Project Proposal

September 26, 2024

Mr. Ken Dado
Utilities Supervisor
Village of Orland Park
14700 Ravinia Ave.
Orland Park, IL 60462

Subject: Redundant MTU PLC

Concentric Project Number: 2401446.00

Dear Mr. Dado:

The Village of Orland Park operates a water distribution system and sanitary/storm collection system across 25 different locations. These sites include seven water towers, three booster stations, one main pumping station, 13 lift stations, and one storm station. Each site is integrated into the Village's SCADA system to provide monitoring and some control.

The Village experienced a UPS failure at the Main Pump Station which caused the master PLC to lose power. As a result, the main station pumps stopped running and communication was lost to all the remote sites.

Concentric Integration recommends installing a backup PLC at Village Hall to increase redundancy and reduce the likelihood of this happening again. Although this backup PLC would not be able to run the pumps at the main pump station during a power fail, if the fiber between Village Hall and the Main Pump Station was severed, it would allow continued monitoring and alarm for the rest of the system.

Concentric Integration also recommends installing a UPS failover circuit within the Main Pump Station control panel. In the event of another UPS failure, this circuit will automatically switch the panel directly to Utility power, bypassing the UPS.

Scope of Services

Equipment

Concentric will provide the following equipment:

1. Main Pumping Station

Equipment	Quantity
Allen-Bradley 1756-A4 ControlLogix 4 Slot Chassis	1
Allen-Bradley 1756-PA50 ControlLogix 120VAC 8A Power Supply	1
Allen-Bradley 1756-EN2T Ethernet/IP Comms Module	1

Equipment	Quantity
Allen-Bradley 1756-RM2 Redundancy Module	1
Allen-Bradley 1756-N2 Slot Filler	1
Allen-Bradley 700-HB33A1-4 Relay with base	1

2. Village Hall

Equipment	Quantity
Allen-Bradley 1756-L72 ControlLogix 5570 Controller 4MB	1
Allen-Bradley 1756-PA50 ControlLogix 120VAC 8A Power Supply	1
Allen-Bradley 1756-A4 ControlLogix 4 Slot Chassis	1
Allen-Bradley 1756-EN2T Ethernet/IP Comms Module	1
Allen-Bradley 1756-RM2 Redundancy Module	1
MOXA RK-4U Server rack mount for PLC	1
Rackmount RM-FR-T10 Rackmount kit for Firewall	1

Labor

Project Management

1. Plan, schedule, and coordinate the activities required to complete the Project.
2. Coordinate an onsite kickoff meeting or phone and video conference call with the Microsoft Teams application.
3. Coordinate with the Village's IT department as it relates to the Project.
4. Provide every other week project status updates via email and discuss the status with the Customer's Project Manager.
5. Manage a punch list upon the completion of the last task of the Project
    a. Village will be responsible for providing punch list items to Concentric Integration's Project Manager.

Finalize Design

1. Conduct a Final Design meeting to review the installation and network requirements.
2. Provide construction control panel wiring and network diagrams for Village Hall and the Main Pump Station, detailing the particulars of PLC and network installations.

PLC Modernizations: Programming, Installation, and Startup

1. Install a 4-slot PLC chassis for the redundancy module, existing PLC processor, and Ethernet/IP communications module within the Main Pump Station SCADA panel.
2. Install a 4-slot PLC chassis within the existing network rack at Village Hall to house the other redundancy module, additional PLC processor, and Ethernet/IP communications module.
3. The Village is responsible for terminating two spare fiber pairs between Village Hall and the Main Pump Station for communications between redundancy modules.
4. Perform all PLC programming, physical installation, startup, and testing of each PLC system for the Main Pump Station and Village Hall.
    a. Confirm that the Main Pump Station PLC correctly fails over to the Village Hall PLC and vice versa. Document results using a Field Device Checkout form.
5. Add redundancy status and communication fail alarms to the Main Pump Station OIT, SCADA graphics, and WIN911 notifications.
6. Assist Village staff with relocating the SCADA servers and firewall to a different existing network rack at Village Hall.

UPS Failover Circuit

1. Install a UPS Failover circuit within the Main Pump Station SCADA panel. In the event of another UPS failure, this circuit will automatically switch the panel directly to Utility power, bypassing the UPS.
2. Add UPS Failover status and alarm to the Main Pump Station OIT, SCADA graphics, and Win911 notifications.
3. Verify UPS Failover circuit functionality and ensure the SCADA panel remains energized if the UPS is disconnected (to simulate UPS failure). Document results using a Field Device Checkout form.

Documentation

1. Provide via USB flash drive or via electronic file-share using Microsoft OneDrive or similar, electronic copies of the following:
    a. Updated network diagram, detailing the modifications of the SCADA network as part of this proposed Project.
    b. Signed Field Device Test Reports.
    c. As-Built wiring diagrams, detailing the completed installations at each site.
    d. PLC programs.
    e. OIT programs.

Fee

Our fee for the above scope is a lump sum of $52,800.

This proposal is valid for 90 days from the date issued.

Concentric Assumptions / Customer Responsibilities

1. The Customer will assign an initial project manager at the project kickoff meeting.
2. The Customer will provide the dedicated fiber connection between the Main Pump Station and Village Hall as well as the fiber patch cables.
3. The Customer will provide site access for installation, programming, and startup during the Customer's normal business hours. Work outside of the Customer's normal business hours can be agreed upon as needed, provided Concentric can secure the site(s) upon departure.
4. Customer understands that all existing equipment to remain is assumed to be in good, working order. If any other equipment does not perform as expected, Concentric will work with the Customer to repair it, as needed, under a separate contract.
5. Customer will dispose of/recycle any removed equipment.

Project Schedule

Concentric is available to begin work upon notice to proceed.

Warranty

The warranty listed in the Standard Terms and Conditions (Paragraph 12.2):

☒ DOES apply
☐ DOES NOT apply

Standard Terms and Conditions References

Effective Date: The Effective Date of this Proposal and the associated Standard Terms and Conditions shall be the date this Proposal is accepted as shown by Customer's dated signature below.

Third Party Materials (See Standard Terms and Conditions Paragraphs 3.2 & 8.3):

☒ DOES apply
☐ DOES NOT apply

Notices: Notices required to be provided to Customer in accordance with Paragraph 16.3 of the Standard Terms and Conditions shall be delivered to the individual and address given above, unless Customer provides updated notification information to Concentric in writing

Standard Terms and Conditions

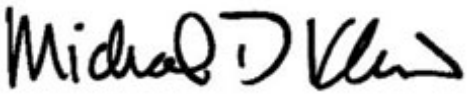
Concentric Integration, LLC's Standard Terms and Conditions, Version 10.2 (V10.2), located at http://goconcentric.com/standard-terms/ are hereby incorporated into this Project Proposal as though fully attached hereto. By signing below, each of the undersigned represents and warrants that Concentric Integration, LLC's Standard Terms & Conditions are legal, valid and binding obligations upon the parties for which they are the authorized representative.

Acceptance

If this proposal is acceptable, please sign one copy and return to us. Feel free to contact me if you have any questions.

Sincerely,

CONCENTRIC INTEGRATION, LLC



Michael D. Klein, PE
President
MDK/ECM

CUSTOMER:
Village of Orland Park

ACCEPTED BY: _____

TITLE: _____

DATE: _____

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