Data Flow Systems

QUOTE NO. 160620-01-RW
WELLS & SCADA SYSTEM MAINTENANCE IMPROVEMENTS
CITY OF POMPANO BEACH
JUNE 20, 2016

This quotation is the result of an onsite inspection and maintenance evaluation of the existing Hyper SCADA Server and Well RTUs. Several equipment upgrades, and in some cases the replacement of certain equipment, is recommended as detailed herein. These actions will bring the existing system up to current operating standards for ease of maintenance and improved performance, as well as to prolong the life of the entire SCADA system. In summary this quotation recommends the following system improvements:

- DFS will upgrade the existing secondary Hyper Server Module (model HSM001-3) to our latest model HSM002, which will also match the existing primary HSM002. DFS will upgrade both to incorporate our latest SCADA Software version at no added charge.
- DFS will configure a 2nd communications driver in the existing Hyper SCADA Server (HSS) that shall be dedicated to Fresh Water applications (Well RTUs). This driver will significantly improve the polling loop speed and integrity of data over radio to and from the Well RTUs. This will also isolate Well RTU communications from the existing Wastewater communications.
- DFS will secure a new FCC licensed VHF frequency and install a Central Terminal Unit (CTU-Master Radio) with Dipole Antenna that's dedicated for VHF communications with the Well RTUs.
- DFS will upgrade the existing UHF radio and antenna to VHF equipment at each Well RTU. This conversion from a UHF to VHF frequency will improve the radio fade-margins and reduce the potential for radio offline/comm issues. The new VHF radios will permit the upgrade from TAC II Legacy protocol to our latest DFP High Speed protocol.
- All but one of the Well RTUs were installed in the early 1990's (approx. 20 years ago) and incorporate ribbon-style buss cables and Buchannan card-edge connectors, both of which have been long discontinued by the manufacturers. DFS will upgrade the enclosures and backplanes to our latest versions for both improved reliability, surge protection and parts availability. All of the existing RTU Input/Output modules and Power Supply Modules will be utilized. However, any DMM001 module in use will be replaced with the DMM002.

All products offered are compatible with Pompano Beach's existing TAC II SCADA system. This quotation includes, and is limited to, the following. Should you have any questions or require additional information, please contact me at 321-259-5009.

Sincerely,

Data Flow Systems, Inc.
Randy E. Wyatt
Inside Sales Manager
Email: randy@dataflowsys.com

1. HYPER SERVER MODULE UPGRADES:

DFS will upgrade the existing secondary Hyper Server Module (model HSM001-3) to our latest model HSM002 with latest SCADA software version. DFS will also upgrade the existing HSM002 to our latest SCADA Software version at no added charge. This item includes the following:

(1) Hyper Server Module (HSM002) - *see upgrade note 1 below*
(1) HT3+ SCADA Software - *see upgrade note 2 below*
(1) Debian, Linux Operating System
(1) MariaDB, Open Source Database
(2) HT3 to HT3+ Conversion *(transfer configs, 3 years of journals, etc.)*
(1) Symbol Factory Image Library
(1) HT3 Mobile - *see upgrade note 3 below*

UPGRADE NOTES:

1. *A trade-in credit of $500 has been applied for the old HSM, which would be surrendered to DFS after the upgrade is complete.*
2. *HT3+ is the latest version of HT3 SCADA Software with a different operating system and database. Debian is utilized instead of the Suse operating system, and MariaDB is utilized instead of Oracle MySQL database. The operating system and database changes are the foundation of HT4 (in development). This HT3+ upgrade will permit the future upgrade to HT4 SCADA software via remote access (instead of a factory upgrade). Under this scope, DFS will also upgrade the existing HSM002.*
3. *Please note that HT3 Mobile (if utilized) requires VPN secured Internet access by the Hyper SCADA Server (HSS). The Internet connection with a secured VPN router are the responsibility of the utility's IT Department. The smart-phone(s) and carrier service are also the responsibility of the utility.*

2. CENTRAL TERMINAL UNIT (CTU-MASTER RADIO) W/ANTENNA FOR FRESH WATER:

The proposed CTU-Master Radio with Antenna will interface to the existing Hyper SCADA Server. The CTU enclosure will be wall-mounted near the existing CTU enclosure. The antenna will be installed on top of the building, mounted in the southwest corner, and secured to the roof in a manner similar to the existing UHF central antenna. Recommended spare parts are also included. This item includes the following:

(1) CTU Assembly, includes:
- (1) Fiberglass Enclosure
- (1) Modular Backplane
- (1) RF Pigtail
- (1) Telemetry Interface Module/radio
- (1) Fiber Interface Module
- (1) Network Fiber Module (Installed in existing DFS server)
- (1) Power Supply Module
- (1) Surge Protection Kit
- (1) Polyphaser Coaxial Surge Protector
- (1) 2.6 Ah Backup Battery
- (1) 6' Fiber Optic Cable Assembly
- (1) Miscellaneous Mounting Fasteners, Wire, Connectors, etc.

(1) Antenna Equipment, includes:
- (1) SS Unistrut Wall Mounting Bracket
- (1) CTA209 Antenna (Off-Set Configuration, directed 260° M (253° T)
- (1) 500' LMR600 Coaxial Cable Assembly (Estimated not to exceed length)
- (1) Grounding Materials

(1) Spare Parts, includes
- (1) Telemetry Interface Module/radio
- (1) Fiber Interface Module
- (1) Network Fiber Module
- (1) Power Supply Module

(1) Installation, Testing & FCC Licensing Services (per DFS Scope of Work)

3. WELLS NO. 7 & NO. 13 BILL OF MATERIAL & SERVICES:

At each site DFS will upgrade the existing UHF radio and antenna to VHF equipment and incorporate our latest DFP High Speed protocol. The existing wall-mounted antenna mast will be utilized. DFS will upgrade the enclosures and backplanes to our latest versions for both improved reliability, surge protection and parts availability. The existing Digital Control Module and Power Supply Module will be utilized. The existing conduit will be utilized. This item is for 2 sites and includes the following for each site:

(1) RTU202 Assembly, includes:
- (1) Fiberglass Enclosure
- (1) Modular Backplane
- (1) RF Pigtail
- (1) Telemetry Interface Module/radio
- (**0**) Digital Control Module (Existing module will be used)
- (**0**) Power Supply Module (Existing module will be used)
- (1) Spare Module Positions
- (1) RTU Surge Protection Kit
- (1) Polyphaser Coaxial Surge Protector
- (1) 2.6 Ah Backup Battery
- (1) Miscellaneous Mounting Fasteners, Wire, Connectors, etc.

(1) RTA209 Antenna & Coaxial Cable Assembly

(1) Installation, Testing & FCC Licensing Services (per DFS Scope of Work)

4. WELL NO. 18 BILL OF MATERIAL & SERVICES:

DFS will upgrade the existing UHF radio and antenna to VHF equipment and incorporate our latest DFP High Speed protocol. A new 35’ antenna tower assembly will be provided and installed, and DFS will remove the existing roof mounted antenna system. DFS will upgrade the enclosure and backplane to our latest versions for both improved reliability, surge protection and parts availability. The existing DMM001 module in use will be replaced with a DMM002. The existing Power Supply Module will be utilized. The existing conduit will be utilized. This item includes the following:

(1) RTU202 Assembly, includes:
- (1) Fiberglass Enclosure
- (1) Modular Backplane
- (1) RF Pigtail
- (1) Telemetry Interface Module/radio
- (1) Digital Monitor Module
- (**0**) Power Supply Module (Existing module will be used)
- (1) Spare Module Positions
- (1) RTU Surge Protection Kit
- (1) Polyphaser Coaxial Surge Protector
- (1) 2.6 Ah Backup Battery
- (1) Miscellaneous Mounting Fasteners, Wire, Connectors, etc.

(1) Complete Antenna Subsystem, includes:
- (1) 35' Tower Assembly
- (1) RTA209 Antenna & Coaxial Cable Assembly

(1) Installation, Testing & FCC Licensing Services (per DFS Scope of Work)

5. WELLS NO. 23, NO. 24, NO. 25. & NO. 26 BILL OF MATERIAL & SERVICES:

At each site DFS will upgrade the existing UHF radio and antenna to VHF equipment and incorporate our latest DFP High Speed protocol. The existing 21' antenna assembly will be utilized and will require the rental of a man-lift. DFS will upgrade the enclosures and backplanes to our latest versions for both improved reliability, surge protection and parts availability. The existing PLC Bypass Card, Digital Control Module and Power Supply Module will be utilized. The existing conduit will be utilized. This item is for 4 sites and includes the following for each site:

(1) RTU204 Assembly, includes:
- (1) Stainless Steel Enclosure
- (1) PLC Ready Modular Backplane
- (1) RF Pigtail
- (1) Telemetry Interface Module/radio
- (**0**) PLC Bypass Card (Existing module will be used)
- (**0**) Digital Control Module (Existing module will be used)
- (**0**) Power Supply Module (Existing module will be used)
- (1) Spare Module Positions
- (1) RTU Surge Protection Kit
- (1) Polyphaser Coaxial Surge Protector
- (1) 2.6 Ah Backup Battery
- (1) Miscellaneous Mounting Fasteners, Wire, Connectors, etc.

(1) RTA209 Antenna & Coaxial Cable Assembly

(1) Installation, Man-Lift Rental, Testing & FCC Licensing Services (per DFS Scope of Work)

6. INDIAN MOUND GST & PS BILL OF MATERIAL & SERVICES:

DFS will upgrade the existing UHF radio and antenna to VHF equipment and incorporate our latest DFP High Speed protocol. The existing 21' antenna assembly will be utilized and will require the rental of a man-lift. Everything else at this site incorporates modern equipment and will remain in use. This item includes the following:

(1) Telemetry Interface Module/radio

(1) RTA209 Antenna & Coaxial Cable Assembly

(1) Installation, Man-Lift Rental, Testing & FCC Licensing Services (per DFS Scope of Work)

7. GENERATOR BUILDING BILL OF MATERIAL & SERVICES:

DFS will upgrade the existing UHF radio and antenna to VHF equipment and incorporate our latest DFP High Speed protocol. A new 21' antenna tower assembly will be provided and installed, and DFS will remove the existing roof mounted antenna system. DFS will upgrade the enclosure and backplane to our latest versions for both improved reliability, surge protection and parts availability. The existing DMM001 module in use will be replaced with a DMM002. The existing Power Supply Module will be utilized. The existing conduit will be utilized. This item includes the following:

(1) RTU204 Assembly, includes:
- (1) Stainless Steel Enclosure
- (1) Modular Backplane

(1) RF Pigtail
(1) Telemetry Interface Module/radio
(1) Digital Monitor Module
(**0**) Power Supply Module (Existing module will be used)
(0) Spare Module Positions
(1) RTU Surge Protection Kit
(1) Polyphaser Coaxial Surge Protector
(1) 2.6 Ah Backup Battery
(1) Miscellaneous Mounting Fasteners, Wire, Connectors, etc.

(1) Complete Antenna Subsystem, includes:
(1) 35' Tower Assembly
(1) RTA209 Antenna & Coaxial Cable Assembly

(1) Installation, Testing & FCC Licensing Services (per DFS Scope of Work)

WORK TO BE PERFORMED BY DFS:

1. Please see site-specific DFS Scope of Work defined with each line item above.
2. Any conduit provided by DFS will be PVC rigid and/or flexible and is limited to 30 feet. Trenching under or cutting/patching of sidewalks, parking lots, streets, etc. is not provided by this scope and will be the responsibility of others.
3. DFS will complete any required RTU configurations at the central site. All existing RTU HMI screens will be utilized.

WORK TO BE PERFORMED BY THE UTILITY:

1. Make site available when work is scheduled, and have personnel available to operate system as needed when DFS work is scheduled.
2. All required instrumentation devices either exist, or shall be provided and installed by others.
3. All required underground locate information must be provided before DFS installation services can be scheduled. DFS will provide an underground locate information form. The Utility will be the underground locate Point of Contact. The Utility must provide a contact name and phone number for use by locate services should they need to gain access to a secured area or are unable to find the site based on locate info provided by Utility.

PRICING & TERMS:

This quotation totals $87,864.00. Pricing are FOB job site. Partial billing may occur as individual services are completed. Please review the Quotation Notes listed below. Lead time is 8-10 weeks after receipt of order. DFS payment terms are NET 30. This quotation will be honored for 90 days.

QUOTATION NOTES:

1. Only those items and services specifically listed above are included in this quotation.
2. DFS employees will not enter "Confined Spaces" and/or "Permit-Required Confined Spaces" as defined by OSHA. Any such requirement will be performed by others.
3. All electrical equipment to be accessed by DFS employees must be temporarily removed from service during the performance of our scope of work.
4. This quotation does not include any required permitting, sealed drawings, or associated fees.
5. This quotation stipulates that DFS existing insurance provider(s) and policy coverage are acceptable. Policy information can be found at http://www.dataflowsys.com/company/documents/insurance-coverage.pdf