SCADA

Supervisory Control and Data Acquisition

SCADA is a combination telemetry and data acquisition system. The system is composed of collecting information, transferring it back to a central control site or main station computer, conducting the necessary analysis and control, and then displaying the data on an operator screen. A SCADA system is primarily used to monitor and control a plant, pipeline or equipment. It is extremely useful for remote or hazardous locations. Control functions may be manual, automatic or can be initiated by operator commands.

SCADA Main Components

- Field Instrumentation and Control Equipment
- Communications Network (Radio, Wire, VSAT)
- Remote Terminal Unit (RTU) or Remote Stations (RS)
- Central Monitoring Station (CMS)

Components of A SCADA System

The Field Instrumentation or equipment refers to the sensors, meters and/or actuators, valves, relays or motors that are directly interfaced with the plant, equipment, pipeline, etc. It is this equipment that will generate the analog and/or digital signals that will be monitored at the Remote Station. The signals are designed for compatibility with the RTU (Remote Terminal Unit) or PLC (Programmable Logic Control) located at the remote stations

The Remote Station is located at the remote plant, equipment, monitoring station, etc. that is being monitored and controlled at the Central Monitoring Station's computer(s). The remote station can consist of either an RTU or PLC unit(s).

The Communication Network is the communication medium(s) that are utilized for the transfer of data (information) within the SCADA network system. The communication network can consist of wire lines, radio, cable or satellite VSAT terminals.

The Central Monitoring Station (CMS) is the central monitoring and control station within the SCADA network system. The system can consist of one or several control/monitoring workstations. The Man Machine Interface (MMI) program provides the link between the operator and the SCADA network system for both monitoring and control of the system.

Telemetry

SCADA Telemetry is the technique or method of data transmission. It involves the selected medium of communications, either wireline, radio or satellite technology or a combination of communication technologies, depending on the specific requirements of the SCADA application. In the system design a method is established to enable the system to address individual or multiple sites within the system

Data Acquisition

SCADA data acquisition involves the method that is used to access, manipulate and control data (information) from the SCADA equipment in the system network. The acquired data is then transferred to the telemetry system for transfer to the various sites in the system. The data can be in either analog or digital format. The data is primarily gathered through sensors such as ammeter, flowmeters, pressure, temperature and vacuum meters. The data can also be in the form of control commands to various equipment within the system. These controls can be actuators, valves, motors, relays, switches, and other control hardware within the system.

Contact H.M.S. Telecom, LLC for all your SCADA communication requirements. H.M.S. Telecom, LLC can provide a cost-effective communication solution to incorporate in your SCADA network system through its global wide network access.