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A NIGHT OUT

It has been another tough year – too much rain, too little rain, hurricanes and scorching heat. You deserve a night out. But before you get too excited, I am suggesting you spend a night, all night to be exact, in your irrigation pump house. If you have never spent a night with your pump system, it can be an educational experience. Pack a cooler, bring a chair, take along a pad (paper or iPad) and you're ready.

So why spend a night in your pump house? To listen! To listen for how the pumps come on and go off. To listen to how the drive – if you have one – ramps up and down. To listen to how the pumps switch from one to two to three and how they go off. And if you hear something odd, to look at the pressure, the flow, the time and what pumps are operating.

There are more exciting things to do than sit in a pump house all night. And you could argue your monitoring software shows you everything going on and alerts you if there are issues. True, but you could be having issues that your flow meter, pressure transducer and monitoring software are not picking up because your pump system technology is not fast enough. Not convinced? Here are a few examples.

A New Jersey golf course with new irrigation and pump systems was having coverage issues. Dry spots were about five feet from the sprinklers and it was getting worse daily. The sprinkler manufacturer said they were having some nozzle issues so all of the nozzles were replaced. Two weeks later, there was no change in the coverage. When the system was operated, everything looked fine. Out of ideas and, frankly, excuses, the superintendent spent a night in the pump house. He quickly discovered the filter on his

pump system was backwashing many times an hour. Each time the pressure was dropping significantly. This was a definite cause of the poor coverage given the frequency of backwash. This was a surprise, as it did not show up on the monitoring software, nor was the system shutting down on the low-pressure shut off. Turns out the pressure transducer was incorrectly installed before the filter – not after, as it should have been. So the pump station control panel never saw the frequent low pressure. It never reacted or showed it on the monitoring software. Solution: move the transducer and change the filter screen mesh.

A New York golf course with two booster pump stations had an issue

half hour. On the last trip when everything shut off he heard something different: irrigation. However, it was not his irrigation; it was all the houses in the neighborhood. This was a high-end private course in an affluent neighborhood. All the houses had landscape irrigation systems and it seemed they were all scheduled to start at 2 a.m. The golf course was at the end of the road on the ocean. Basically, once the residential systems came on, the golf course was starved of water. The problem was found, but the solution was not easy or inexpensive to fix. Temporary fix: start and finish irrigation earlier.

A Las Vegas course purchased a new, larger pump station to operate its

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with the stations shutting off on the low inlet pressure safety several nights a week. The problem never occurred during the day. So a night out was scheduled, but with the variety of going back and forth between two pump houses. Irrigation system start was 11 p.m. As well as listening, it was important to watch the flow and incoming pressures and document them. Things were fine until about 1:30 a.m. Then the city pressure started to drop from 50 psi to 30, then 20, then 15 psi. The system shut off at about 2:05 a.m. The superintendent had no idea why both pump systems shut down at almost exactly at the same time, even though on opposite ends of the course. Driving pump house to pump house required traversing some residential neighborhoods as the superintendent switched pump houses about every

existing irrigation system. Monitoring software picked up large changes in flow and pressure during the night. Conclusion: the new pump system is not reacting fast enough to changes in the irrigation system. So a night out is set to listen to the pump station. Schedule starts at 7 p.m. At 7:25 the pump station goes berserk. The course's irrigation tech informs the assembled masses the irrigation system shut off about half the sprinklers for about 10 seconds and then turned them on. This may not be a big deal for most courses, but in Las Vegas, half was about 60 sprinklers. No wonder the pump system had a fit. Turns out it is not a pump station issue but an irrigation issue. Their old pump station wasn't quick enough to pick up these demand fluctuations (paddle wheel vs. Mag meter) but the new one was. **GCI**