

CASE HISTORY 27 — Q-PAC®

\$8,300/Year Power Savings at Pittsfield Municipal Incinerator

Q-PAC runs 15 months without plugging in heavy particulate service; Tellerettes required change-out every 3–4 months.

APPLICATION

Acid scrubber, municipal incinerator

PREVIOUS PACKING

2K Tellerettes

SERVICE INTERVAL

15+ months without plugging

◆ THE PROBLEM

The city of Pittsfield, Massachusetts purchased two acid scrubbing towers for their municipal incinerator. The scrubbers had to perform at unusually high particulate loadings, forcing change-out of packing every 3–4 months. Because the plant cannot operate without the scrubbers and because a plant shutdown is scheduled once a year, it was imperative to find a packing or system that could resist plugging for at least 12 months.

"Q-PAC showed a substantial savings in electrical power costs with an annual savings of more than \$8,300 per year and did not plug!"

— Kevin Rousseau, EAC

◆ WHY Q-PAC WAS SELECTED

Q-PAC was selected because of its large void fraction and widely spaced grid-and-needle design, which promised reduced fouling and a much lower pressure drop. The better fouling characteristics were necessary to reduce high maintenance costs and the low pressure drop was essential to reduce operating costs.

A comparison done between Q-PAC and 2K Tellerettes projected substantial savings in electrical power usage. Based on an average of \$0.132 per KWH, an operating year of 8,000 hours, and a motor efficiency of 80%, the savings in electric power would be **\$986/BHP-year** — an annual savings of \$8,362.

Finally, Q-PAC's performance had been substantiated by numerous studies and real-world applications, and was guaranteed by Lantec with a **100% performance warranty**.

In April 1998 the towers packed with Tellerettes showed pressure drops in excess of 4.0" WC, indicating plugging. The plant's engineering contractor decided to take a general plant shutdown as an opportunity to replace the old packing with Q-PAC.

PRODUCT

Q-PAC

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KEY OUTCOME

\$8,300 / yr

Annual fan power savings vs. 2K Tellerettes at \$0.132/kWh, 8,000 operating hr/year

SERVICE LIFE COMPARISON

Before vs. after retrofit

3–4
months ·
Tellerettes

15+
months ·
Q-PAC

APPLICATION CONTEXT

Acid scrubbing

Municipal incinerator

High particulate loading

◆ MEETING THE REQUIREMENTS

The next scheduled shutdown was in July 1999. By that time, Q-PAC had been in service for 15 months, yet the packing showed no sign of being plugged. Rather than change it out, the decision was made to leave Q-PAC in the scrubbers for a second consecutive year.

In a process with heavy particulate loading, the patented plugging-resistant design of Q-PAC made it possible to operate scrubbers 5–8 times longer between packing change-outs — 1–2 years versus 3–4 months with the Tellerettes.

Comparing fan power usage, Q-PAC delivered savings in electric power costs of more than \$8,000 per year.

NOTE

Performance backed by Lantec 100% warranty.

