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A River of Energy Solutions

New Technology Show and Tell: Wireless Steam Trap Monitoring at Federal Facilities

August 8, 2011



Utility Systems Solutions®



- Performs energy audits and retrofit energy construction in Federal steam utility systems
- On GSA Schedule as authorized dealer of Armstrong steam products at GS 07F-0640M
- On GSA Schedule with Thermal Science Tech insulation solutions at GS 07F-0121T
- Certified SBA 8(a) & SDB Small Business, verified SDVOSB and VOSB at VetBiz.gov



How SteamEye® Trap Monitoring Functions



- Tracks 2,000 traps real-time
- Senses temp, sound, conductivity
- Alarms on trap failure
- Shows when, where, how failed
- Signal does not disrupt RF
- Talks to BAS and DCS systems





SteamEye Screen: What, when, where and how it failed



Armstrong SteamEye - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://steameye.armintl.com/LoginHandler



SteamEye®

Critical Equipment Failed Equipment **All Equipment** Configuration Logout

SteamEye_In-House_WER

All Equipment

Device Type

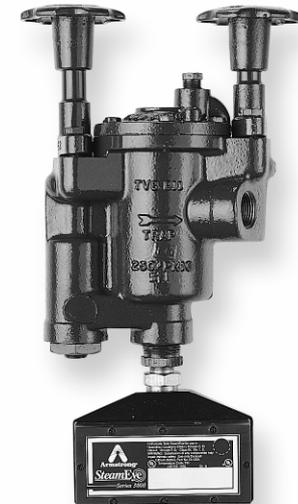
Tx#	Tag#	Location	Type	Model No.	Status	Battery	Radio	# State Changes	Last Report	Previous Report - State	Cycle Count
20006	20006	Plant 1 Tests-R-Us North-West Bay Pump Trap # 1	Pump Trap w/ Cycle Count	ARM / PUMP TRAP	OK	OK	2	809	Tue Apr 03 10:51:26 EST 2007	Wed Mar 14 09:58:54 EST 2007 - LOS	9925
20007	20007	Lab	Sump Ejector	ARM / Sump Ejector	OK	OK	4	5627	Tue Apr 03 11:26:54 EST 2007	Mon Apr 02 11:30:41 EST 2007 - FL	N/A
20008	20008	Plant 1 Tests-R-Us North-West Bay Pump Trap # 2	Pump Trap w/ Cycle Count	ARM / PUMP TRAP	OK	OK	6	1191	Tue Apr 03 11:46:58 EST 2007	Wed Feb 14 09:45:40 EST 2007 - LOS	14325
22222	22222	Lab Test Station	Steam Trap	ARM / 800	LOS	OK	4	30	Fri Dec 22 09:58:31 EST 2006	Thu Dec 21 08:57:30 EST 2006 - CC	275
986720	30	Lab CB-4 Drip Trap Tag # 13-2	Steam Trap	ARM / 2011	CD	OK	0	48	Tue Apr 03 11:47:45 EST 2007	Tue Mar 27 16:15:46 EST 2007 - UNK	N/A
986727	986727	Lab	Steam Trap	ARM / FT4000	OK	OK	8	42	Tue Apr 03 11:38:15 EST 2007	Wed Mar 14 09:19:14 EST 2007 - LOS	N/A
986786	986786	Lab Test Station URFC4300 Prototype	Steam Trap	ARM / 800	OK	OK	10	230	Tue Apr 03 11:43:32 EST 2007	Thu Mar 15 07:35:03 EST 2007 - CD	N/A
986791	25	Tool Room Unit Heater Tag # 6-2	Steam Trap	ARM / TVS812	OK	OK	13	25	Tue Apr 03 11:37:45 EST 2007	Sun Apr 01 01:39:45 EST 2007 - UNK	N/A
986792	27	Plant 3 Boiler Room Tag # 8-2	Steam Trap	ARM / 2011	OK	OK	1	114	Tue Apr 03 11:48:06 EST 2007	Wed Mar 28 07:40:01 EST 2007 - CD	N/A

Done

start | Inboxes - Microsoft Out... | 5 Reminders | Presentations | Microsoft PowerPoint ... | Armstrong SteamEye ... | 11:46 AM



Transmitters for low, medium and high pressure applications





SteamEye® Remote Transmitter



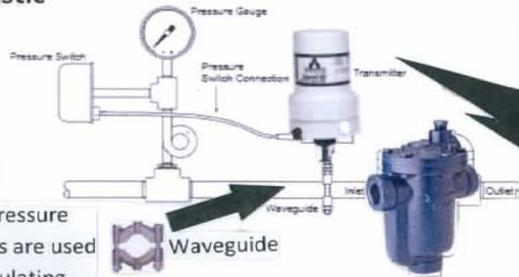


Remote Transmitter Mounting



Typical JS² SteamEye Installation

Acoustic

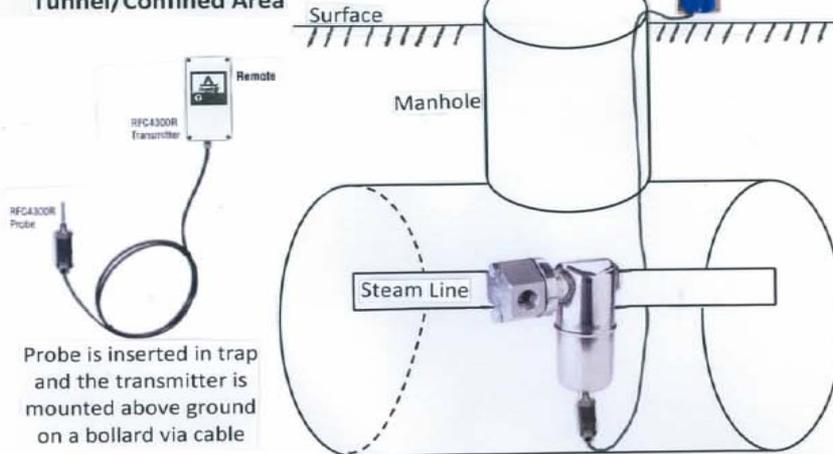


Note- Pressure switches are used on modulating steam lines

Conductivity



Remote Mount Transmitter in Tunnel/Confined Area



Repeater



Monitoring screen in the facility

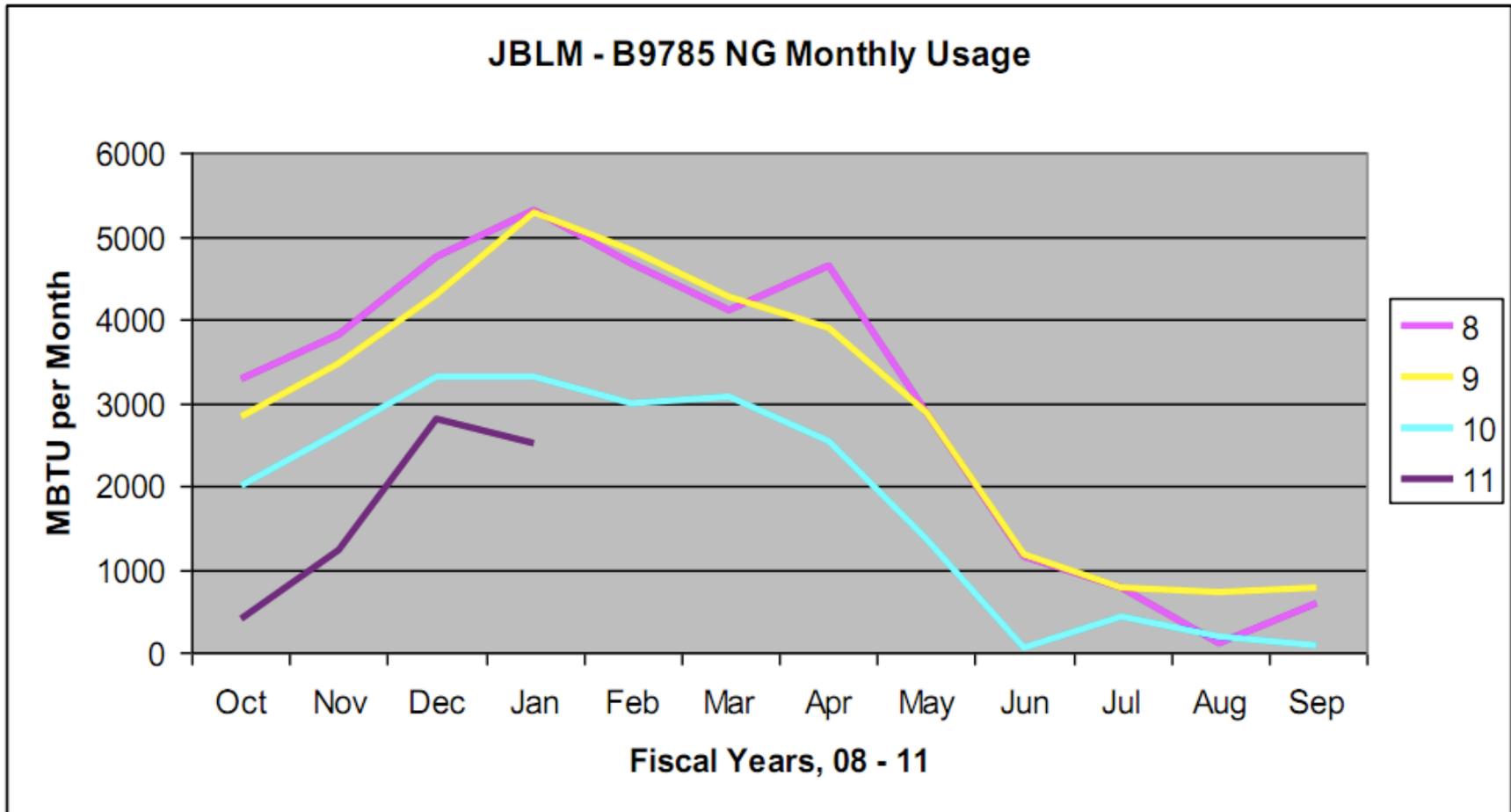


[Optional]
Steam Star
Database

Removable insulation cover for low pressure traps



Energy Tracking: One Example at Central Plant



Baseline – Post-Project MBTU/yr = 15,500 MBTU/yr Savings



UTILITY SYSTEMS SOLUTIONS

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