

Case Study

Heating System Water Loss

BACKGROUND:

For several years, WATERSHIELD has been monitoring a minor water leak through the Heating Hot Water (HHW) Make-up system in a 60-unit residential building. The HHW make-up system is designed to replace water lost through normal processes like evaporation and blowdown. This system intermittently adds small amounts of fresh water to the hydronic heating system via the domestic water feed. The FLOWIE-O monitoring tool is calibrated to track normal make-up water usage.

PROBLEM IDENTIFICATION:

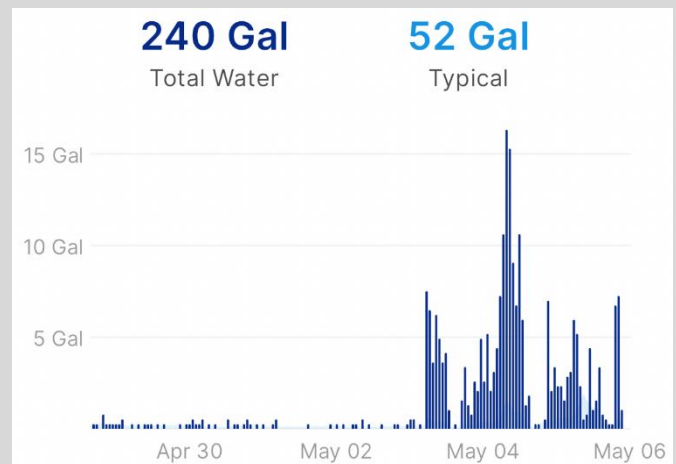
At the end of the 2023/2024 heating season, a significant water loss event was detected – See Figure 1. During the weekend of May 4-5, 2024, a flood alert was triggered by FLOWIE-O, signaling an unexplained flow of water through the system. WATERSHIELD collaborated with on-site staff to investigate the cause. A visual inspection of unit heaters located in the underground parking garage revealed that they were leaking water. Unit heaters, which are typically installed at ceiling height or recessed into walls, consist of a heating element, built-in blower fan, and louvers to direct heated air. These units can leak water for several reasons, including clogged filters, blocked air returns, or damaged internal components.

SOLUTION:

Repairs were conducted during the summer when the heating system was inactive. By fall 2024, the system no longer showed signs of water loss, and normal operations resumed.

CONCLUSION:

This incident underscores the importance of continuous monitoring to detect and address leaks early. The FLOWIE-O monitoring tool played a critical role in identifying the issue before it caused significant damage or water waste. Timely repairs and ongoing monitoring will help ensure the long-term efficiency of the building's heating system.



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