and located on bridge supports. Protection from debris in the water and ice during the winter posed some serious installation challenges in addition to the sensor being located 6 feet beneath the surface.

Model 10313



Description

SOLUTION

The Burns 10313 Underwater Sensor was chosen for the settling basin application. It was supplied with a 60 foot cable and installation was as simple as tossing it in the water and connecting the wires to a shore panel which housed a Burns Model TL21 transmitter. From there the 4 to 20 mA signal traveled back to the control room.

In the interest of standardizing on one style sensor, the 10313 was also used for the river water temperature measurement. Five locations were chosen on the downstream side of the bridge supports where an open ended pipe was installed to further protect the sensor. The sensor was lowered into the pipe and the cable secured with a cord grip fitting at the desired depth. From there the cables led back to a centrally located panel on the bridge which housed 5 Model TL21 transmitters. From there the signal traveled back to the control room.