

**TECHNICAL INTERCHANGE MEETING (TIM) #3 MINUTES
 CONSTRUCT SCADA SYSTEM AT
 CAMP STANLEY STORAGE ACTIVITY, TEXAS
 FA8903-04-D-8675/DELIVERY ORDER 0011
 PARSONS 744225.01000**

Date: Tuesday, 9 May 2006 – 9:30 AM to 12:00 PM
 Wednesday, 10 May 2006 – 9:00 AM to 3:00 PM
 Place: Camp Stanley Storage Activity (CSSA)
 Subject: SCADA Engineering and Planning

ATTENDEES:

Attendee	Organization	Phone
Glaré Sanchez ¹	CSSA Environmental	210 698-5208
Tom Tijerina	CSSA Engineering	210-295-7473
Jeff Aston	USACE	210 336-1270
Chris Beal ¹	Portage	210 336-1171
Bobb Kidd ¹	System Controls & Instrumentation	210-666-8628
Dennis Trammell	System Controls & Instrumentation	210-666-8628
Jeff Cobb ¹	System Controls & Instrumentation	210-666-8628
John Crumley	System Controls & Instrumentation	210-666-8628
Irish O'Leary ²	Morlandt Electric	210-633-0181
Brian Vanderglas ¹	Parsons-Austin	512 719-6059
Kyle Caskey	Parsons-San Antonio	210-204-0529
Ryan Lynn	Parsons-Atlanta	678 969-2471
Scott Pearson ³	Parsons-Austin	512 719-6087

¹ Attended only on May 9, 2006.

² Attended only on May 10, 2006.

³ Minutes prepared by Scott Pearson, Parsons-Austin.

The agenda, sign-in sheet, and presentation slides for this meeting are presented in Attachment 1.

INTRODUCTIONS

The meeting was opened with brief introductions. The purpose of the meeting was to introduce the selected SCADA integrator (System Controls and Instrumentation [SCI]) to the project team and review the project requirements. The meeting included project managers and design engineers from Parsons, and CSSA staff and contractors representing the environmental and engineering departments, as well as managers and technical staff from SCI.

PROJECT OVERVIEW

The flow of the meeting was directed by the meeting agenda and presentation slides included within Attachment 1. Brian Vanderglas started the meeting by going over the general safety requirements and practices expected by Parsons and CSSA. It was reiterated that HAZWOPER training was not a requirement for this type of general construction activities. SCI

will be required to submit a site-specific safety plan prior to initiating any field activities. Daily safety briefings will be conducted to review activities and perform Activity Hazards Analysis (AHA) as needed. Primary safety concerns are related to electrical and excavation hazards. The primary mission of the facility is not to be interrupted by construction activities; therefore careful planning and construction notifications will be paramount to the success of the project. To the extent possible, a construction activities planning chart will be continually updated to notify CSSA of locations of upcoming activities and potential service interruptions.

A project organization chart was presented to show the hierarchy of the project and chain-of-command. Ms. Glaré Sanchez is the CSSA coordinator for the TO 0011 project. Mr. Tom Tijerina is the CSSA coordinator for the remaining SCADA projects (TO 0027 and TO 0190). Mr. Brian Vanderglas will serve as the Parsons project manager for all three SCADA projects. Mr. Dennis Trammell will act as the SCI project manager.

The entire SCADA project has been split into three task orders that are administrated by the Air Force Center for Environmental Excellence (AFCEE). The current TO 0011 will provide the backbone structure for the SCADA system and include most of the nodes to be monitored as environmental assets. The SCADA infrastructure will include setting up the master server, two work stations, and developing the wired and wireless Ethernet network. Nodes to be monitored under this TO generally include the water production system, electrical and gas distribution, monitoring wells, weather stations, remediation systems, and selected facilities and buildings.

TO 0027 is an additional construction effort to expand and extend the SCADA system to additional facilities throughout CSSA. These include the warehouse section, the administrative headquarters, the WWTP, and the East Pasture. An additional four work stations will also be implemented at select locations as directed by CSSA. Under this TO, CSSA will purchase a 12-month technical support package from SCI for troubleshooting, additional programming and customization, and maintenance issues not associated with warranty work. The technical support service assumes 16-hours per month (192 hours total), and does not include costs for additional parts or hardware. Issues associated with warranty work will not be deducted from the maintenance agreement.

A discussion regarding the warranty of the SCADA system was held. According to SCI, under normal industry practices, instrumentation equipment warranties normally are in effect as soon as the instrumentation is installed and collecting useable data. Considering the length of the construction schedule, it is very likely that the first instrumentation installed may precede CSSA's actual operation of the system by four months or more. The net effect of this warranty approach is that each instrument or item will have a unique warranty start/stop, which will result in hundreds of individual warranty life spans to track. CSSA indicated that they would prefer that a system-wide warranty go into effect upon completion of the SCADA project. Bob Kidd (SCI) indicated that his warranty period with the equipment vendors starts when he purchases the instrumentation. Hence, any unified warranty start at the end of the project would result in the warranty coming from SCI, and not the equipment manufacturer.

ACTION ITEM: SCI will inquire with the equipment vendors to considering negotiating a manufacturer warranty that becomes effective upon commissioning of the system.

TO 0190 is primarily and administrative and programming task order for implementing the SCADA design. The initial work will focus on preparing, or amending work plans to implement

the additional SCADA construction under TO 0027. This includes the additional engineering design necessary for the facility nodes and workstations to be implemented. The other major segment of the TO will include the software and programming necessary to link the SCADA system to the Maximo asset management system already in place at CSSA. Parsons has identified Matrikon, Inc. as a software and services provider that offers a pre-packaged software add-on to Maximo that can link the two independent servers. Matrikon will program the alarms, notifications, and work order generation that will be associated with instrumentation installed under the SCADA project. Once the implementation is complete, Matrikon will offer a training class for 6 persons designated as administrators for the SCADA and Maximo networks. Parsons also included a 2-year maintenance agreement with Matrikon for ongoing technical support.

CONSTRUCTION REQUIREMENTS

Meetings

Tailgate meetings will occur daily at the beginning of each work shift, and will be documented by Parsons. Progress meetings will be held on a weekly basis at CSSA, and will include the Parsons site supervisor, SCI superintendent, and CSSA staff. Parsons and SCI managers/engineers will participate by site visit or teleconference. The progress of the work will be discussed, and two week look-ahead schedule will be discussed and updated. The schedule will include informing CSSA of upcoming facility work, excavations, and utility outages. A permitting process will be implemented, and maps showing the length depths of excavation areas will be provided.

Permitting

A permitting process will be implemented for trenching, excavation, and hot work (welding, torch cutting, soldering, etc.). The permit will involve identifying the locations needing excavation on a map to be included with the digging permit. Areas to be excavated will be clearly marked on the ground prior to the review by the facility staff. Hot work permits are issued by the CSSA safety officer, or the Camp Bullis Fire Department.

Approach

SCI discussed their construction approach to complete the SCADA system. Their vision of how the work will proceed included a single, three-person crew to perform the radio path survey. Up to three, two-person crews would be responsible for performing the electrical portion of the SCADA system, while another three-person crew would complete all the mechanical portions of the work (excavation and equipment installations). Finally, two, two-person crews would concurrently complete the instrumentation and controls (I&C) portion of SCADA system.

Other

Various other items were discussed during the construction portion of the meeting. SCI inquired into the feasibility of placing a job trailer at the site. Tom Tijerina said that would be acceptable and that he could help determine a suitable location with adequate parking and electrical service. SCI will need to bring in a skid-mounted sanitary facility for their use. For the duration of the construction phase, the master station can reside in the SCI job trailer. This will reduce the amount of traffic into Building 98, and thereby minimize disruptions to CSSA staff and contractors within that building. The SCADA system can operate via wireless Ethernet as long as the SCI trailer is located within proximity to a building that has Ethernet access.

SCI will also require internet access to perform their programming of the SCADA server. At this time, internet service is only available to SCI through the environmental local area network (LAN). A connection to the environmental LAN can be obtained utilizing a security-enabled wireless radio (WiFi). The wireless LAN would be connected to a nearby building that is on the environmental network.

VALUE ENGINEERING

Wireless Communication

Within their proposal, SCI identified several areas for potential value engineering that may further reduce the overall costs of the project. One item was eliminating the radio repeater to be located at the Fire Tower (Building 54). The repeater tower incurs equipment and construction costs that associated with its redundancy, and required all data to be transmitted via VHF radio to the master server. SCI would rather propose a new radio tower that is located on the fiber optic network and can be hard-wired to the system, in lieu of relying on a second radio to repeat the signal to an antenna at the master station. The radio path survey will be needed to confirm that such an approach is feasible.

Conduit

Another potential cost savings would be to implement PVC conduit in lieu of rigid, galvanized conduit. Tom Tijerina indicated that he would prefer that rigid conduit be used as it is currently scoped in the contract. As a caveat to that statement, he suggested that PVC conduit may be appropriate in low-risk areas such as monitoring wells, and therefore those locations could be reviewed on a case-by-case basis.

Power Monitoring

Potential savings with respect to monitoring the primary and secondary electrical systems were recommended by Morlandt Electrical who is the primary electrical contractor for the facility, and will also function as a subcontractor to SCI for the SCADA project. A second meeting on 10 May 2006 was held with Morlandt to discuss those options, and review the locations for power monitoring. Irish O'Leary of Morlandt suggested that the use of power transformers (PT) were not necessary and could significantly reduce the overall cost of the electrical metering. His understanding of the project was that CSSA was mostly concerned with electrical usage as measured by the current transformers (CT). However, Tom Tijerina was insistent that PTs were also to be used so that CSSA would know if a phase of service was ever lost throughout portions of the facility. Therefore, no significant cost savings will be realized for this portion of the work.

The meeting attendees reviewed locations for power monitoring with SCI and Morlandt during site visits to each of proposed locations. Based upon the needs of the project and Morlandt's expertise and familiarity of the CSSA power grid, several monitoring locations were modified or altered to maximize the electrical monitoring scheme.

A summary of the major changes are as follows:

- Locate secondary power monitors for buildings 1 and 1A on existing feeds from power pole. As of 10-May-06 these service connection switches were not in service.

- The monitoring of the CPS service and bulk north/south leg grids is not possible within the equipment located within Building 99. The PTs and CTs will need to be placed on the transformer poles outside/above the generator compound.
- The Schweitzer SEL-3 15R, reclosure switches used on the north and south power feed legs near building 99, do not communicate via a standard protocol and therefore the power information may not easily be obtained from these devices.
- Monitoring locations were switched from primary to secondary power at two locations.
- Monitoring locations were switched from secondary to primary power at two locations.

Based on the site survey by the meeting attendees, a clarification that fully documents the proposed changes to the electrical monitoring is included as Attachment 2.

ATTACHMENT 1

MEETING AGENDA, SIGN-IN SHEETS, AND PRESENTATION SLIDES



DEPARTMENT OF THE ARMY
 CAMP STANLEY STORAGE ACTIVITY, RRAD
 25800 RALPH FAIR ROAD, BOERNE, TX 78015-4800

***Agenda for Technical Interchange Meeting (TIM) #3
 Construction of Supervisory Control and Data Acquisition (SCADA) System
 at
 Camp Stanley Storage Activity – Boerne, Texas
 AFCEE WERC, Task Order 0011***

Time: Tuesday, May 9, 2006; 9:30 am to 11:45 am
 Wednesday, May 10, 2006, 8:00 am to 4:00 pm (as needed)
Place: Camp Stanley Storage Activity, Boerne, Texas, Conference Room

Proposed Order of Discussion

Date & Time	Topic
Tuesday, May 9, 2006	
9:30 am – 09:45 am	<i>Safety and Security</i> <ul style="list-style-type: none"> • <i>Security and Building Access Protocols</i> • <i>Construction Safety</i>
9:45 am – 10:15 am	<i>Subcontractor Structure & Management by TO</i> <ul style="list-style-type: none"> • <i>General Description of Project Structure under multiple TOs</i> • <i>Project Organization</i> • <i>Tasks under TO-11</i> • <i>Tasks under TO-190</i> • <i>Tasks under TO-27</i>
10:15 am – 10:45 am	<i>Overall SCADA Design</i> <ul style="list-style-type: none"> • <i>Servers and Workstations</i> • <i>Networking and Radio Telemetry</i> • <i>Overview of Locations by Task Order</i> • <i>Construction Requirements</i>
10:45 am – 11:45 am	<i>Value Engineering Considerations</i> <ul style="list-style-type: none"> • <i>Conduit (Rigid, Intermediate, or PVC)</i> • <i>Power Monitoring</i> • <i>Repeater Tower</i> • <i>Other</i>
Wednesday, May 10, 2006	
8:00 am – 4:00 pm	<ul style="list-style-type: none"> • <i>Additional discussions regarding Value Engineering (if necessary)</i> • <i>Inspections and Site Visit of Primary Sites by Parsons Engineer, SCI, and Morlandt Electric</i>

Technical Interchange Meeting (TIM) #3

Construction of Supervisory Control and Data Acquisition (SCADA) System at Camp Stanley Storage Activity – Boerne, Texas

May 9, 2006

Camp Stanley Storage Activity

AFCEE WERC FA8903-04-D-8674

Task Order 0011

 **PARSONS**

Meeting Agenda

Tuesday - May 9, 2006

9:30 am – 9:45 am Safety and Security

9:45 am – 10:15 am Subcontractor Structure and Management by TO

10:15 am – 10:45 am Overall SCADA Design

10:45 am – 11:45 am Value Engineering Considerations

Wednesday - May 10, 2006

9:00 am – 4:00 pm

- Value Engineering Discussions (as needed), and***
- Inspections and Site Visits***

Security

- ◆ Being an active military post, site security and confidentiality are paramount. All rules and regulations must be adhered to at all times.
- ◆ Smoking will be in designated areas only. No video or photographic equipment, including camera phones.
- ◆ During the site walk, photos will be obtained by CSSA personnel, or designated Parsons employee.

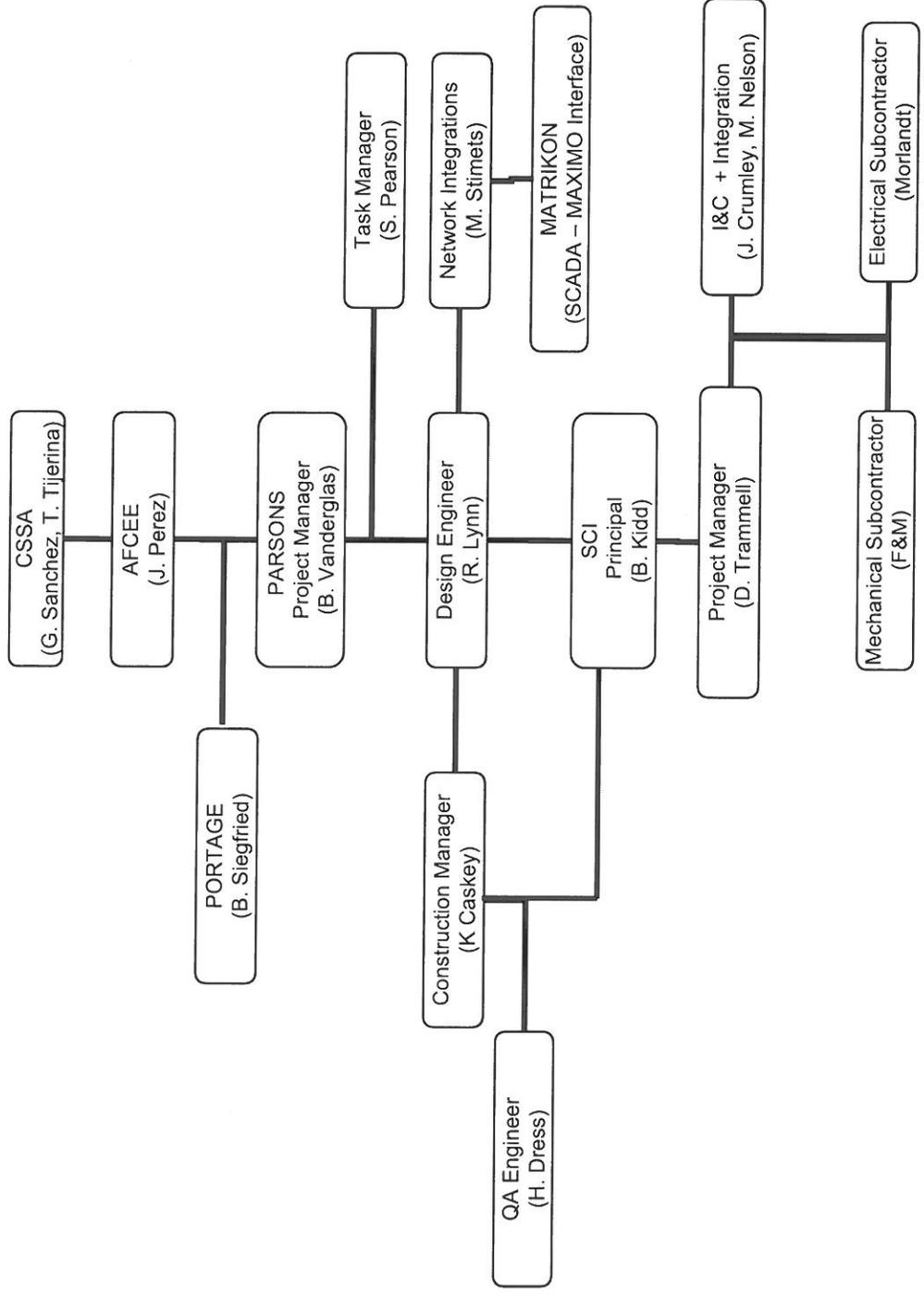
Work Flow

- ◆ This is an active military facility. All other activities are secondary to the mission, and therefore **MUST** be scheduled and coordinated to minimize/eliminate impact.
- ◆ A small number of mission-critical facilities will not be available for general SCADA construction activities for extended portions of time. Weekend or after-hours work can be expected at those locations.
- ◆ It is a **PROJECT REQUIREMENT** that work be sequenced and completed expeditiously at each site. Prolonged outages and interruptions to the base mission are not acceptable.

Health and Safety

- ◆ Safety Requirement – Zero Accidents & Zero Injuries.
- ◆ HAZWOPER Training is not a requirement for this project.
- ◆ Subcontractor is required to prepare a site/project specific H&SP.
- ◆ Subcontractor must have an effective enforcement and corrective action policy to address health and safety matters with its employees and sub-tier contractors.
- ◆ OSHA Lockout/Tagout compliance where applicable
- ◆ Hold Safety Meetings via Daily Toolbox Meeting
- ◆ Contractor will provide a brief safety orientation/presentation to Parsons and CSSA at Pre-construction Meeting

Project Organization Chart



Project Structure Overview

- ◆ TO 11 (AFCEE WERC CPFF)
 - Initial SCADA Effort
 - ◆ Includes: SCADA server, 2 work stations, establishing wired and wireless networks, water distribution system, primary electrical distribution, primary gas distribution, and environmental nodes (monitoring wells, GACs, and weather stations)

- ◆ TO 27 (AFCEE WERC FFP)
 - Infrastructure SCADA Effort
 - ◆ Includes: 4 work stations, WWTP, warehouses, office buildings, East Pasture

- ◆ TO 190 (AFCEE 4PAE CPFF)
 - Additional Design and Planning Efforts
 - SCADA / Maximo Integration
 - O&M Training

◆ TO 11 System Design Overview

- Servers/Work Stations
 - ◆ Buildings 98 and 38
- Communication
 - ◆ Wired Ethernet on Maximo Network
 - ◆ Wireless using encrypted VHF and Repeaters
- Potable Water Supply (CS-1, CS-9, CS-10, CS-11 + Proposed Supply Well)
 - ◆ Automated Pump Control, Reservoir Level, Chlorination, and Metering
 - ◆ Residential Booster Pump Station
- Electrical Distribution
 - ◆ Building 99 and Emergency Generator
 - ◆ 8 Locations for Primary Electrical Metering
- Natural Gas Distribution
 - ◆ Incoming gas service near well CS-MW10
- Buildings (various end-point electrical, gas, and water monitoring)
 - ◆ 4 (+ASTs), 38, 98, A100, 201
- Environmental Nodes
 - ◆ 2 weather stations
 - ◆ 16 monitoring wells
 - ◆ 2 SVE remediation systems and GAC Shack
- SCADA O&M Training
 - ◆ Conduct training for SCADA components installed under TO11

System Design Overview

- ◆ TO 27
 - Work Stations
 - ◆ Buildings 1, 1A, 36, 73
 - Communication
 - ◆ Wired Ethernet on Maximo Network
 - ◆ Wireless using encrypted VHF and Repeaters
 - WWTP
 - ◆ TPDES-permit monitoring parameters
 - ◆ Automated chlorination and flow monitoring
 - Buildings (various end-point electrical, gas, water monitoring, temperature, and HVAC)
 - ◆ 1, 1A, 36, 44, 45, 73, 90, 91, 92, 93, 94, 96
 - ◆ Building 90 Test Room
 - ◆ Warehouse Fire Suppression
 - ◆ East Pasture Complex monitoring
 - 12-Month Technical Support
 - ◆ 192 hours technical support (12 months x 16 hours each)
 - ◆ Warranty work is not deducted from tech support