Photo: Amy's Kitchen

CASE STUDY

Amy's Kitchen Dramatically Reduces Sewer Fees at Its Pocatello Plant with Metron Submetering

Granular accounting of water consumption reduced domestic sewer charges by 90%.

Sewage charges are often assumption-based... and can be way off

For a factory such as Amy's Kitchen's 500,000-square-foot food production facility in Pocatello, Idaho, sewage fees can represent a significant operational cost. Recently, as a part of Amy's broader commitment to sustainability, the team was motivated to better understand and manage water usage across the facility - ensuring that resources are used as efficiently as possible and that utility water volumes accurately reflect actual operations.

It was during this exploration that the team came to realize that many utilities bill sewer services for commercial customers by assuming that each gallon of incoming potable water returns to the sewer (the Commercial Use Assumption or CUA). That assumption works for typical offices and retail, but it can be far off for food manufacturing, where water is lost to steam or evaporation in process systems or incorporated into product. To account for this, the Pocatello facility has an industrial effluent meter to report exactly what goes to sewer from their production lines. However, the site's domestic functions – restrooms, break areas, etc. – flow to a separate sewer line on which there is no active outflow measurement.

Submetering to the rescue

When company management became convinced that the city water utility was grossly overestimating the amount of domestic sewage generated, they decided a solution was needed to effectively measure the actual effluent flow associated with the domestic sewer system. The $250,000 estimated cost of installing a new dedicated effluent meter was regarded as prohibitive, or at least leading to a very long ROI; and installation would be disruptive to the operation of the factory. It was decided that a better approach would be to measure the water going into the domestic areas, which are isolated from the production effluent system, and appropriately apply the CUA to that standalone system.

This is where Metron came in with a solution based around its cellular smart meters. “The Metron solution was multiple orders of magnitude less expensive while allowing us to achieve the same objectives,” says Renaud des Rosiers, Director of Sustainability for Amy’s.

“The Metron solution was multiple orders of magnitude less expensive”

des Rosiers and the plant engineering and facilities teams worked with Metron to specify and purchase nine water meters, ranging in pipe sizes from ¾” to 3”. These were installed as submeters on the pipes supplying water to the domestic functions on site, for both hot and cold water. Immediately, the data in Metron’s online water analysis platform WaterScope® proved the team’s suspicions of overbilling correct: The city’s misapplication of the CUA assumed about 2 million gallons per month of domestic discharge, while actual domestic use was closer to 150,000 gallons per month!

Photo: Amy’s Kitchen

Lightning fast payback

Armed with accurate, auditable water consumption data, Amy’s Kitchen worked with the utility to adjust the sewage fees. It took some time to build trust and assurance in the accuracy of the dramatically lower numbers as the city independently verified the methodology, but ultimately the results were staggering with domestic sewer charges dropping from about $135,000 per year to about $12,000, saving over $120,000 annually.

The installed cost of the meters was around $3,500, which equated to a simple payback of only 10 days. The project’s ROI exceeded 3,500%.

“...a simple payback of only 10 days”

“It’s definitely been a slam dunk of a project for us, in terms of both investment returns and an improved understanding and control over our water footprint,” says des Rosiers.

Rolling out to other sites

The Pocatello project created a repeatable approach for other industrial sites, especially in smaller municipalities where billing practices are optimized for residential and light commercial accounts using the CUA. After success in Idaho, Amy's Kitchen replicated a similar approach at its Medford, Oregon facility and has used Metron metering in other data-validation contexts, such as confirming that water-saving projects are performing as expected. For manufacturers, domestic submetering can provide a low-disruption way to correct sewer charges without capital-intensive infrastructure work.

"This project in Pocatello demonstrated a proof of concept that there is value in precisely tracking domestic effluent even though this stream is often overlooked because its impact is dwarfed by the production side," says des Rosiers.

What is Submetering?

Simply put, submetering is where you put Metron's cellular water meters downstream of a single "master" meter which the water utility uses to measure the total water consumed by a property. You get to see how much water passes through the submeters by using WaterScope®, gaining insight into how water is being used within the property. The water utility doesn't see the data from your submeters – they are for your use exclusively. There are many great applications for submetering.

For businesses which use significant amounts of water, it's useful to measure the consumption for specific applications. This can help with accounting, environmentally responsible practices, and product pricing. For cases where the water doesn't return to sewer, this data can reduce your sewage bill. Examples of application-specific submetering are:

- Water-based products, such as a brewery or food producer
- Cooling towers on a building
- Manufacturing processes using a lot of water
- Horticulture

Metron offers Spectrum meters in a range of sizes to suit any application.

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