

Dec 9th, 2013

Location: *Guelph, Ontario, Canada*

Facility Type: *Multi-Residential Building - 69 Units*

Overview

This follow-up case study details the findings on the installation of the H2minusO Flow Management Device (FMD) water saving technology at a Multi-residential site located in Guelph, Ontario. This analysis and performance of the H2minusO valve are based on 3 months of post installation water bills. The positive results demonstrate the value-add our device continues to have on this facility and will continue to have. Virtually any facility that consumes water can benefit from our technology.

Background

Good water management requires accurate water measurement!

Water meters have changed little since their beginning and have a major fault in their design: air in your water lines is read as water by your meter. So for ALL end users, there is a very high probability your meter is billing you for water use, but not your actual consumption.

In a variety of ways, air can enter the water supplied by your water utility. Our H2minusO Flow Management Device (FMD) valve acts to minimize the air that would otherwise travel through your water meter and inflate the volume of water you ultimately pay for. All water pipes intermittently carry air along with water. As water travels from the water company to a home or business, air builds up in the water pipelines via internal and external processes. Since all water meters measure total volume, including both air and water, the blades in the meter turn faster than they would with just water alone. As a result, if you don't have our H2minusO valve, you pay more than necessary for your water.

What are the benefits for your business/organization/facility?

- Lower water bills
- Rapid return on investment
- Increased net operating income

The Technology: H2minusO - Water Flow Management Device





The Installation

The installation at this facility was for a 1.5-inch Valve that took approximately 4.5 hours. A typical install will usually take between 2-4 hours and in most cases, if there is a by-pass, water services will still be available to the facility. Once the installation is complete the water savings will start immediately.

The Project Analysis: *Pre and Post Water Consumption Analysis*

This follow-up Measurement & Verification analysis is based on billing information provided by Skyline. Encompass was provided billing details for 44 months up to the Oct 10, 2013, billing period. This allowed us to conduct a detailed comparative Measurement & Verification for the 84 day period post-H2minusO installation against historical consumption for the same year-over-year period. This allowed us to eliminate one of the key variables that impact water consumption - seasonality. We also looked at a rolling 3 month average over the 44 months because this allowed us to explore such things as consumption patterns, abnormal or suspicious periods of consumption, and consumption trending.

One of the things we immediately noted was that the trending during the months from Early July to Nov (this period factors in 3 months of billing) had the highest consumption averages compared to other periods during the year. In 2010 the daily averages were at 24.47 m³ - 25.84 m³ (in 2010 the April - June timeframe had higher 3 months rolling average 26.18 m³ - 26.89 m³); in 2011 the daily averages during that period were the highest at 26.93 m³ - 27.44 m³; in 2012 the daily averages were 30.55 m³ - 30.97 m³; in 2013 the daily average to date sits at 26.99 m³ (we don't have the data for the October to November period).

As noted in the original Measurement & Verification analysis case study, which was completed 21 days after the installation, consumption showed an increasing pattern year-over-year. This fact is summarized and further supported, in this analysis (see Table 1). During the analysis period (starting in 2010) the average daily consumption increased by 10.05% in 2011 and 14.55% in 2012. (see Table 1). The consumption for the same seasonal period, post-H2minusO installation, experienced a drop of 12.51% (see Table 1).

Table 1: Period Analysis - Consumption

Measurement Type	Measurement Period - Start	Measurement Period - End	Average Daily Consumption (m3)	Change in Water Consumption Reading
Consumption for	19-Jul-10	22-Oct-10	24.47	0.00%
Consumption for	20-Jul-11	17-Oct-11	26.93	10.05%
Consumption for	23-Jul-12	19-Oct-12	30.85	14.55%
Consumption for	18-Jul-13	10-Oct-13	26.99	-12.51%

Chart 1:

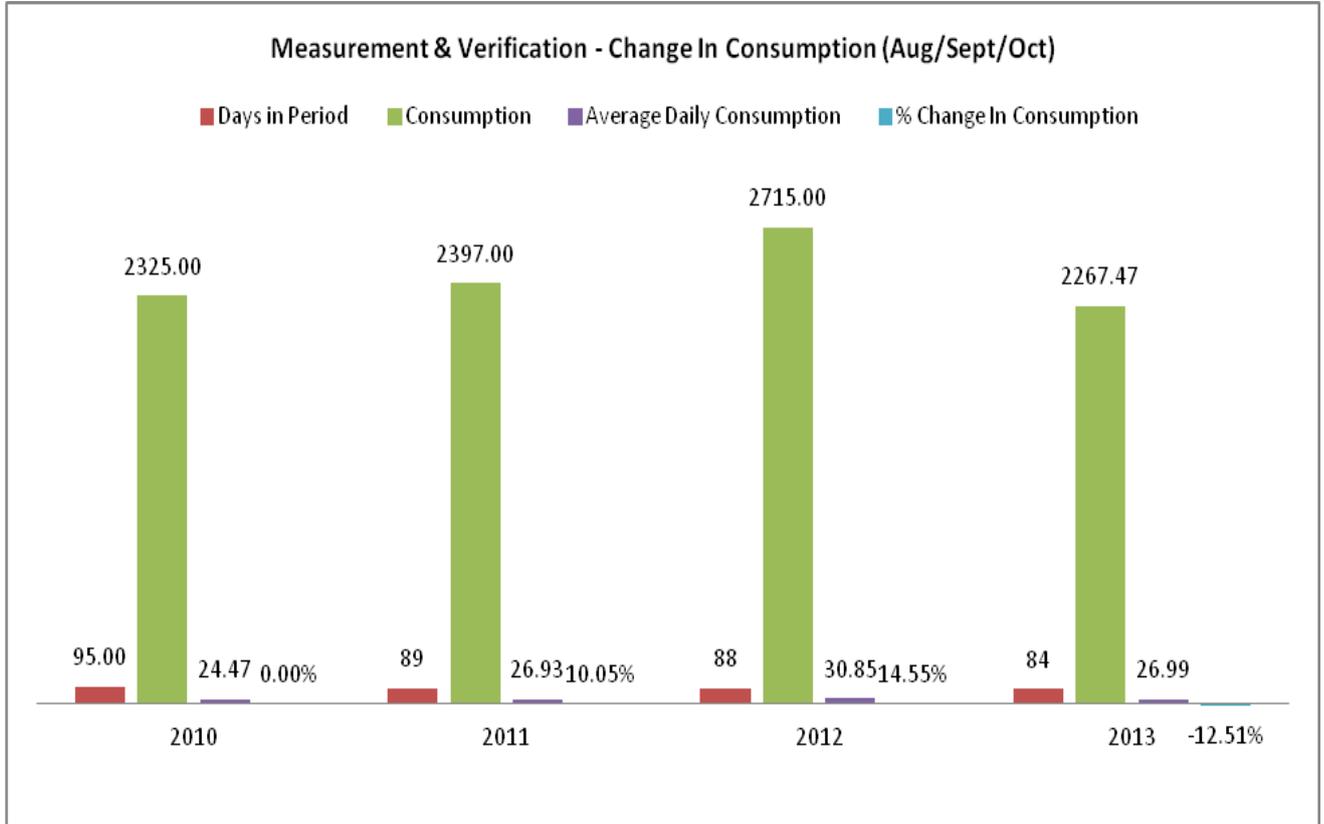


Chart 1 shows the actual percentage savings recorded period over period based on Skyline's water bills

The Project Analysis: *Estimated vs Measured Water Consumption and ROI Analysis*

Based on 44 months of water bills, our analysis indicates that this facility continues to save between upwards of 12%. Factoring in the average 2010, 2011 and 2013 water rates and projected reduction in consumption billing, this building had an expected payback at just over 2 years. The post installation analysis continues to show that the payback will be sooner than the original projections.

Summary

The installation of the 1.5-inch H2minusO FMD will generate a significant reduction in water consumption usage based on the current existing conditions. Because the device treats the entire volume of water entering the facility, regardless of changes in the buildings consumption patterns and history this facility will continue to experience savings upwards of 12% on their water consumption. Furthermore, given that the financial metrics and ROI are based on the average of 2012 and 2013 water rates, actual dollar savings on future consumption will increase provided water rates continue to increase year over year.