



IQ WATER VALVE TESTING

CONTROLLED BETA TEST & THE UNEXPECTED REAL-LIFE FLOODING

Background

In February 2021, the Johnson Controls' Smart Security team was preparing to launch the new IQ Water Valve designed to automatically shut off the water main in response to a triggered flood sensor, when both devices are connected to the IQ Panel 2 and monitored by Alarm.com.



Neil Jones is the Director of Strategic Accounts & TAM, Canada at JCI Smart Security Division residing in Alberta, Canada. The townhouse Neil shares with his wife, a 14-year-old nephew, and a family dog doubles as a testing ground for the new smart home and security devices created by JCI. As one of his responsibilities, Neil's task was to test the device and to assess the user experience before product launch, using the follow requirements:

Requirements

FOLLOW THE INSTALLATION INSTRUCTIONS AND ASSESS USER EXPERIENCE

1

- Install the IQ Water Valve on the main water intake pipe
- Install the PowerG flood sensors around sinks, laundry machines, and basement floor
- Enroll devices into the IQ Panel 2+
- Manually close and open the valve via panel and ADC app

2

SIMULATE THE FLOODING CONDITIONS. ASSESS DEVICE PERFORMANCE & COMMUNICATION VIA THE ADC APP

- Precise notification of flooding via IQ Panel 2 and ADC app
- Automatic shut-off of the water main followed by notification of that event via IQ Panel 2 and the ADC app

Planned Test Steps & Outcome

- Three PowerG flood sensors (PG9985) enrolled to the IQ Panel 2+ and monitored by ADC were already placed in the basement of the townhouse
- Neil's nephew became curious about the new device and volunteered to install it.
- The "kid" glanced over instructions, easily followed the steps to install the IQ Water Valve right over the water main, without having to consult Neil for help.
- Neil was successful in manually opening and closing the valve through the IQ 2 panel and the ADC app.
- Neil poured water around the flood sensor to simulate the flooding and successfully triggered the IQ Water Valve to shut off the water main, followed by notification to the panel and the app.

"A 14-year-old can install it in about 2 minutes."

Unplanned Test or "Life Happens"

Fast forward to early April 2021. With warming temperatures, the ground was muddy, and Neil wanted to wash his dog's muddy paws outside. The outside water hose was winterized since the early fall: water drained and turned off. Neil turned the water back on and washed the dog, before going to visit his friends, who lived about 45 minutes away.

Within an hour, Neil received a flood alert triggered by the PowerG flood sensor on his ADC app. Neil was surprised the water valve did not automatically turn off the water but he reacted immediately by using ADC app to activate the IQ Water Valve and to turn off the water supply right away. He said, "During the ongoing panel and device testing, I forgot to re-associate the rule between the flood sensor and the water valve which explains the lack of automatic shut-off. Good thing I still had access to the ADC app!"

"If you needed 45 minutes to return home and shut off water, the damage would at least double, or worse"

A plumber inspected the site and concluded that the outdoor hose bib lacked proper angling to ensure full water drainage. Over few cycles of freeze/thaw, the pipe gave out and cracked, resulting in the leak behind the foundation wall, which was not immediately noticeable to Neil.

An insurance adjuster was very impressed with Neil's ability to react to the leak immediately. If Neil had needed those 45 minutes to come back home and manually turn the water off, the result would have been a doubling or even tripling of the existing damage, estimated at \$15K, or more. Moreover, the water would spread to the neighboring townhouse units and would also cause damage there. In this case, the water stopped about 10 feet away from the common wall.

Neil reflected on the fact that he never used to turn off his water main when leaving the house for extended periods, for work or traveling. In hindsight, this type of water leak accident could have taken place anytime during his absence. He said he felt lucky he was testing the IQ Water Valve at just the right time!

Learning from planned and "real-life" testing

1

THE IQ WATER VALVE INSTALLATION IS EASY

- Easy to install right over the water main.
- No need to cut pipes or use a plumber



2

IMMEDIATE WATER MAIN SHUT-OFF FOLLOWING LEAK DETECTION

- Ensure the flood detector placement in all potential sources of leaks
- Maximize coverage & include areas in the basement, under sinks, in the laundry room

3

DRAMATIC REDUCTION IN POTENTIAL DAMAGE

- If only flood sensors were used to alert about the leak, additional time would be needed to return to the house and turn the water off
- IQ Water Valve shut the water off immediately and minimized the damage



Products Used:

IQ Water Valve
3 x PowerG flood sensors
IQ Panel 2+

