



## BULLETIN – 104

### Massachusetts Town Entrusts AlarmAgent.com to Safeguard Their Wastewater System



Jim Laford, division supervisor of Amherst's Wastewater Division, works in the main water treatment plant with the safety and security of AlarmAgent.com

Amherst is a city of about 37,000, situated in the hills of Western Massachusetts. Population growth in the area has been steady over the years, just about doubling since 1960. With the continuous expansion of the three college campuses — University of Massachusetts at Amherst, Hampshire College and Amherst College — the infrastructure has grown as well. Jim Laford, division supervisor of Amherst's Wastewater Division, has witnessed that growth firsthand. His team is responsible for the integrity and reliability of the entire wastewater system. Backups and power outages at individual lift stations occur periodically, and a reliable, responsive alarm system is critical to ensuring that those problems are remedied in a timely manner. It's been a constant challenge throughout the years.

#### **Technology advances, but only so much**

Jim has witnessed decades of technological evolution throughout his years with Amherst's Public Works department. It started with offline local alarms in the 1970s, phone lines with dial-up alarms in the 1980s and most recently, a radio telemetry alarm system that transmitted from lift stations to the main treatment plant. Radio telemetry might be effective in the plains of Nebraska or Kansas, but in the rugged landscape of the Pioneer Valley of Massachusetts, line-of-site radio signals were problematic. Alarm signals had mixed success getting past the hills dotting the countryside. Repeaters were eventually added to boost system reach but high-rise dormitory



The unmanned and remote Stanley Street lift station is under constant surveillance thanks to AlarmAgent.com

construction created even greater barriers to radio signals. The Wastewater District decided to scrap the system and replace it with something that addressed the unique topographical challenges.

#### **A new solution and a fresh start**

RACO offered a proposal centered around AlarmAgent.com® to address many of the dilemmas confronting Amherst, including the ability to reliably transmit alarm signals from lift stations to the treatment plant. Many of these unmanned stations were situated in remote locations where landlines were cost-prohibitive, so a wireless autodialer made a lot of sense. RACO was awarded the contract and soon went to work implementing the system. Upon completion, a wireless alarm network linked 20 lift stations with the main treatment plant. Since Amherst's wastewater infrastructure was operated and monitored by a state-of-the-art SCADA system, an additional autodialer alarm package was installed to monitor the dedicated phone line for SCADA system's software-based alarm notification system. If the SCADA system went down, the entire wastewater system would be jeopardized. Without that 21st AlarmAgent.com, an outage might not be discovered for hours. In wastewater management, no system is too reliable.

# PUMP STATUS REPORTS

Town of Amherst

**ALARMAGENT PUMP STATION REPORT**

RTU NAME: STANLEY STREET

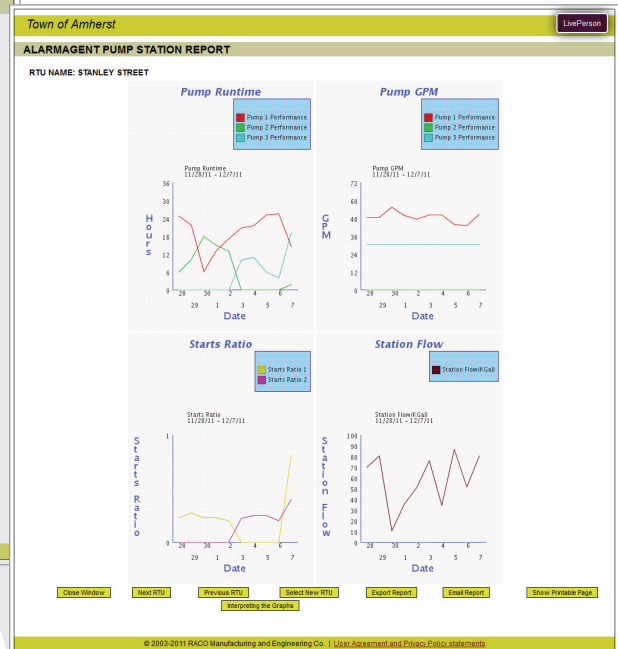
	PUMP 1	PUMP 2	PUMP 3
Cumulative Run Time 1	1673.8	346.4	349.5
Hrs to Maint 1	-1673.8	-346.4	-349.5
Hrs to Maint 2	-1673.8	-346.4	-349.5

DATE	TIME	CALCULATED STATION FLOW KGAL	GPM			# OF STARTS			RUNTIME HRS			RUN RATIO1	RUN RATIO2		
			PUMP1	PUMP2	PUMP3	PUMP1	PUMP2	PUMP3	STARTS RATIO1	STARTS RATIO2	PUMP1			PUMP2	PUMP3
Nov 28, 2011	6:56 AM	37.10	49.21	0.0000	30.42	45	10	0	0.22	0.0	25.5	10.0	0.0	0.39	0.0
Nov 29, 2011	6:55 AM	69.96	48.95	0.0000	30.42	26	6	0	0.23	0.0	24.9	6.0	0.0	0.24	0.0
Nov 30, 2011	6:56 AM	80.34	48.95	0.0000	30.42	41	11	0	0.27	0.0	21.7	10.2	0.0	0.47	0.0
Dec 1, 2011	6:56 AM	10.50	55.76	0.0000	30.42	75	17	0	0.23	0.0	6.2	18.0	0.0	2.9	0.0
Dec 2, 2011	6:56 AM	36.70	50.02	0.0000	30.42	66	15	0	0.23	0.0	13.2	15.0	0.0	1.14	0.0
Dec 3, 2011	6:56 AM	50.93	47.98	0.0000	30.42	65	13	0	0.2	0.0	17.2	13.0	0.0	0.76	0.0
Dec 4, 2011	6:56 AM	76.25	50.29	0.0000	30.42	45	0	10	0.0	0.22	20.8	0.0	10.0	0.0	0.48
Dec 5, 2011	6:56 AM	34.29	50.30	0.0000	30.42	44	0	11	0.0	0.25	21.5	0.0	11.0	0.0	0.51
Dec 6, 2011	6:56 AM	86.61	43.95	0.0000	30.42	24	0	6	0.0	0.25	25.1	0.0	6.0	0.0	0.24
Dec 7, 2011	6:56 AM	51.94	43.36	0.0000	30.42	20	0	4	0.0	0.2	25.5	0.0	4.0	0.0	0.16
Dec 8, 2011	6:56 AM	80.30	50.61	0.0000	30.42	42	34	17	0.81	0.4	14.5	1.8	19.1	0.12	1.32
Total:		613.9	49.01	0.0000	30.42	493.0	106.0	48.00	0.2150	0.09736	216.1	74.00	50.10	0.3424	0.2318

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Interpreting the Graphs

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Amherst's AlarmAgent.com pump station reports make preventative maintenance easy and effective, prevent potential disasters as well as help save money and resources.

## More responsive, more proactive

AlarmAgent.com has protected the Amherst Wastewater Division for a year and a half. According to Jim Laford, it's the best system to date. False alarms have been eliminated and response time for actual alarms has improved dramatically. One of the most significant features of the new system contributes directly to diagnostics and preventative maintenance. Wastewater Division personnel can access detailed reports on pump performance across all 20 lift stations by logging on to AlarmAgent.com's online interface. These reports include information on pump

flow, hours of pump operation and pump alternation. The data enables Wastewater Division personnel to address potential problems before they become alarm events. This level of real-time system diagnostics was inconceivable in the past.

Customer satisfaction in Amherst is up, and man hours at the Wastewater Division are down. The city, especially the college campuses, continues to grow, putting increased demands on system capacity, but Jim and his colleagues are confident that they found the right partner in RACO, and the right solution with AlarmAgent.com



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