

CASE HISTORY

Remediation – System Control Design

Challenge:

A client in South America needed control systems for a series of groundwater remediation recovery wells and looked to MUNDELL for the conceptual design and specifications. Because the systems were to be installed in a moderately remote location and were being used to prevent contamination of a drinking water supply, the control systems had to be extremely reliable. In addition, at the client's request, all of the components needed to be obtainable the client's country.

Action:

The control system needed to initiate within the starting and stopping of a submersible pump based on the water level in the recovery well as well as regulate power supply and monitor pump functions. In addition, the system needed to contain programmable logic control (PLC) circuits to coordinate the various input and output control signals. MUNDELL has significant experience with remediation control systems. The basic structure of the control system was laid out then the most robust components of their type were selected for each subsystem. Because it has no moving parts, a pressure transducer was selected to monitor the water level in the recovery well rather than the more traditional (and problematic) float switch or contact switch. Once the components were identified, each was cross-checked for availability in the destination country. MUNDELL constructed a test system control panel in our U.S. office and verified the design before sending the specifications and drawings to the client's electrician.



Results:

MUNDELL oversaw the installation of the initial panels at the site and trained the site personal on the proper operation of the panels. The design of the panels made them simple to operate regardless of the language spoken by the operator. Nine of these system control panels are currently in operation and to date there have been no system shut downs due to the panel failures.