

Shut Your Trap: Wireless Sensor IDs Steam Leaks

By Aaron Hand, Managing Editor, [Control Design](#)

At a time when energy makes up an increasing percentage of a plant's costs—typically 30% and rising—the last thing you want to do is throw that energy out the window. Industrial plants spend a significant amount of money on steam production, but leaks in the steam traps are akin to running your furnace with the windows open; some 20% of the steam leaving the boiler can be lost because of failing steam traps.

This week at the Emerson Global Users Exchange in Nashville, Emerson Process Management introduced the Rosemount 708 wireless acoustic transmitter as part of its Smart Energy Initiative. It helps processing plants significantly reduce energy costs and environmental impact by combining temperature measurement with acoustic “listening” that provides visibility into the state of steam traps and pressure relief valves.

Darren Goodlin calls it his “bionic ear,” enabling him to overcome the challenges of human inspection. He is manager of inline instrumentation for Anheuser Busch, whose St. Louis brewery was originally built in the late 1800s. Just one 3-mm equivalent leak can waste \$16,000 a year, Goodlin said, and the St. Louis plant has more than 1,000 steam traps, each of which requires manual inspection. Resources aren't always available to make inspections as often as previously, and many times leaks go undetected, he said.

“Murphy is at large in your facility,” he added, alluding to one of the problems with all-manual inspection. The Rosemount 708 provides accurate measurement and constant visibility to steam traps without the effort of a manual inspection. This could reduce fuel costs by 10% to 20% annually. The transmitter also improves equipment performance, Goodlin said. “If you're not getting a consistent flow and quality of steam to your system, the whole thermodynamic heat transfer becomes variable.”

Pressure relief valves are another critical component of a plant. Monitored manually for releases, the inspections do not indicate when or why a release occurred. The Rosemount 708 wireless acoustic transmitter alerts operators when a valve has opened in as little as a second. The time-stamped alerts can be compared against process conditions or environmental reporting to help identify the root cause of a release so that preventive measures can be taken.



“Murphy is at large in your facility.” Darren Goodlin, manager of inline instrumentation at Anheuser Busch, explains the downfall of human inspection of steam traps. Emerson’s Rosemount 708 provides constant visibility without manual inspection.