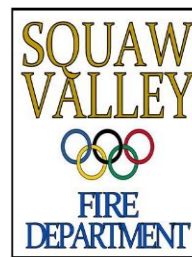




SQUAW VALLEY PUBLIC SERVICE DISTRICT



SCADA Implementation Project

DATE: December 16, 2014

TO: District Board Members

FROM: Jesse McGraw, Operations Manager

SUBJECT: SCADA Replacement/Upgrade Implementation Project

Background:

The District operates and maintains a supervisory control and data acquisition (SCADA) system to control and monitor aquifer and tank levels, operate wells and booster stations, and monitor sewer flows. The District's first SCADA system was installed in 1991 and was funded by the Resort at Squaw Creek project. The initial system was cutting edge technology for the time but built on a platform (Commodore Amiga) that was destined to become obsolete. The initial SCADA system provided reporting capabilities that have been carried forward at considerable expense; although somewhat standard now the reports we enjoy were largely unknown back in the day.

The original SCADA system was completely replaced in 2001 with a then state of the art system using "open architecture" and standardized hardware at a cost of approximately \$160,000. This means the system software can be worked on by a variety of vendors and parts and components are interchangeable with multiple suppliers; at least to some extent. The current SCADA system was upgraded and the HMI hardware replaced in 2007 due to obsolescence of the Windows 98 software and limitations of the 486 computer operating systems. The upgrade included the installation of the pH analyzer at the Zone III Booster, monitoring of sump pumps in Wells #1 & #3, reporting of aquifer levels to the District web page, and remote access by internet at a cost of approximately \$45,685. Included in the upgrade was a change in reporting software from Active Factory to Incuity along with the subsequent increase in service and maintenance fees.

The present system is functionally obsolete due to software support ending for windows XP and the HMI being seven years old and in need of replacement. One cannot be replaced without updating the other; therefore the older SCADA software will not run on the proposed Windows Server 2012 operating system. To compound the problem in 2008, the historian and reporting software, Incuity was purchased by Rockwell Int. who elected to nearly triple the annual service and maintenance fees from \$1,900 annually to \$5,775 annually; rising software maintenance costs coupled with plunging revenues led to a decision to cancel the Incuity service contract.

With the SCADA system as a whole surpassing 13 years in service the District elected to prepare a SCADA master plan to guide needed improvements. Phase one of the four phase project is to replace the HMI and operating software, the subject of the attached proposal from Sierra Control LLC.

Discussion:

The SCADA Master Plan outlines a methodology to replace upwards of 70% of the existing SCADA system while planning for future expansion. The phases are outlined in order of precedence as:

1. Replace HMI and upgrade operating software (current proposal)
2. Upgrade radio communications and rebuild seven remote and one master terminals
3. Install system upgrades to include office generator status, Main Well backup system and modifications, and remote access (remote access will tie in with proposed VueWorks upgrades)
4. Add HVAC system control (replaces obsolete Carrier control system)

The total cost for system rehabilitation is in the neighborhood of \$150,000 not including the HVAC system replacement, which needs further investigation. The project is expected to carry the District SCADA system for another ten years or more; the expected service life of a SCADA system within today's technology. The phase one cost as proposed is \$49,458.

Sierra Controls LLC proposes to replace the existing Wonderware software with Clear SCADA; there are a number of advantages due to Clear SCADA being developed from the ground up for SCADA applications whereas the Wonderware product is a factory application modified for SCADA use. The Incuity software will be replaced with Dream Reports, the remaining support software's will be with the latest versions working with Windows Server 2012. The total annual cost for service and maintenance of the new SCADA software will be approximately \$2,350 annually; near the 2007 funding level. Sierra Controls LLC has worked on the District's SCADA system since it was installed in 2001 and is a reputable company. Sourcing the project to another integrator will increase staff time and projected cost.

Alternatives: 1. Accept the proposal from Sierra Controls LLC in the amount of \$49,458 and complete Phase one of the project as projected in the 2014-2015 Capital Projects Budget, not to exceed \$50,000.

2. Reject the proposal from Sierra Controls LLC and seek alternate ways of keeping the SCADA system operational.

Fiscal Impacts:

Staff budgeted \$50,000 for implementation of the SCADA Master Plan Phase one improvements. The cost of the project is split evenly between the Water and Sewer System FARF. The funds will be depleted by an amount equal to the cost of the project. Note; the decision to cancel the service and maintenance contract with Incuity has saved the districts upwards of \$28,875 or more since 2009. Additional funding alternatives have not been explored; funding the project from the Sewer FARF is an option.

Recommendation: Staff recommends alternative 1 approving the proposal from Sierra Controls LLC. Staff recommends the Board authorize the General Manager to enter into contract with Sierra Controls, LLC. in the amount not to exceed \$50,000.

Attachments: Proposal No. 8914 from Sierra Controls LLC and proposed Contract

Date Prepared: December 8, 2014

**SQUAW VALLEY PUBLIC SERVICE DISTRICT
PROFESSIONAL SERVICES AGREEMENT
for
SCADA Implementation Project**

This Agreement is made and entered into this 19th day of December, 2014 by and between the SQUAW VALLEY PUBLIC SERVICE DISTRICT, a California Special District ("District"), and SIERRA CONTROLS, LLC with principal offices at 940 Mallory Way, Suite 1, Carson City, Nevada 89701, providing professional services and herein referred to as "CONSULTANT".

AGREEMENT

1. PROFESSIONAL SERVICES

Subject to the terms and conditions herein, Consultant shall provide those services set forth in the Scope of Services attached hereto as **Exhibit A** ("Services"), in general: engineering consulting services for the **SCADA Implementation Project**. Consultant hereby agrees to perform the Services and to furnish or procure the use of incidental services, equipment, and facilities necessary for the completion of the Services.

2. ADDITIONAL SERVICES

Any work in addition to the Services set forth in the attached correspondence shall be undertaken only upon District's prior written authorization.

3. QUALIFICATIONS

Consultant warrants that it is specially trained, experienced and competent to perform all work and services specified herein. All work performed by Consultant under this Agreement shall meet the standard of care and quality ordinarily to be expected of competent, licensed professionals in Consultant's field of expertise.

Consultant hereby assigns Bob Rhees as the Project Manager, who shall represent Consultant to District in connection with the Services. Consultant warrants that the Project Manager is qualified to do the work under this Agreement. The Project Manager shall perform or supervise all work and the report or plans submitted shall bear the appropriate certification to that effect. Consultant shall not change the Project Manager without District's written consent.

4. SCHEDULE OF PERFORMANCE

The services shall be completed in accordance with the timing requirements of construction projects within the District.

Notwithstanding the foregoing, neither party shall hold the other responsible for damages or delays in performance caused by acts of God, strikes, lock outs, accidents, or other events beyond the control of the other or the other's employees or agents.

Consultant understands and agrees that time is of the essence in the completion of the Services.

5. COMPENSATION

This Agreement is for engineering services based on a time and expense basis in accordance with Exhibit A. Payment for the Services, including the amount, method, and timing of payment, shall be as set forth within Exhibit A provided by the Contractor, and **not to exceed fifty thousand dollars and no cents (\$50,000), without prior authorization.** Such payments to Consultant shall be considered full compensation for all personnel, materials, supplies, and equipment used in performing the Services. Payment for additional services authorized pursuant to Section 2 of this Agreement shall be as set forth in the authorization for said services.

6. SUB-CONSULTANTS

The following sub-consultants are acceptable to both parties:

none

District approves the use of the sub-consultants as identified above. Consultant will pay all fees for the sub-consultants, the costs of which are included within the compensation that District pays to Consultant, as provided under Section 5. All sub-consultants are, for purposes of this Agreement, deemed to be employees of Consultant, and Consultant will be solely responsible for their performance. Consultant understands that it will not be compensated for services provided using unauthorized sub-consultants.

7. ASSIGNMENT

Consultant's services are unique and personal. Consultant shall not sub-contract or assign this contract or any portion of the work without District's prior written consent. Any assignment without such approval shall be void, and at District's option, shall terminate this Agreement. Consultant shall not assign or transfer any of its interest or obligation under this Agreement without the District's written consent.

8. INDEPENDENT CONTRACTOR STATUS

Consultant shall provide the services to District as an independent contractor as defined in Labor Code section 3353, under the control of the District as to the result of the work but not the means by which the result is accomplished, and nothing herein contained shall be construed to make Consultant an agent or employee of District while providing these services. Consultant shall be entitled to no other benefits or compensation except as provided in this Agreement.

9. COMPLIANCE WITH LAWS

Consultant shall comply with all applicable federal, state and local laws, codes, ordinances, regulations, orders and decrees. Consultant represents and warrants to District that it has and shall, at its own cost and expense, keep in effect or obtain at all times during the term of this Agreement all licenses, permits, qualifications, insurance and approvals of any nature that are legally required for Consultant to practice its profession and incident to the due and lawful prosecution of the Services. Consultant shall provide District with written proof of such licenses, permits, insurance and approvals. District is not responsible or liable for Consultant's failure to comply with the requirements contained in this Section.

10. INSURANCE

A. Workers' Compensation. Such insurance as will protect CONSULTANT from claims under Workers' Compensation and Employers Liability Acts; such insurance to be maintained as to type and amount shall be in strict compliance with state and federal statutes.

B. Comprehensive General and Automobile Liability, Property Damage and Personal Injury. Such comprehensive general and automobile liability insurance as shall protect the DISTRICT, its officers, agents, and employees and CONSULTANT from claims which may arise from CONSULTANT'S operations under this AGREEMENT, whether such operations are by CONSULTANT or by its employees, sub-consultants, consultants, agents, or anyone directly or indirectly employed by any of the foregoing. The liability insurance shall include, but not be limited to, protection against claims arising from bodily or personal injury or damage to property resulting from operations, equipment, or products of CONSULTANT or by its employees, sub-consultants, consultants, or anyone directly or indirectly employed by the foregoing. The amount of insurance shall be no less than One Million Dollars (\$1,000,000) single limit coverage applying to bodily and personal injury and property damage, or a combination of both.

Such insurance shall include an endorsement naming the DISTRICT, its officers, employees, and agents as additional insured, with respect to liability arising out of the performance of any work under this AGREEMENT, and providing that such insurance is primary insurance with respect to the interests of the DISTRICT and that any other insurance maintained by the DISTRICT is excess, not contributing insurance with the insurance required hereunder.

C. Errors and Omissions. Such errors and omissions insurance as shall protect CONSULTANT from claims based on alleged error or negligent or wrongful act or omissions which may arise from CONSULTANT'S operations under this AGREEMENT, whether such claims be made during or subsequent to the terms of this AGREEMENT, and whether such operations be by CONSULTANT or by its employees, sub-consultants, consultants, agents, or anyone else directly or indirectly employed by any of the foregoing. The amount of this insurance shall not be less than One Million Dollars (\$1,000,000).

11. INDEMNITY

CONSULTANT, at its expense, shall indemnify and hold harmless the DISTRICT, its officers, agents, employees, and independent consultants from any and all claims, demands or charges and from any loss or liability, including attorney's fees and expenses of litigation, arising out of errors, negligent or wrongful acts or omissions, breaches of warranty, willful misconduct or fraudulent representations or concealments of CONSULTANT, its employees or agents in the performance of this AGREEMENT, excepting and excluding liability for damages caused by reason of the active negligence of the DISTRICT, its officers, agents, employees, or other independent consultants.

12. NO CONFLICT OF INTEREST

Other than Consultant's interest in this Agreement, Consultant covenants and represents that it presently has no investment or interest, and shall not acquire any investment or interest, direct or indirect, financial or otherwise, which would conflict in any manner or degree with the performance of the Services. Consultant further covenants and represents that it does not now have and shall not acquire any source of income, interest in a business entity, interest in real property, or investment which would be affected in any manner or degree by the performance of the Services. Consultant further covenants and represents that no person having any such investment or interest shall perform any of the Services.

13. LITIGATION

In the event District desires Consultant to prepare for or appear in litigation on behalf of District, and Consultant agrees to perform said services, other than herein specified, District shall pay Consultant the usual and customary fees charged by Consultant for such services, and Consultant agrees to perform said services.

14. INSPECTION

Consultant shall provide District with every reasonable opportunity for District to ascertain that the Services are being performed in accordance with the terms and conditions of this Agreement. Inspection of the Services and materials provided, if any, shall not relieve Consultant of any of its obligations under this Agreement.

Consultant shall maintain records and documents related to the performance of this Agreement, including but not limited to documentation to substantiate all charges for services provided in the performance of this Agreement, hours worked, materials used, and expenses incurred and shall allow District access to such records, upon request, for a period of three years from the date of this Agreement's termination. Consultant shall provide copies of these records and documentation if they are requested by District.

15. LIQUIDATED DAMAGES

District operates under budgetary constraints and time limitations brought about by a limited construction season. Delays in performance of the Services will result in damages to District for which Consultant agrees to reimburse District liquidated damages in the amount of N/A . Any sums which would be payable under this Section are in the nature of liquidated damages, are not a penalty. It is agreed that the amount of damages as may be sustained by District is difficult of ascertainment. Accordingly, it is agreed that the amount agreed upon herein represents a fair and reasonable estimate of compensation for the losses that may reasonably be anticipated from the failure of Consultant to provide the Services within the time set forth therefore in the Schedule of Performance.

16. TERM; SUSPENSION; TERMINATION

This Agreement shall commence upon execution of this Agreement, and shall continue in full force and effect until completed or otherwise terminated as provided herein.

District may suspend or terminate this Agreement with or without cause by giving ten days' written notice to Consultant. Upon receipt of such notice, Consultant shall immediately discontinue its performance under this Agreement.

District shall pay all charges incurred prior to said termination, together with associated expenses reasonably incurred by Consultant prior to said termination and charges for other commitments outstanding at the time of termination (such as work termination of the sub-consultants, rental agreements, orders for printing, etc.) within 30 days following submission of Consultant's final statement; provided, however, if this Agreement is suspended or terminated for fault of Consultant, District shall be obligated to compensate Consultant only for that portion of the Services which are of benefit to District in District's sole and reasonable discretion. Moreover, if termination of this Agreement with Consultant occurs at the completion of a specific phase of the project, Consultant shall only be entitled to compensation through said specific phase. If District terminates this Agreement for fault and it is later determined that the fault termination was wrongful, such termination automatically shall be converted to and treated as a termination for convenience under this Section, and Consultant shall be entitled to receive only the amounts payable hereunder in the event of a termination for convenience.

17. RETURN OF MATERIALS

Upon such suspension or termination, Consultant shall turn over to District immediately any and all copies of studies, sketches, drawings, computations and other data, whether or not completed, prepared by Consultant or its subcontractors, if any, or given to Consultant or its subcontractors, if any, in connection with this Agreement.

Consultant shall not disclose or make use of confidential or proprietary information or knowledge which may be disclosed to Consultant, directly or indirectly, in the course of any performance under this Agreement, except specifically and directly to provide the Services. This Section shall survive the termination of this Agreement.

18. OWNERSHIP OF PLANS, SPECIFICATIONS AND OTHER MATERIAL

The original documents, electronic files, plans, drawings, specifications, studies or reports (collectively hereafter "documents") prepared under or in any manner in connection with this Agreement, whether or not completed, prepared by Consultant or its sub-consultant, if any, or given to Consultant or sub-consultant, if any, except working notes and internal documents, shall become and remain the property of District. Consultant shall without delay surrender the documents to District upon the completion of the work under this Agreement, or on the completion of specific phases of the work, or upon the termination of this Agreement. Consultant may retain copies of the documents in their files, but the documents shall not be released to any other party without District's express written consent.

District's reuse of any of the documents or other work products of Consultant for other than the specific project covered in this Agreement shall be at District's risk.

19. NON-DISCRIMINATION

Consultant warrants that they are an Equal Opportunity Employer and shall comply with applicable regulations governing equal employment opportunity. Neither Consultant nor any of its sub-consultants shall discriminate in the employment of any person because of race, color, national origin, ancestry, physical handicap, medical condition, marital status, sex, or age, unless based upon a bona fide occupational qualification pursuant to the California Fair Employment and Housing Act.

20. MEDIATION/ARBITRATION

Should any dispute arise concerning this agreement or any provision hereof, the parties agree to mediate in good faith the dispute before a neutral mediator located in either Placer or Nevada County, California to be mutually selected by the parties. There shall be a single mediator chosen from the list of authorized mediators maintained by the Superior Courts of Placer and Nevada Counties, California. The parties agree to equally pay any and all costs and expenses of mediation.

In the event that the parties are unsuccessful in resolving all or any portion of said dispute through mediation, such remaining dispute shall be settled by arbitration. Notice of Demand for Arbitration shall be given by one party to the other pursuant to the Notice provisions of Paragraph 14.G of this AGREEMENT. There shall be a single arbitrator chosen from the list of authorized arbitrators maintained by the Superior Courts of Placer and Nevada Counties. Each party may reject one arbitrator, and if the parties fail to agree to the selection of an arbitrator from such list(s) within 10 days of the date of notice of demand for arbitration, then each party may appoint an arbitrator and those arbitrators shall agree to the selection of a neutral arbitrator. Arbitration shall be conducted pursuant to *California Code of Civil Procedure* sections 1280, et seq.

Arbitration shall occur in Placer or Nevada County, California, and any action to compel arbitration or to enforce an arbitration award shall be commenced in the proper court of Placer County, California.

21. AGREEMENT BINDING

The terms, covenants and conditions of this Agreement shall apply to, and shall bind, the heirs, successors, executors, administrators, assigns and subcontractors of both parties.

22. WAIVERS

The waiver by either party of any breach or violation of any term or condition of this Agreement or of law shall not be deemed to be a waiver of that particular or any other term, condition or law. The subsequent acceptance by either party of anything that may be due under this Agreement shall not be deemed to be a waiver by that party of any preceding breach or violation by the other party.

23. COSTS AND ATTORNEYS' FEES

If either party commences any legal action against the other party arising out of this Agreement or the performance thereof, the prevailing party in such action may recover its reasonable litigation expenses, including court costs, expert witness fees, discovery expenses and attorneys' fees.

24. AGREEMENT CONTAINS ALL UNDERSTANDINGS

This document represents the entire and integrated Agreement between District and Consultant and supersedes all prior negotiations, representations or Agreements, either written or oral. This document may be amended only by written instrument, signed by both District and Consultant. All provisions of this Agreement are expressly made conditions.

25. NO THIRD PARTY BENEFICIARIES

Nothing in this Agreement shall be construed to create and the parties do not intend to create any rights in third parties.

26. APPLICABLE LAW AND FORUM

This Agreement shall be governed by and construed and interpreted according to the law of California as if written by both parties. Any action to enforce the terms of this Agreement or for breach thereof shall be brought and tried in Placer County, California.

27. SEVERABILITY

If any court of competent jurisdiction or subsequent preemptive legislation holds or renders any of the provisions of this Agreement unenforceable or invalid, the validity and enforceability of the remaining provisions, or portions thereof, shall not be affected.

28. NOTICES

All notices that are required to be given by one party to the other under this AGREEMENT shall be in writing and shall be deemed to have been given if delivered personally or enclosed in the properly addressed envelope and deposited in a United States Post Office for delivery by registered or certified mail addressed to the parties at the following addresses, unless such addresses are changed by notice to the other party:

DISTRICT:

Squaw Valley Public Service District
Attn: Michael T. Geary, General Manager
Post Office Box 2026
Olympic Valley CA 96146-2026

CONSULTANT:

Sierra Controls, LLC.
Attn: Danny Hunsaker, General Manager
940 Mallory Way, Suite 1
Carson City, NV 89701

IN WITNESS WHEREOF, the parties hereto have set their hands the day and date of the year first set forth above.

DISTRICT:

DATED: _____

Michael T. Geary, General Manager

Kathryn Obayashi-Bartsch, Board Secretary

CONSULTANT:

DATED: _____

Danny Hunsaker, General Manager



SIERRA CONTROLS, LLC

WATER MEASUREMENT AND CONTROL SYSTEMS

Exhibit A

DATE

December 5, 2014

QUOTATION NO.

8914

To: Squaw Valley PSD

Attention: Jesse McGraw

Subject: Squaw Valley Public Service District SCADA Master Plan – Phase 1 Proposal

Sierra Controls, LLC (SC) is pleased to offer the following proposal for work on the Squaw Valley Public Service District (DISTRICT) SCADA system. This proposal discusses a modified option for Phase 1 which was previously presented in the SCADA Master Plan. Modifications include appropriate changes to the master plan presentation of hardware and software requirements such that the proposal stays within the current budget. Such modifications have been carefully considered such that the full scope of the hardware and software scheme proposed in the Master Plan can be achieved at a later date, yet the majority of all functional requirements are achieved now.

One of the significant goals of the proposed project is to prepare the SCADA system for later radio communications improvements, especially between the DISTRICT office and the Main Well. Throughout the proposed work in this proposal, SC shall continually assess and make available enhancements to the SCADA system as budget permits to prepare for communication upgrades and other improvements where possible. Such assessments and enhancements shall include the use of PLC databases to track data addresses for conversion and implementation of direct access via enhanced radio communications at a later date.

SC shall provide upgraded HMI hardware and software to replace the existing HMI. Equipment and services provided by Sierra Controls shall include the following:

SCADA HMI Software

In accordance with the Master Plan, the HMI software shall be based upon ClearSCADA with all of its basic improvements over the existing HMI. The ClearSCADA license shall include 1500 tags. To reduce costs within this proposal, remote ViewX or WebX ClearSCADA client licenses shall not be included at this time. The functionality of remote ClearSCADA client access will thus be reserved for use at a later date. Licensing shall also include OPC server capabilities for communicating with Win-911 and other future OPC clients as required. This proposal includes the first year of annual service and support for the ClearSCADA as provided by Schneider Electric. It is anticipated that the first year of annual support will be activated on or around the date of first commissioning and/or training. For future planning, we recommend that the DISTRICT budget an amount of approximately \$1,104 for second and continuous years of annual service and support fees for ClearSCADA. This approximate amount will likely be billed to the DISTRICT by Schneider Electric just prior to the time that the first year of support expires. At some time in the future, SC will gladly help the District assess these support fees and their impact to determine if they should be continued for ClearSCADA.

The existing Win-911 alarm annunciation and notification software shall be upgraded to the latest version. The existing modem (for communicating over the phone system) shall be upgraded to a more reliable Intel Dialogic telephony card. This proposal includes the first year of annual service and support for Win-911 as provided by Specter Instruments. It is anticipated that the first year of annual support will be activated at time of purchase, which will likely be several weeks before the time of first commissioning and/or training. Services shall include all development required to integrate Win-911 with ClearSCADA. For future planning, we recommend that the DISTRICT budget an amount of approximately \$395 for second and continuous years of annual service and support fees for Win-911. This approximate amount will likely be billed to the DISTRICT by Specter Instruments (or a separate supplier) just prior to the time that the first year of support expires. At some time in the future, SC will gladly help the District assess these support fees and their impact to determine if they should be continued for Win-911.

Reporting software shall include Dream Reports by Ocean Data Systems. Licensing shall be provided for a maximum of 250 tags. Development services shall be included such that existing reports will be duplicated to the greatest extent possible within the new reporting software. It is anticipated that the DISTRICT may elect to purchase additional licensing at a later date for remote access and manipulation of the reports from other PCs within the DISTRICT office. This proposal however does not include such capability at this time. For future planning, we recommend that the DISTRICT budget an amount of approximately \$594 for second and continuous years of annual service and support fees for Dream Reports. This approximate amount will likely be billed to the DISTRICT by Ocean Data Systems (or a separate supplier) just prior to the time that the first year of support expires. At some time in the future, SC will gladly help the District assess these support fees and their impact to determine if they should be continued for Dream Reports.

SCADA Workstation/Server PC

The proposed PC configuration shall be a single rack mounted Dell Precision R7610 (or similar) unit in place of the server and workstation configuration as discussed in the Master Plan. This configuration makes use of the best features of both a server and a workstation together in one machine. Upgrades to separate server and workstation can easily be accomplished at a later date. The PC shall include redundant power supplies. The PC shall also include two disk drives installed in a RAID 1 configuration. The graphics card shall be capable of supporting multiple monitors at a resolution of 1920 x 1200 each. Two such monitors shall be supplied with the PC.

The operating system on the SCADA PC shall be upgraded from Windows 7 as provided by Dell to Windows Server 2012 R2.

Miscellaneous server software shall be provided, installed, and configured on the new PC. Such software includes antivirus software, PerfectDisk, Internet lock, SnagIt, and WinZip. Microsoft Office basic software including Excel and Word shall also be installed. The version of Microsoft Office shall either be 2010 or 2013 depending upon current compatibility issues if any.

The cost of this proposal also includes one year of basic remote access service as currently provided by SC. This remote access allows for secure Internet remote access by SC and DISTRICT staff to the SCADA PC from locations outside of the DISTRICT office. Such remote access provides remote control of the keyboard and mouse only while the user can view what is on the monitors for the SCADA PC. Remote access in a client/server atmosphere as discussed in the master plan for multiple users with independent keyboard and mouse is not provided as part of this proposal and shall be reserved for implementation in a later and separate project.

Supporting Equipment

It is anticipated that the new PC shall be mounted within the existing rack in the server room located upstairs in the DISTRICT office while the monitors are located remote from the PC in the operations room downstairs in the DISTRICT office. As discussed in the master plan, such an installation will provide greater security for the equipment. To support this installation a KVM extender shall be used for communications between the PC located upstairs and the monitors, keyboard, mouse, and speakers located downstairs. An additional monitor shall be provided and made available if needed upstairs. Rack equipment shall include computer rails to mount the PC in the existing rack and a rack mount power strip. As previously discussed, the KVM extender will require the use of two cables between the server room and the operations area. If the existing printer in the operations room can be moved or connected wirelessly, the cable installation for the existing printer can be used if necessary for the second cable. Other options might be possible upon further investigation. This proposal does not include any hardware or extra installation services for supporting any special or complicated solution. It is anticipated however that the solution shall be developed and addressed in conjunction with the DISTRICT as the project progresses.

A new SonicWall TZ215 firewall shall be provided, configured, and installed with the new system. This firewall will provide a secure separation of the SCADA system from the DISTRICT office network while also providing the required functionality for remote access and other ancillary needs.

A new Netgear GS716T-200NAS Ethernet switch shall also be provided, configured, and installed for the supervisory network.

A new Liebert model GXT3-1500RT120 UPS with a separate and dedicated switchable power output distribution (POD) module shall be provided, configured, and installed in the rack for supporting the scada PC, firewall, Ethernet switch, and other supporting hardware. This UPS shall be equipped with a web card for communicating with the SCADA system. The web card will provide crucial UPS power data which will be displayed on the HMI. The HMI shall be configured to provide alarm notification based upon low remaining battery power or other alarm conditions within the UPS.

Supporting Services

Project Management shall be provided through a single SC engineer as the project manager (PM). Project tasks shall be provided by various engineers and technicians. All such work shall be coordinated by the PM. Services included with this proposal shall include the following:

- PC configuration and installation.
- Firewall configuration and installation.
- HMI design and development to incorporate the basic functions of the existing system and include previously discussed enhancements that are common to the new HMI software.
- Win-911 development.
- Report development.
- History migration for levels, pressures, run status, and other basic process tags from the old HMI historian to the new historian within ClearSCADA. History for non-essential or non-process related tags shall not be migrated to the new system. To help maintain the cost requirements of this proposal, history migration shall be performed only for the last five years. All data, including that prior to the last five years, from the existing historian shall be maintained in its native format for later migration as part of a separate project if required.
- Development and installation of a parts manual and basic HMI operations manual. This manual shall be provided in PDF form and shall be accessible from the HMI by simply pressing the HELP pushbutton in the HMI menu. The manual shall include pertinent information about the equipment and software installed as part of this project and shall include links to additional PDF files as appropriate.
- Startup services following the installation of all the components listed above. The anticipated duration of startup shall be one day.
- On-site training following start up. The anticipated training shall include two site visits and/or remote online training sessions of four hours each.

Project Schedule

The schedule for substantial completion and punch list completion on this phase of the project shall be 120 calendar days from receipt of Notice to Proceed.

Notes:

1. Pricing based upon standard wage rates. No permits or bonds included.
2. Signatory for the contract on this project will be Danny Hunsaker, General Manager.
Project Manager will be Bob Rhees.

Total price of proposed project:	\$46,180
Plus Tax:	<u>\$ 3,278</u>
Contract Total:	\$ 49,458

DELIVERY: Per Project Schedule
 TERMS: NET 30
 FOB: CARSON CITY, NV
 THIS QUOTATION IS VALID FOR 60 DAYS. BY

RESPECTFULLY SUBMITTED,
 SIERRA CONTROLS, LLC


 Danny Hunsaker, General Manager

To proceed with this order please sign below with an authorized signature and return.

 Signed

 PO Number Date

 Requested Delivery Date