

CUSTOMER PROFILE



MID-WEST ENVIRONMENTAL SYSTEMS, INC.

MID-WEST ENVIRONMENTAL REMOTE MONITORING PROGRAM

CHALLENGES

- Needed a preemptive solution to mitigate catastrophic field asset failure
- Responsive maintenance and service needed to prevent field asset damages
- Mechanical equipment located in hard to reach areas from roofs to basements or in multiple buildings making servicing units difficult

SOLUTION PROVIDED

- Remote Monitoring via long range wireless mesh network
- 100's of remote wireless units installed across housing developments and cities

RESULTS ACHIEVED

- Proactive customer service
- Prevented equipment failure and inventory damage or loss
- Saved \$3,000 - \$5,000 per installation by eliminating need for conduit
- Enhanced equipment life span, efficiency and reduced energy usage, saving over \$200,000 annually
- Saved \$42,000 annually in communication costs over traditional automation systems
- Cut service calls by 20% by preemptively addressing problems before becoming disasters

MIDWEST ENVIRONMENTAL

MID-WEST ENVIRONMENTAL USES ADVANCED AMR TO PROTECT VALUABLE ASSETS AND SAVE THOUSANDS IN MAINTENANCE COSTS

Air conditioners, heaters, lights, refrigerators, and sewer pumps all represent the backbone required for daily life. Whether in an office building, laboratory, restaurant or home, these are the machines that keep businesses functioning and people comfortable. These are also some of the most expensive assets for companies and homeowners to replace. Replacing or repairing these units can easily run into thousands of dollars for homeowners and tens of thousands for business owners.

Compromised, faulty or inefficient equipment can also equate to excessive energy consumption or the loss of hundreds of thousands of dollars for commercial and industrial facilities through the loss of frozen, refrigerated or heat sensitive products. These problems often go unnoticed until total failure occurs.

Mid-West Environmental, established in 1995 by Greg Lee, installs and maintains mechanical equipment for both commercial and residential applications. Installations include over 15,000 residential sewer pumps and thousands of commercial HVAC refrigeration and cooking units for a worldwide customer base. Through Mid-West Environmental, Greg Lee has secured installation and maintenance contracts with Taco Bell, Kentucky Fried Chicken, McDonalds and large residential home developers. With these installations come the expectations of little to no downtime and no tolerance for equipment failure.

“These are often the most expensive assets a business or homeowner will purchase. Our challenge is to provide proactive and preventive maintenance to avoid or eliminate downtime, equipment failure

and the detrimental effects from them,” states Mr. Lee. Lee refers to these as ‘invisible assets’, since customers usually only notice them when they fail to work.

THE CHALLENGES

Having serviced this equipment for many years, Lee was aware that many building automation technologies existed in the market that would enable him to monitor equipment performance at his customer’s sites. He was also aware of the challenges and costs of installing traditional building automated communications systems. After researching both wired and wireless building automation products Lee found that traditional wired systems presented many limitations due to equipment location. In many facilities the HVAC may be on the rooftop while generators or boiler rooms are generally in the basement.

More significantly for his customer base, many have multiple buildings. Therefore any installation that required phone line monitoring would be impractical as the monthly cost would be exorbitant.

Wireless cellular options were not feasible as they rely on costly repeaters and similar monthly service fees to communicate information from the remote site to the main office.

THE SOLUTION

Lee’s research discovered Advanced AMR Technologies (AAT), a long range wireless mesh technology which utilizes a patented wireless network of RF radio transceivers to hop alarm signals, with no telco services required.

Lee found that AAT provided the most comprehensive feature set with much less infrastructure and installation costs. This



Before AAT, Mid-West Environmental's Technician performs routine internal manhole inspection.

patented long-range radio transceiver provided the solution he was looking for.

With AAT equipment, performance information is gathered from remote sites, sent wirelessly to the EICS platform and evaluated at his office for timely action and preventative maintenance.

The AAT 8830 Wireless Device Controller is equipped with multiple data input options such as an onboard current transformer which connects directly to the unit that requires monitoring. Data gathered directly from the HVAC, boilers and sewer pumps provides information about electrical consumption, amperage, run time, high water, cycle frequency, input voltage and ambient temperature. This information is a leading indicator of poorly functioning equipment or looming end of life failure before it actually occurs.

HOW IT WORKS

An AAT 8830 Wireless Device Controller is connected to the mechanical units located at each business or residence. Each AAT 8830 wirelessly sends data to a regional AAT 8856 Wireless Concentrator located within a cluster of homes and/or businesses.

Minimum/Maximum acceptable threshold levels are set for each indicator at the mechanical units. When these thresholds go above or below their set limits, an alarm is triggered and information is immediately sent via long range RF radio

transmission and then via Internet to the EICS platform. Data is received within seconds notifying service personnel of needed attention before equipment failure occurs.

BENEFITS

The AAT 8830 can be set to custom threshold levels based on the age and operating conditions of specific equipment, providing proactive and customized asset management programs to individual customers. This advanced notice prevents equipment failure, catastrophic loss of inventories and costly downtime. This proactive maintenance increases efficiency and longevity of the equipment, while delivering a variety of financial benefits.

“The wireless feature saves us \$3,000 - \$5,000 per installation,” according to Lee. “By utilizing the AAT 8830 Wireless Device Controller and installing a centrally located Wireless Concentrator, we can have several units online in a day. With traditional wired systems it would take at least one day just to run all the necessary wires with several additional days to get all the connections wired. By using AAT’s self-configuring network we no longer have to secure tower space to install the radio repeater equipment necessary for alternative radio products. In addition, we now save up to \$3,500 by eliminating monthly communication fees for cellular or telco services.”

Lee’s customers also benefit in energy savings. It is no secret that properly maintained equipment will last longer and run more efficiently. With visibility into the ongoing operation of these systems, they know when a machine is drawing excess power or not functioning at maximum efficiency. Even though this equipment may be performing to customer satisfaction, it may also be working harder than necessary to produce that result. In the end, the equipment will utilize more energy and work harder causing premature wear and tear. By understanding the

day in and day out operating thresholds reported through the AAT EICS platform, they are aware when these machines are working too hard. Through proactive maintenance and service for maximum efficiency, Lee saved his customers over \$200,000 last year by reducing energy consumption and eliminating premature equipment failure.

Finally, Mid-West Environmental has cut service calls by 20% because it knows when equipment begins to encounter problems and can address them while they are manageable, before they become expensive failures.

SUMMARY

Mid-West Environmental utilizes Advanced AMR’s remote monitoring technology to provide an integrated asset management program to insure timely delivery of preventative maintenance services and respond quickly to events requiring immediate corrective measures. Mid-West’s goal has always been to provide the best customer service through maintenance, preventive maintenance, cost effective service and minimal downtime. “Knowing that your customers rely on your products day in and day out makes this our most important goal,” says Lee. “With Advanced AMR’s remote monitoring system we can insure that our customers will receive the most proactive service possible, while reducing costs associated with equipment failure, maintenance, transportation, and service.”

For more information about Advanced AMR Technology visit

www.advancedamr.com,

Call (978)826-7660 or

Email: sales@advancedamr.com

For more information on Mid-West Environmental visit www.midwestenviro.com or call 800-405-7748