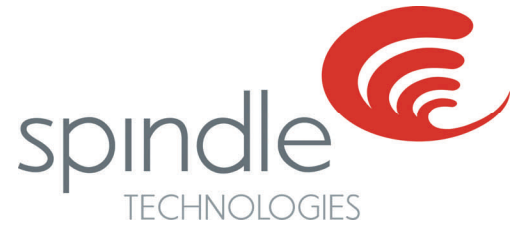


Industrial Laundry UTILITIES CASE STUDY



Spindle Utilities Module

Case Study

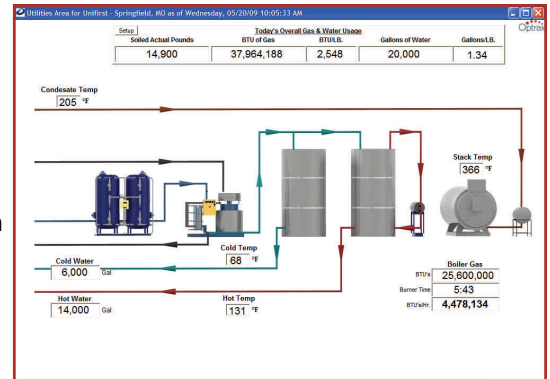
Industrial Laundry Reduces Natural Gas Consumption

BEFORE

- Manual Entry
- Inaccurate Data
- 3 Month Old Data
- No Detail or Trends

Business Situation

The existing method of tracking utility usage at these industrial laundries was highly manual, unreliable, and time consuming. Total utility consumption from bills was entered into large spreadsheets and analyzed over periods that were often 3 months or more in arrears. The report merely told managers what they already knew—they had overspent on natural gas; and did not offer enough detail to identify root causes.



Spindle Utilities overview in real-time with alerts & trends

Solution

The Spindle Utilities Module was implemented at three facilities to track natural gas consumption by equipment (in per LB washed and per Hour of burner time), critical temperatures and water consumption. Specific alerts were set on visual displays and reports for key parameters to drive corrective action at the local and regional levels.

AFTER

- Automated Data Collection
- Real-Time, Individual Equipment Detail
- Visual Workplace
- Instant Alerting
- Reporting & Trends
- Benchmarking
- Troubleshooting
- Consultancy Services
- Extranet Reporting

Benefits

- Individual natural gas consumers are monitored in real-time for total consumption and efficiency e.g. boiler, dryers, washers, hot water heater.
- Maintenance staff and management know exactly how equipment is performing against manufacturer and corporate standards
- Individual water consumers are monitored in real-time for total consumption and temperature of water
- Heat reclaimers, water heaters, stack economizers, condensate return, steam tunnels and other temperatures are monitored with alerts set for efficient operation.
- Real-time trending and reports are used to view overall efficiencies, spot trends, and to verify utility billing
- Spindle Consultancy services employed to tune poor efficiency boilers & dryers, change dryer formulae and recommend new work flows & operating procedures.

The corporate team uses www.spindleservices.com for live access to the locations, for benchmarking and to view multi location reports.

Post Spindle Annual Natural Gas Savings

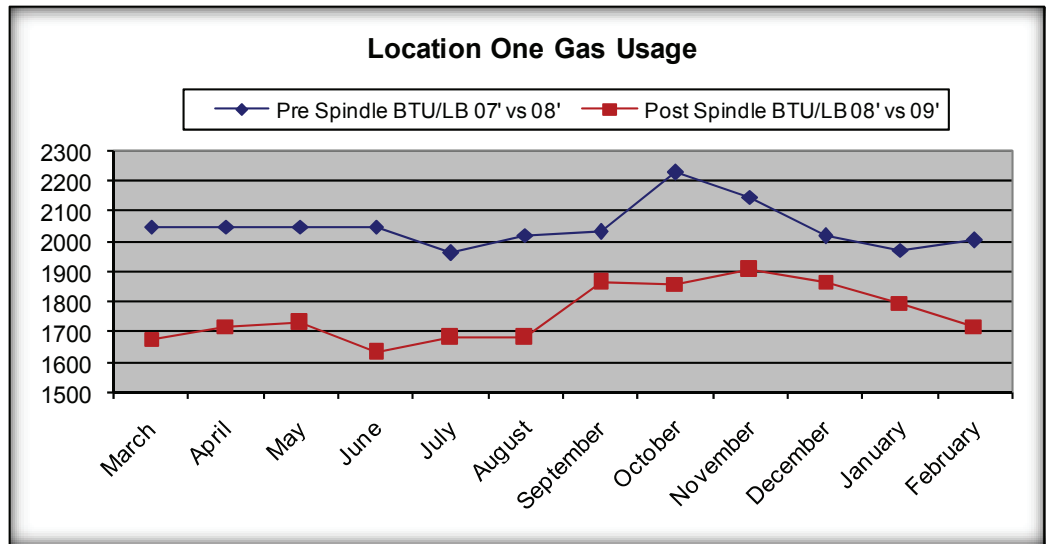
Location One	14% Lower	\$196,000 Savings
Location Two	21% Lower	
Location Three	30% Lower	

ABOUT SPINDLE TECHNOLOGIES

A leading provider of technology solutions and consulting for the laundry industry. With many years of diverse experience, Spindle brings a significant level of expertise, knowhow and value to laundry customers across the country.

Major Offerings:

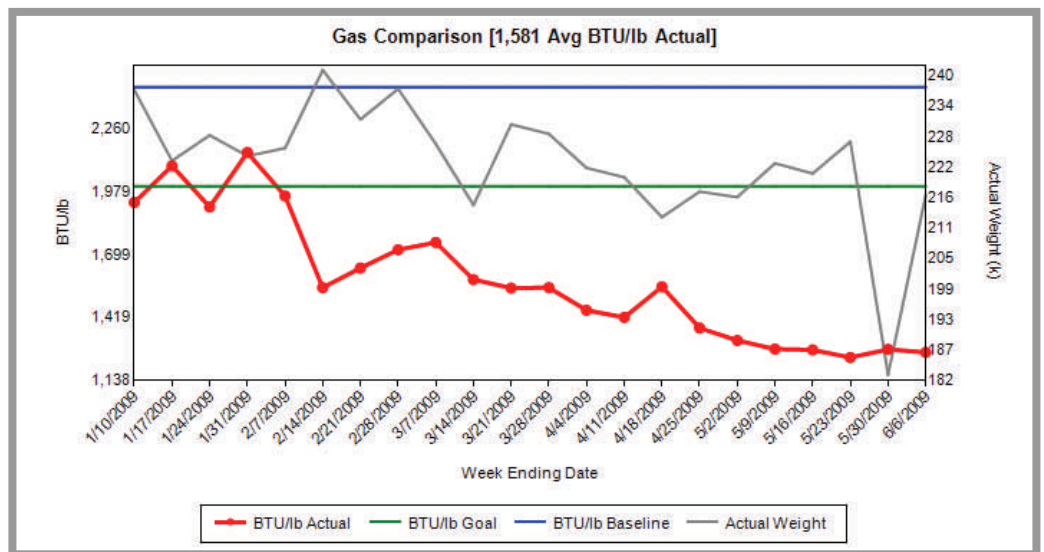
- Direct Labor Module
- Utilities Module
- Consultancy Services



Location One Comparison of Gas Consumption One Year Pre and Post-Spindle

Spindle Utilities Management Program

The chart below is extracted from the Spindleservices.com Local Operations Report (LOR) which delivers trends of natural gas consumption, water consumption and turn time versus a baseline (blue) and corporate goal (green). This report is sent weekly to the plant manager and chief engineer of the location. A summary is provided weekly to corporate staff, Regional Operations Report, and the two work in conjunction with troubleshooting flowcharts and guides as part of Spindles Utilities Management Program. The system promotes accountability, visibility and provides the tools required to take ACTION and make improvements.



Local Operations Report Gas Chart for Location 3—showing gas usage improvement

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