THIRD WEST COAST WATER UTILITIES WORKSHOP

SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA)
Leveraging SCADA Beyond the Control Room

Clifford Chan
Manager of Water Treatment and Distribution
EBMUD
Benefits

- Easy access to operational data
- Integration with other data systems
- Leverage value of data
- Energy management
- Regulatory reporting
- Engineering analysis and planning studies
- Knowledge management
Lessons Learned

- Common vision, goals and objectives
- Define needs and standards
- Keep it simple
- Avoid the allure of technology
- Develop web-based tools
- SCADA and IT Department
CONTROL SCREENS – (Office and Mobile)
SYSTEM CONTROL CENTER “Not Needed”
DATA COLLECTION – (While in the Field)
EMAIL NOTIFICATION (Smart Phones)
WORK ORDER CREATION – (Data Sharing)
LAPTOP VS TABLET
Control Screens – Data Collection
## Control Screens – Data Collection

### LUMBER STATION
<table>
<thead>
<tr>
<th>Source</th>
<th>Rated</th>
<th>Status</th>
<th>Mode</th>
<th>Auto/Local</th>
<th>Multi Start</th>
<th>Control Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSTR1</td>
<td>1000</td>
<td>OFF</td>
<td>ECON</td>
<td>NO</td>
<td>AUTO</td>
<td>OK OK OK</td>
</tr>
<tr>
<td>BSTR2</td>
<td>700</td>
<td>OFF</td>
<td>ECON</td>
<td>YES LOCAL</td>
<td>OK</td>
<td>OK</td>
</tr>
</tbody>
</table>

### PM Master 000077

**Description:** Gears pump bearings.

**Asset ID:** E02189

**Benchmark No:** 8000082

**Critical No:** 10

**Scheduled Basis:** Run-Time

**Last PM:** 4,500.34

**Interval:** 500.00 HOURS

**Next PM Due:** 5,160.34

**Current:** 4,860.34

**Date/Time:** 12/22/2009 00:00:00

**Initial Schedule Date:** 11/04/2009

**Next Schedule Date:** 03/27/2012

**Host PM Control No.:**

**PM Group Run Time Delay:**

**PM Group Calendar Delay:**

**Department:** PM-EDUC

**Area:** REJACCT

**Spec No:** 0000707

**Spec Type:** BOOSTER

**Account No:**

**Location:** Lumber St Sta
Sandy Smith
SCADA Systems Administrator
Tampa Bay Water
SCADA Replicator/Corporate Data Flow

- Replicator mirrors the SCADA system to provide read only data
- Separate environment from the SCADA System
- Replicating incrementally to near real-time thus minimizing calls to the SCADA System
- Data moves from the Replicator to the corporate network through internal data bridges
- Data is consumed by model applications to make optimized pumping decisions
- Data is available near real-time for operational staff in a more consumer friendly manner through custom applications
- Data is used to prepopulate reporting thus eliminating the need for manual transcription from SCADA
- Data is used to generate automated permitting reports for the regulatory agency
- Data is centrally available to all users through data extract tools and reports eliminating the need for operations personnel to fill data requests
Benefits/Pitfalls

• Seamless integration between SCADA and the agency
• Reduce traffic to the SCADA system for non SCADA requests
• Extracted data is QA/QC and stored in a standard database available to the entire agency
• Since SCADA is limited in capacity and recycles on a periodic basis, all data can be stored in the corporate network for posterity

• Requires a fairly robust infrastructure and network
• Requires custom application developers on staff