Aug 8th, 2013

Location: ***Guelph, Ontario, Canada***

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

Overview

This 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. These results demonstrate the value-add our device can provide your organisation and business. Virtually any facility that consumes water can benefit from our technology.

Background

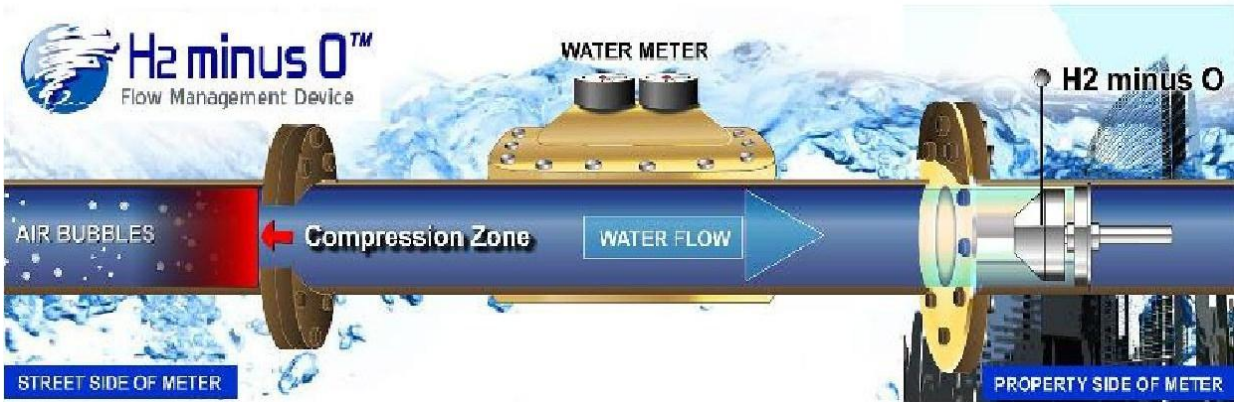
Water meters have changed little since their beginning and have a major fault in their design: air in your water lines is read as water by your meter. So for ALL end users there is a very high probability your meter is billing you for water use, but not your actual consumption.

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



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The Installation

The installation at this facility was for a 1.5" 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*

The facility in which the H2minusO was installed required a 1.5 inch valve. The Measurement & Verification process was straight forward for this property because no water saving retrofits had been completed in the 24 month period prior to the install. Nevertheless, our analysis was very detailed and factored in the key events that can skew the analysis results such as occupancy levels, type of facility and incoming city water pressure . We used 24 months of billing and consumption data as well as consumption data for the months prior to the install. This provided us with sufficient data to complete a comprehensive pre-installation analysis. The analysis explored such things as consumption patterns, abnormal or suspicious periods of consumption, comparison of same period consumption year to year and consumption trending. One of the things we immediately noted was that the consumption trending had increased by nearly 17% (see Table 1) from year 1 to year 2. The trending was also gradual enough that it pointed to changes in consumption behaviour being the most likely source. So we needed to understand how this trending pattern was progressing from the last meter reading taken (as per March billing details) on March 13, 2013.

As detailed in Table 1 below, we noted that there was still a pattern of increasing consumption up to the installation of the H2minusO valve. In the 27 day period immediately before the installation the daily consumption levels had reached nearly 31 m3 per day. Furthermore the median, averages and data distribution during selected periods in May 2013, June 2013 and the period after installation revealed additional patterns pointing to the improved efficiency of the meter readings due to the H2minusO valve. In the periods before the installation (see Table 2) the first observation shows the average daily consumption was higher than the median daily consumption. These results indicated that there was a greater tendency for higher daily consumption above the median (53.3%) thus indicating increasing daily consumption patterns. In the second observation (see Table 2) although the average was below the median, 60% of the daily consumption numbers (see table 3) were distributed above the average of 30.98 m3, again supporting our findings of the increasing consumption patterns. In comparison, the post installation average was lower by 14.78% and the median was lower by 13.3%. Although the average daily consumption was above the median and the spread was also higher than the pre-installation period, only 47.6% of the daily consumption numbers were above the median, supporting the results of the lower daily average. Furthermore the lowest recorded reading during the pre-installation period was 23.8 m3 (see table 3) compared to 18.4 m3 (see table 3) during the post-installation period. These results also point to improved meter reading efficiency.

Table 1: Period Analysis - Consumption

Measurement Type	Measurement Period - Start	Measurement Period - End	Average Daily Consumption (m3)	Average Daily Consumption Per Unit (m3)	Reduction in Water Consumption Reading
Consumption for	2-Mar-11	2-Feb-12	24.75	0.3587	0.00%
Consumption for	2-Feb-12	1-Feb-13	28.93	0.4193	-16.89%
Consumption for	13-Mar-13	18-Jul-13	29.14	0.4223	-0.73%
Consumption for 27 Days Prior to Install	21-Jun-12	18-Jul-13	30.98	0.4490	-6.31%
Consumption for 21 Days Post Install	18-Jul-13	8-Aug-13	26.4	0.3826	14.78%

Table 2: Period Analysis - Median vs Average

Measurement Period	Median Daily Consumption	Average Daily Consumption	Difference
May	28.70	29.44	0.74
June/July	31.05	30.62	-0.43
July/Aug - Post Installation	26.9	26.40	-0.50

When we examined daily consumption relative to the averages for each of the periods, it was clear that there was a significant difference between the pre and post installation periods. These observations have been captured in Table 3.

Table 3: Daily Consumption Comparison

Measurement Criteria	Before Installation (27 days/30.98 average)	After Installation (21 days/average 26.40)
Percentage of days that daily consumption above the period average	60%	47.6%
Lowest daily consumption	23.8	18.4

Chart 1:

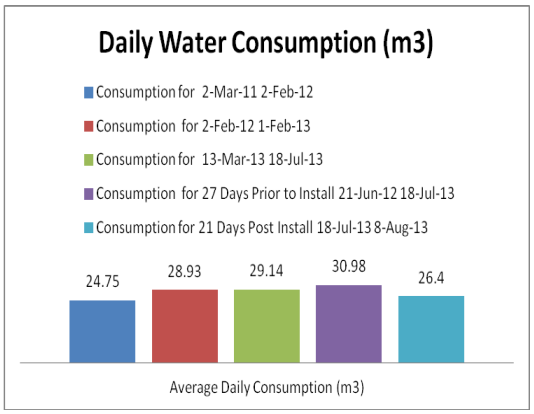

Chart 1 shows the daily water consumption recorded period over period based on water bills and actual meter readings.

Chart 2:

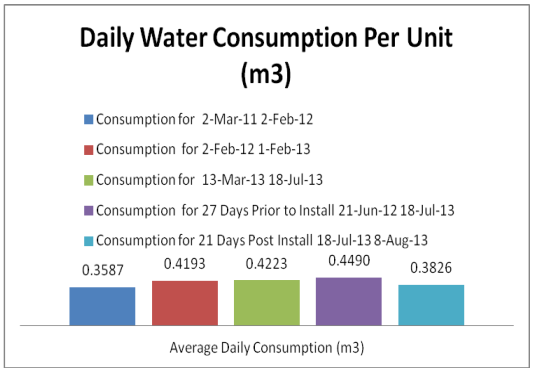

Chart 2 shows the daily water consumption per unit period over period based on water bills and meter readings.

Chart 3:

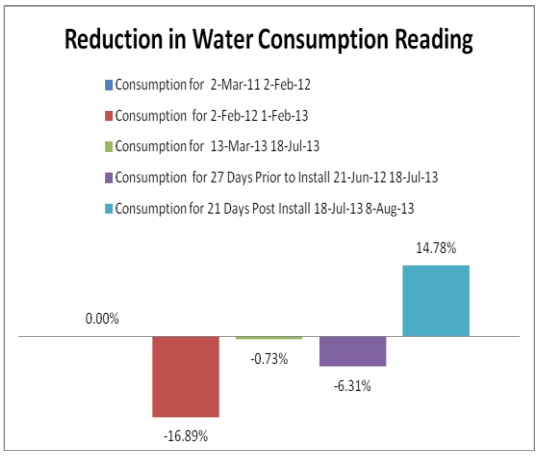

Chart 3 shows the actual percentage savings recorded period over period based on water bills and actual meter readings. The percentage savings can be applied directly to overall water cost to determine reduction in water bills.

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

Based on the initial audit of the facility and analysis of 24 months of water bills, we determined that this building qualified for our minimum 10% savings guarantee. Factoring in the average 2012 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 now indicate the projected payback will be 1.28 years

Table 4: Estimated vs Measured results

	Estimated	Measured	Difference
Percentage Savings	10.00%	14.78%	4.78%
Daily Reduction in Water Billing (m3)	3.10	4.58	1.48

Summary

The installation of the 1.5 inch H2minusO FMD will generated 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 of 14.78% 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.