

**Suggested Specification**  
**“IntraLink™ WS2000 Web-Enabled HMI”**

The main controller/telemetry unit shall include Web enabled HMI capability allowing automatic remote notification of alarms and reports, and provide for a remotely accessible graphical interface via direct dial in, local area network or via standard internet access. System data and control parameters as herein defined shall be directly monitored and made available via local or remote access.

The system shall be supplied with a built in (56Kbps) dial up modem for connection to standard dial up phone lines as supplied by the (customer). The dial up modem shall allow for automatic connection to Internet via customer provided ISP account or shall allow for direct connect from a remote location via PC. A 10/100 Base-T Ethernet port shall be available for connection to (customer) Local Area Network (LAN) allowing multiple user access. The system shall support up to 8 simultaneous users while in this mode.

System data shall be presented in an easy to view graphical and tubular formats that can be displayed on any Microsoft based PC using Microsoft’s standard browser, Internet Explorer™ 5.0 or newer. Displays shall be in the form of pre-configured high resolution 3 Dimensional (3D) graphic, multiple pen trends, current and historical alarm and standard process report screens. No specialized or PC workstation licensing software shall be required to access the system. The system shall employ high resolution HTML based displays to insure Internet/intranet web browsing compatibility.

System shall employ a high level hierarchal based security system that shall limit local and remote system access to only authorized users. There shall be a minimum of six levels of user security providing system access associated with each of the defined access levels. The hierarchal levels of security shall be defined as Operator 1, Operator 2, Supervisor, Maintenance, Engineering, and Administrator. Each security level shall be assigned a specific level of system access. Each security level shall allow up to 15 authorized users with a total system support of not less than 90 authorized users.

The system shall be configured with a main display graphic with site-specific access icons placed on a system overview screen. Each site-specific icon shall graphically represent one site as monitored by the system. Accessing an icon brings up a site specific display. Each site display shall be based on preconfigured 3D graphical display that best represents the process being monitored. A display library shall be available for quick and easy implementation.

Each site specific display shall include a templated graphical representation of site equipment and shall have a system status box including for presentation of analog signals (levels, pressures, flows, and totals) and discrete status and alarm points. A trend display box shall also be built in to each display depicting recent process history of local measured parameters. Graphical screens with pump or valve control shall be interactive using graphic based operators for Pump/Motor H-O-A and Manual Speed Control or Valve O-C-A and Manual Position, allowing remote operation. The system shall allow a total of 10 sites (1 Main and 9 Remote) to be graphically represented.

The following sites shall be configured for Web based HMI monitoring:

1. Elevated Tank
2. Booster Pump Station
3. Well Pump
4. Etc.

The system shall allow remote access and adjustment of up to 30 process setpoints including on/off points, alarm level and cutoff/restore points. Setpoint parameters shall be displayed on one common display. Each setpoint shall be identified with a specific identification tag allowing a user to easily identify the setpoint parameter. Systems that use cryptic and or abbreviated descriptors shall not be acceptable.

The following system setpoints shall be remotely configurable:

1. E Tank 1 High Level
2. E Tank 1 Low Level
3. Booster Pump 1 On
4. Booster Pump 1 Off
5. Etc.

System alarm summary displays for current/active alarms and historical non-active alarms shall be built in. Each alarm screen shall display date and time of alarm and definition of alarm parameter. Each alarm screen shall allow alarms to be segregated into 3 separate groups for specific group display or all groups can be displayed. System memory shall allow the storage of not less than 30 days with up to 30,000 time and date stamped alarm points. Historical records are to be available for viewing by remote PC for print out. In the event of a new alarm, the system shall automatically transmit an e-mail based text message representing the specific alarm point to up to 10 e-mail accounts including PCs or digital cellular phones with text messaging capability.

System events shall be monitored and viewable through an event history display. The display shall be configured similar to the alarm screen and allow events to be segregated into 3 separate group displays or all groups. System memory shall allow not less than 30 days with up to 30,000 time and date stamped event points. Historical files are to be available for viewing from remote PC for print out.

The system shall provide trending of system data (analog and discrete) for up to 32 parameters. These parameters shall be viewable in groups of 1 to 4 points that can be assigned on line via operator selection. The system shall support a minimum of 8 trend screens allowing display of all available trend points. Each data trend point shall be assignable to one of two operator configurable data sampling rate groups. Each group shall be configurable with a minimum of 7 operator selectable data sampling rates for optimal resolution including: 30 Seconds, 1 Minute, 2 Minute, 3 Minute, 5 Minute, 10 Minutes, and 15 Minutes. Each trend display shall allow up to 4 points of trend data at 30 second resolution for up to 24 hours. Trend displays shall allow user adjustments to include start date, start time, and duration with backward and forward time scrolling. Trend point parameters shall be displayed on each associated trend display including minimum and maximum limits, current value in engineering units. Specific time point data shall be available via a sliding cursor that can be moved to a desired time point in the trend graph for a reading of the sampled data. A minimum of 60 days of trend data shall be available for each trended data point. .

The following system data points shall be trended:

1. E Tank Level
2. Booster Pump Run
3. Booster Station Flow Rate
4. Etc.

A Flow report shall be automatically generated for display or, transmission via e-mail delivery. E-mail delivery of the report shall be available on demand based (LAN) or automatically scheduled for delivery (Dial Up) or LAN through a report scheduler. The system shall allow configuration for a minimum of two reports with 10 points each for a total of 20 flows. Each report shall display the Current Rate, Daily Minimum and Maximum with time of occurrence, and Daily Total Flow.

The following flow rates shall be configured for report display:

1. Booster Pump Flow Rate
2. Etc.

A Level report shall be automatically generated for display or, transmission via e-mail delivery. E-mail delivery of the report shall be available on demand based (LAN) or automatically scheduled for delivery

(Dial Up) or LAN through a report scheduler. The system shall allow configuration of a minimum of two reports with 10 points each for a total of 20 levels. Each report shall display the Current Level, Daily Minimum and Maximum with time of occurrence.

The following Levels shall be configured for report display:

1. E Tank Level
2. Etc.

A Pressure report shall be automatically generated for display or, transmission via e-mail delivery. E-mail delivery of the report shall be available on demand based (LAN) or automatically scheduled for delivery (Dial Up) through a report scheduler. The system shall allow configuration of a minimum of two reports with 10 points each for a total of 20 pressures. Each report shall display the Current Pressure, Daily Minimum and Maximum with time of occurrence.

The following Pressures shall be configured for report display:

1. Booster Station Discharge Pressure
2. Etc..

A Run Time report shall be automatically generated for display or, transmission via e-mail delivery. E-mail delivery of the report shall be available on demand based (LAN) or automatically scheduled for delivery (Dial Up) and LAN through a report scheduler. The system shall allow configuration of a minimum of three reports with 10 points each for a total of 30 run times. Each report shall display the Daily Total, Monthly Total And Cumulative Total for piece of equipment monitored.

The following Run Times shall be configured for report display:

1. Booster Pump 1
2. Booster Pump 2
3. Etc..

A system report scheduler shall be provided to allow for automatic report transmission via e-mail messaging. The scheduler shall be easily operator configurable while on line allowing day of week and time of day selection transmission of all system reports as identified above. Day selection fields shall be available for each day of the week. Time of day selection fields shall be available for each hour of the day. The system shall be configured in a matrix type format allowing operator selection of 1 to 168 scheduled transmissions per week. System reports shall be formatted as CSV files for easy viewing by Excel™ or Access™ application software.

A system diagnostic and set up screen shall be built in allowing trend data rate interval selection, e-mail trend file report enable/disable, system configuration status, data link connection health and trend, alarm and event data storage days. The system shall have dedicated connection ports that support local connection of VGA monitor, Keyboard and Mouse to facilitate local access to system for viewing of all system data and set up parameters.

The system shall support a minimum of 10 e-mail delivery accounts that are user configurable on line. The system will allow each account to be configured to automatically receive alarm or report text messages.

The system shall be based on Siemens Water Technologies, Control Systems IntraLink™ WS2000