

The tank and well SCADA system shall be constructed, and have the following the following operational parameters as described below.

The general architecture of the system will be based on using third generation cellular data for telemetry and on sending that data to a web based hosted SCADA computer service that manages the entire system except field maintenance. The hosted system shall have password protected SSL web based customer screens. Automatic control logic for well operation shall be maintained by the hosted SCADA computer service. The hosted service shall monitor, at least every two minutes the level of the tank(s). The hosted SCADA service computer shall issue control relay commands to the associated well(s) when pre programmed low, off, lead, lag, lag 2 and high tank level thresholds are reached. The low, off, lead, lag, lag 2 and high level thresholds shall be programmable by the customer via the secure web site. All threshold changes shall be individually password protected and logged. The secure web site shall also provide the customer the ability to put each well pump(s) in automatic, off or hand operation mode. The secure web site shall provide the customer the ability to enable/disable alternation of the well(s). The hosted well control SCADA service shall provide control for up to three wells from a single tank. Multiple tanks may be depicted and controlled on a single customer secure web site.

The web based hosted SCADA service screens shall depict the current state to the web service H/O/A operational status (not the well site(s) MCC H/O/A switches), the current values for well pump(s) off, lead, lag and lag 2 thresholds, the current status of well pump alternation, the current status of well(s) call to run and a graphic depicting the current and previous 24-hour tanks level and which well pump(s) were called during fill cycles.

The well RTU(s) shall have the ability to be programmed to either:

- Continue the current well call relay status or,
- Force off the well call to run status,

if the well RTU(s) lose communications with the hosted SCADA service computer(s) for more than two minutes.

The output relay(s) from the well(s) RTU shall be wired only into the automatic circuit for well pump(s) run. The local off and hand circuits shall be unaffected by the RTU relay output(s). The output relays on the well(s) RTU(s) shall be wired into 12vdc solid state interposing relays. The switched side of the solid state interposing relay(s) shall be used to control the well(s) pump(s) motor starter in the automatic well call circuit.

The web based hosted SCADA service shall provide a means of setting up and performing alarm call out functions. All alarm points shall have a programmable delay period prior to issuance of an alarm from the point. All phone based alarm calls shall be recorded and the web based screens shall allow the customer to recall and play any alarm call from the system.

The tank and well(s) RTU(s) shall be grounded with 8 gauge (or larger) solid copper wire.

The system shall include the installation of a XX (15, 25, 50 or 100) PSI pressure transducer at as close to the base of the tank(s) as possible. The pressure transducer shall be protected from the elements and shall have a voltage surge suppressor able to withstand and discharge a voltage spike of at least 10,000 volts connected to the transducers analog circuit within three feet of the pressure transducer. The surge suppressor and transducer shall be connected to 8 gauge or larger solid copper wire which shall be connected to a grounding rod. The grounding rod shall be within five feet of the surge suppressor. There shall be no bends in the ground wires with less than a 6 inch radius. Straight ground wires are preferred.

The tank and well(s) SCADA control system shall utilize MISSION Communications model M-800 RTUs and SCADA control service or approved equal.