I'VE GOT IT!

Jamie Herman | Energy Efficiency Circuit Rider

Alright, Alright, Alright...it's time for a stroll down memory lane. How many of you remember your youth, going to the Carnival, and playing the awesome game I've Got It? You remember, it was kind of like bingo, but you sat on a stool and threw little rubber balls into a walled off board attempting to fill a row. The Carnie would have a microphone and say, "throw ball 1, throw ball 2, and so on. For every ball we threw, we would throw three more at our friends sitting across the table from us. If you were anything like me, it got serious when only one empty spot remained. Then I would try all kinds of different throwing angles, motions, even underhanded, in an attempt to devise the best way to fill the row, scream "I've Got It", and collect my 10 cent prize! Sadly, my $3 investment was usually made in vain, and the Carnival would move on to another town. True fact: to this day, I'm only afraid of two things, spending money and Carnies! But that's a story for another day.

But this article refers to another meaning for the phrase "I've Got It". That sense of euphoria we all feel when we are faced with a dilemma, and we brainstorm a worthwhile solution. Again, if you are anything like me, we don't always think through our solution and consider what effects this change or alteration of operation may have on other aspects of our water or wastewater systems. A wise old owl once told me that laziness was the father of invention, not necessity. Really, who wants to work harder to accomplish the same task?

As we travel the state attempting to assist our member systems and Operations Specialists with Energy Efficiency Assessments, we sometimes encounter these situations. One of the most common items is the need to "throttle" a valve partially closed to restrict flow for whatever reason. This "I've Got It" solution is often employed in cases to restrict flow to a filter, clarifier, or press, so the flow is manageable and doesn't overwhelm the system. In other instances, it may be used to prevent a transmission main from freezing during our beautiful winter months here in the northeast. In either case, "throttling" a valve generally makes the pump and motor work harder, and leads to a much greater energy consumption in order to achieve our goal. Essentially, "throttling" a valve consumes an excessive amount of power while developing a higher pressure than is needed, thereby wasting power and causing additional wear on the pump and motor mechanical components. If this issue exists at your system, you may wish to speak with your pump supplier or an engineer to see if a Variable Frequency Drive (VFD) would be a worthwhile solution. Generally, a VFD, will reduce the speed of the motor, thus conserving electricity. Motors operate on 60Hz in the United States, and as a rule, a 20% reduction in speed by using a VFD will yield a 50% power consumption reduction. Again, there are many issues to consider including pump and impeller size, predominant use of the pump, and pump duty requirements, but this may be a valuable option if you are "throttling" valves, and the electricity savings will likely pay for the equipment and installation in a short period of time.

Back to the Carnival...I remember being a young teenage buck who mustered up the courage to ask a girl in my class to ride the Ferris Wheel. Whoa Baby, that was just like asking her to the movies back in the day. It must have been "date a dork" night at the Carnival, so she agreed, and off we went. Sitting there as they loaded other passengers I thought to myself, what should I do now? I've Got It! I will put my arm around her. WooHoo!, life was good until I looked down and saw the Dude who assembled the ride, he smiled and waved, three fingers on one hand and a left-handed cigarette in the other. The only tools he had were a crescent wrench and a roll of duct tape. Good Grief! I finally get some time alone with this girl and now we are both going to die!

Sometimes the decisions we make have a detrimental effect on our water or wastewater systems. It is not intended, and we do try hard to be as efficient and effective as we can in our daily tasks. However, careful consideration needs to be given to our ingenuity. What adverse effects could this have? Will this shorten the life cycle of the equipment?

We see these issues on a daily basis. We are not judge and jury, as we all have made mistakes, and we certainly aren't picking on anyone here with this article (other than me). We have seen instances where Variable Frequency Drives are installed in harsh environments which significantly reduce the life cycle of the equipment. Due to lack of space, lack of training, or simply cost, we see many VFD's installed in the same room as chemical additives such as sodium hypochlorite, FSA, or soda ash. These additives will corrode the electrical components and lead to premature failure of the equipment. Do you need to spend hundreds of thousands of dollars to rectify this situation...NO! A fix as simple as constructing a small chemical room with a duct for an >>>

open atmosphere ventilation system may alleviate the problem. You, the Operations Specialists, are very talented people, and you have the capability to rectify these issues given the time and a small amount of money.

That sense of elation, the "I've Got It" moment, needs to be tempered with some good old common sense consideration. I have never seen more ingenuity and common sense construction than I see as I visit your water and wastewater systems. It truly is a tribute to each of you and your unwavering dedication in this field. If we all take a minute, think through an issue, reach out to our peers for advice or suggestions, and plan properly, we can be energy efficient and continue to provide...Quality On Tap!

On a more serious note....We wish to pass along our sympathy and sadness at the passing of a colleague and true friend of the NYRWA. On January 21, 2017, Jerry McKenna passed away unexpectedly at his home. Jerry was 49, and left behind his wife Amy and young son Patrick, as well as his father, brothers, and sisters. Jerry worked for the USEPA Region 2, and predominantly assisted the tribal water & wastewater systems here in New York State. Jerry was always trying to help before an issue arose versus acting in a compliance manner. He often attended our annual technical conference, and really enjoyed the interaction with all of you. Personally, I worked very closely with Jerry over the past 10 years and we accomplished many goals, and we also became good friends. Jerry loved the NY Jets, and NASCAR racing, and I will truly miss you my friend. RIP Jerry! 💧💧💧