

Performance Assessment Case Study

NEXA PROVIDES HOTEL WITH COMPREHENSIVE VIEW OF ITS WATER SYSTEM

Context

A full-service hotel installed Nexa to provide a comprehensive assessment of the hotel's water system, including domestic hot-water delivery to guestrooms, chiller performance, energy efficiency, and water consumption

To provide this visibility, Nexa helped the hotel install several temperature & pressure sensors, as well as a flow meter across the property. In addition, the Nexa team closely monitored the data and regularly shared their observations and insights with the hotel team.

Once the installation was completed, the Nexa team began to provide the hotel with an assessment for each of the following areas:

Domestic Hot Water Temperatures to Guestrooms

Nexa detected increased temperature fluctuations on the DHW supply line to the guestrooms

Nexa sensors were deployed to monitor the temperature of the DHW outlet supply, to ensure that the guestrooms were consistently receiving hot water from the mechanical room.

Prior to February 18th, the hotel was able to consistently deliver DHW to guestrooms, with DHW outlet temperatures hovering between 130 – 140F. However, Nexa detected increased fluctuations in temperature beginning on February 19th, with DHW supply dipping below 110F at times.

Thanks to Nexa's alerts, the hotel team was notified of the situation, discovered some setpoint and mechanical issues with the water heaters in the mechanical room, and began taking action to resolve these issues.

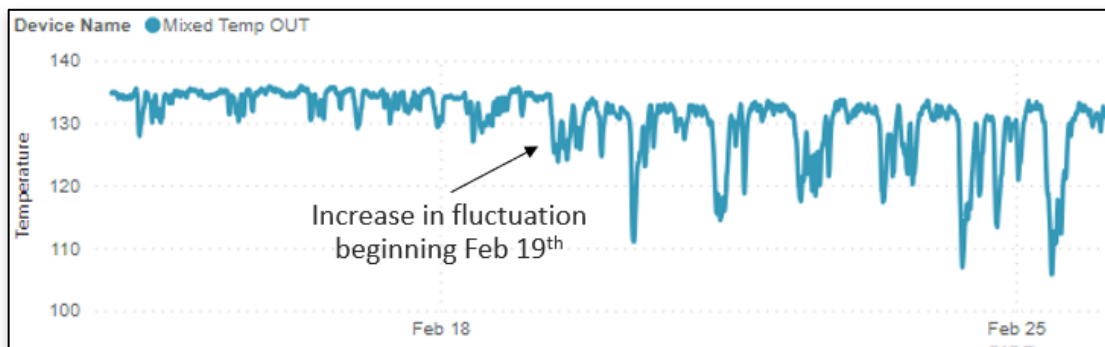


FIGURE 1 – FLUCTUATIONS IN THE DHW MIXED OUTLET TEMPERATURE BEGAN ON FEB. 19TH

Consistent Water Pressure for Guestrooms

Nexa alerted hotel staff during dips in DHW pressure to the guestrooms, allowing rapid responses

Nexa deployed a sensor to monitor the water pressure supplied to the guestrooms and ensure that pressure was within 60-90 PSI leaving the mechanical room.

In early February, Nexa alerted the hotel of some dips in water pressure, which were caused by a combination of high guestroom water demand and sub-zero temperatures from a winter storm. By alerting the hotel immediately, the staff acted and resolved the pressure fluctuations before guests were adversely impacted.

Aside from those incidents, the hotel was generally consistent in terms of the water pressure on their DHW line. Nexa gave the hotel staff the peace of mind of knowing that their water pressure was where it needed to be.

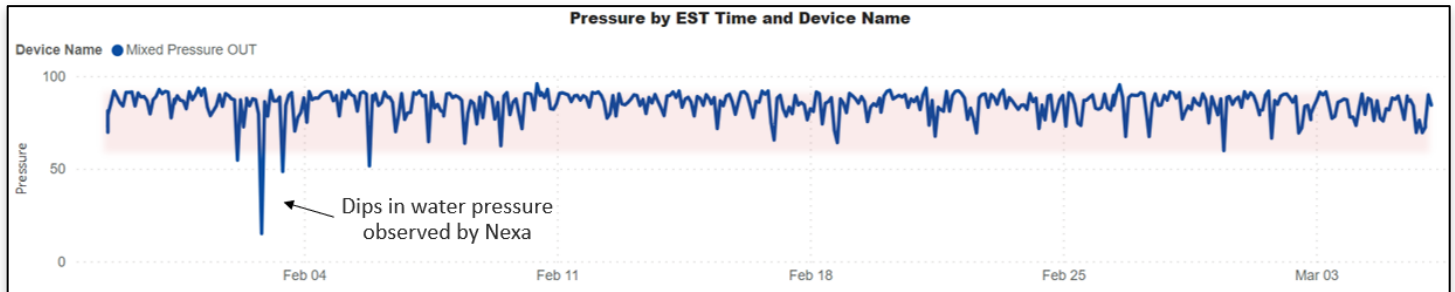


FIGURE 2 – NEXA HELPED DETECT DIPS IN WATER PRESSURE IN EARLY FEBRUARY

Domestic Hot Water Supply and Return Temperatures

Nexa was able to provide the hotel visibility on their energy efficiency of their DHW loop

By monitoring the DHW supply and return lines, Nexa can help a property determine if they are experiencing excess temperature loss on the DHW line as it travels through the building. When that occurs, the building incurs additional energy costs to reheat the water and could be indicative of additional plumbing issues elsewhere in the facility.

Fortunately, the hotel had a consistent 5 to 6-degree difference between DHW supply and return that was within target benchmarks, indicating minimal temperature loss and high efficiency.

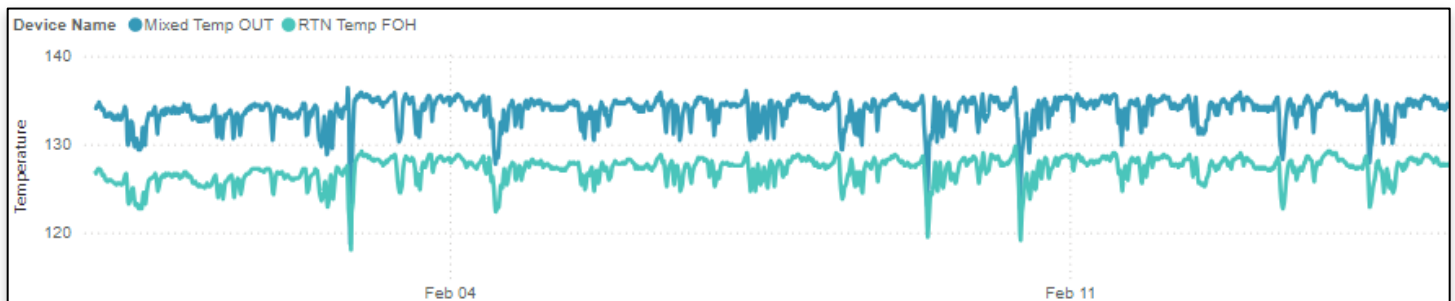


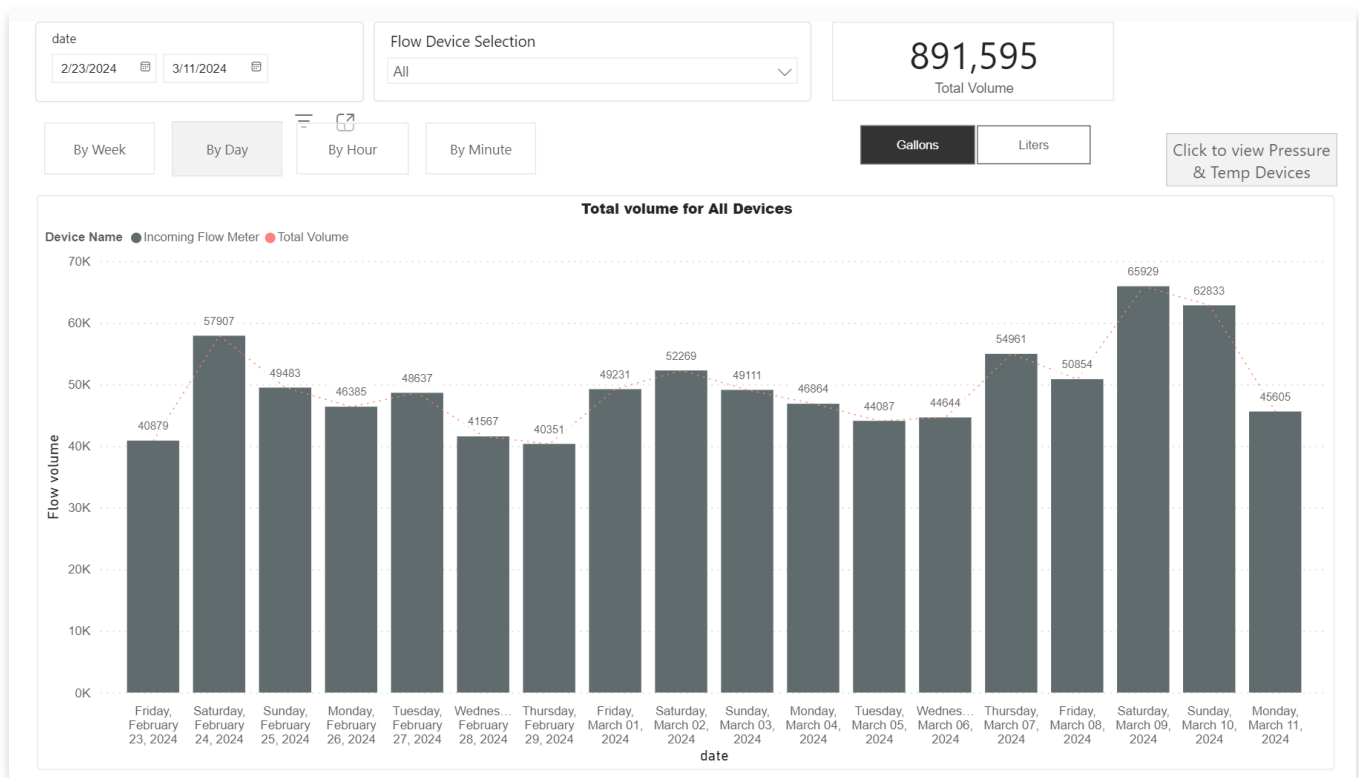
FIGURE 3 – CONSISTENT 5 - 6°F DELTA BETWEEN DHW SUPPLY (BLUE) AND RETURN (TEAL), INDICATING MINIMAL DHW TEMPERATURE LOSS THROUGHOUT THE BUILDING

Building Water Consumption

Nexa provided the hotel with their real-time water consumption, revealing that their water usage per room was slightly above benchmarks

Nexa's flow meter was able to capture water consumption for the hotel, and the Nexa team analyzed the property's water usage compared to guestroom demand.

From the analysis, Nexa revealed that the hotel's water usage per guestroom was slightly higher than industry benchmarks and internal targets that the hotel had set for themselves. Fortunately, Nexa's analysis also included recommendations for the hotel to reduce their per-room water consumption in order to achieve their usage targets.



Total volume for All Devices

Device Name

Incoming Flow Meter

Total Volume

Date	Flow Volume (Gallons)
Friday, February 23, 2024	40879
Saturday, February 24, 2024	57907
Sunday, February 25, 2024	49483
Monday, February 26, 2024	46385
Tuesday, February 27, 2024	48637
Wednesday, February 28, 2024	41567
Thursday, February 29, 2024	40351
Friday, March 01, 2024	49231
Saturday, March 02, 2024	52269
Sunday, March 03, 2024	49111
Monday, March 04, 2024	46864
Tuesday, March 05, 2024	44087
Wednesday, March 06, 2024	44644
Thursday, March 07, 2024	54961
Friday, March 08, 2024	50854
Saturday, March 09, 2024	65929
Sunday, March 10, 2024	62833
Monday, March 11, 2024	45605

FIGURE 4 – NEXA WAS ABLE TO PROVIDE THE HOTEL WITH REAL-TIME WATER CONSUMPTION DATA, SUMMARIZED DOWN TO THE MINUTE

Ask how Nexa can assist you in optimizing your plumbing system