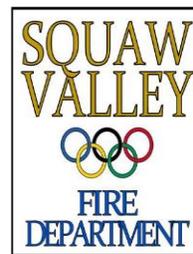




## SQUAW VALLEY PUBLIC SERVICE DISTRICT



### SCADA Implementation Project Phase I Amendment to Services Agreement #1 Sierra Control Systems, LLC

**DATE:** April 28, 2015  
**TO:** District Board Members  
**FROM:** Jesse McGraw, Operations Manager  
**SUBJECT:** SCADA Implementation Project Phase I, ASA #1

**BACKGROUND:**

Following completion of the SCADA Master Plan in December 2014 the Board approved implementation of Phase I of a project to update the District's aging SCADA system. Phase I of the project is to replace the control computer and operating software. Phase II consists of a number of upgrades to the Remote Terminal Units to include replacing the radios and communication protocols.

**DISCUSSION:**

Due to recessionary budget cuts the District has delayed upgrading the SCADA system about as long as possible. In the interim the number of failures and off hour system alarms have increased to include radio and communication failures. For instance when the District conveyed the stream gauging stations 3 radios were salvaged as spares the last being utilized in April 2015.

The consultant proposes to perform a portion of the Phase II scope of work and re-program the remote terminal units (RTU's) and the Master RTU to take advantage of updated communication protocols. This work will serve to prepare the RTU's for the new radios to be installed in Phase II while providing a more robust communication capability in the meantime. This work will reduce communication failures and associated overtime saving the District labor costs.

- ALTERNATIVES:**
1. Approve ASA#1
  2. Not approve ASA#1 and wait until phase II implementation to perform the work.

**FISCAL/RESOURCE IMPACTS:**

The project is funded through the Fixed Asset Replacement Fund (FARF); the fund will be reduced by an amount equal to the cost of the project. ASA#1 does not increase the total cost of the project since the Phase II scope will be reduced by an equal amount, however some labor savings may be realized by implementing the work now.

**RECOMMENDATION:**

District staff recommends approval of ASA#1

**ATTACHMENTS:**

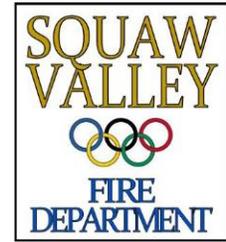
Amendment to Service Agreement #1

Email from Sierra Control Systems, LLC dated April 14, 2015

**DATE PREPARED:** April 16, 2015



# SQUAW VALLEY PUBLIC SERVICE DISTRICT



**ADDITIONAL SERVICES ADDENDUM (ASA) #1  
to PROFESSIONAL SERVICES AGREEMENT SCADA IMPLEMENTATION  
PROJECT, dated 12/19/2014  
between  
SQUAW VALLEY PUBLIC SERVICE DISTRICT  
and  
SIERRA CONTROLS, LLC**

This ASA, dated May 1, 2015, shall amend the referenced Agreement to include the following project with relevant description, compensation, and schedule addressed herein.

## **PROJECT DESCRIPTION**

Update communication protocol for Remote Terminal Units (RTU's) and Master RTU, install store and forward capability, update firmware in Master RTU as outline in Phase II scope of work and consultant proposal attached.

## **SCOPE OF SERVICES**

Services to include: see attached scope of work proposal dated April 14, 2015

## **PAYMENT TO CONSULTANT**

Payment to be in accordance with Section 5. Compensation, of the Professional Services Agreement, as follows:

Compensation shall be on a Time & Materials basis. Total amount of this addendum is not-to-exceed five thousand and no dollars (\$5,000).

**NOTE:** *Invoices shall bear Agreement Name as well as current billing amount, and total billed to date.*

## **PERIOD OF SERVICE**

Services shall be substantially completed by May 15, 2015.

**IN WITNESS WHEREOF**, the parties have executed this Agreement as of the day and year first written above.

**DISTRICT:**  
**SQUAW VALLEY PUBLIC SERVICE DISTRICT**

**CONSULTANT:**

By:

By:

\_\_\_\_\_  
Michael T. Geary, General Manager

\_\_\_\_\_  
Danny Hunsaker, General Manager

By:

\_\_\_\_\_  
Kathryn Obayashi-Bartsch, Board Secretary

Address for Giving Notice:  
Squaw Valley Public Services District  
PO Box 2026  
Olympic Valley, CA 96146-2026

Address for Giving Notice:  
Sierra Controls, LLC  
940 Mallory Way, Suite 1  
Carson City, NV 89701

## Kathy Obartsch

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**From:** Jesse McGraw  
**Sent:** Thursday, April 16, 2015 11:09 AM  
**To:** Kathy Obartsch  
**Subject:** FW: Radio Communications Changes

This can be printed as the attachment to ASA 1

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**From:** Bob Rhees [<mailto:BobR@sierracontrols.com>]  
**Sent:** Tuesday, April 14, 2015 8:27 AM  
**To:** Jesse McGraw  
**Cc:** Ken Morgan; Danny Hunsaker  
**Subject:** Radio Communications Changes

Jesse,

Thanks for the time to discuss the communications scheme yesterday. The following proposed work will definitely help the communications system (especially remote control) until the phase 2 project is realized.

The tasks to be accomplished include the following:

1. Briefly research and log activity requirements of all polling programs installed at each remote site.
2. Review Master RTU C program and Main Well ladder program for polling requirements. Some reverse engineering may be necessary because of various previous projects.
3. Develop automatic broadcast programs for tank and other controlling sites containing information required at other controlled sites.
4. Upgrade Master RTU firmware.
5. Install Store and Forward table in the Master RTU.
6. Change addressing of all points in ClearSCADA directed to remote sites. This step points the data retrieval of all remote site HMI items to the actual registers in the field rather than in the collected data at the Master RTU.
7. Install logic in HMI to forward data from controlling sites to controlled sites.
8. Install and test automatic broadcast programs developed previously for controlling sites.
9. Further testing and adjustments as needed.

Step 4 above comes from Phase 2 of the Master Plan as shown in the following clip from the plan. This work will use all the budget as listed in the clip below.

Master RTU 247	
Add RTU Battery Enclosure	Budget: \$1,100
Replace RTU Battery	
Replace PLC CMOS Battery	
Upgrade Firmware	
Adjustment for Unused I/O	
Generator Monitoring	See Phase 3

Steps 1, 2, 3, 6, and 8 above come from the Remote Radio Communications portion of the Master Plan work as shown in the following clip from the plan. This is labor only work and is anticipated as using several man days worth of the labor that was slated for this portion of the plan.

<u>Communications</u>   2-881	
Drawing Updates (Communications Related, includes on recon visit)	Budget \$3,000
Remote Radio Communications (Replacement of low speed radios with modern Ethernet based radios of same frequency). This item includes the recommendation that top board upgrades be implemented for sites as listed to reduce the cost of implementing this task.	Budget (8 Sites) \$20k - Master RTU - Main Well - West Tank - East Booster Site - Horizontal Well - Zone 3 Booster, etc. - HWY 89 Joint Flow Meter - Mountain Run Sewer Flow Meter
Fiber Optic Communications	n/a, Future Review Recommended
Main Well Communications. This item includes up to three high speed radios (third required if survey determines a relay site is required which is expected due to the local radio path between the office and main well)	Budget: \$10k

Steps 5 and 7 above are not included in the plan but are necessary to make this step. This work is only several hours of work.

**Summary**

It is anticipated that the cost will be between \$4,100 and \$4,600 as outlined in the table below.

Item	Cost
Step 4	\$1,100 Per Master Plan
Steps 1, 2, 3, 6, 8	\$2,500 to \$3,000
Steps 5, 7	\$500

With some unknowns about programming modifications from previous projects and the programming installed by others, my recommendation is that we consider this a T&M NTE \$5,000 without prior approval. Or if needed, it could be a change order to the existing work. This is fully up to you.

Please let me know if you have any questions or concerns. I look forward to your thoughts.

Thanks,

Bob

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