

Steam Trap Survey Reduces Emissions and Energy Costs

RESULTS

- Reduced plant emissions by 400k lbs of CO₂
- Enhanced steam system performance by reducing steam loss
- Annual energy cost savings of \$725K

APPLICATION

Steam Traps

CUSTOMER

A large refinery in North America

CHALLENGE

The plant had many undetected failures in its large steam trap population. This resulted in significant steam loss and increased energy costs. Leaking steam traps reduced the efficiency of the steam system, which also ultimately increased emissions. Faulty steam traps also built up condensate which increases the risk of water hammer and other issues in the system. The failed traps had to be identified and replaced but the plant did not have the resources required to address these issues.

SOLUTION

An Emerson Impact Partner conducted a survey of the 8500+ steam traps installed at the site. A steam trap survey involves manually checking each steam trap to ensure proper operation. The steam traps are typically checked with a thermographic camera, an ultrasonic probe or other steam trap testing tools. Customers are given a detailed report documenting the key findings and recommendations from the survey.

The team discovered that almost a third of the steam trap population at this plant were not functioning properly. This was the underlying cause of the significant steam loss which ultimately increased the plant energy costs and emissions. Replacements for 2300+ failed traps were recommended and all the new units were delivered and installed within the customer's desired timeframe. The new steam traps improved plant safety, reduced emissions by 400k lbs of CO₂, increased performance and resulted in approximately \$725K of annual energy cost savings due to reduced steam loss.

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A steam trap survey conducted at a refinery led to the replacement of 2300+ failed traps. This reduced emissions by 400k lbs of CO₂ and annual energy costs by \$725K.



Detection is critical for minimizing the impact of steam trap failures.

Surveys are part of Emerson's broad portfolio of solutions for maintaining steam traps. Detection is critical for minimizing the impact of steam trap failures. Emerson steam trap surveys and monitoring solutions are available. See documents below to learn more about our steam solutions

RESOURCES

[Steam Trap Selection Guide](#)

[Steam Trap Monitoring Proven Results](#)

