DON’T FREEZE THAT TOWER

As everyone knows the winters here in the Midwest can be brutal. Prior to the winter season comes all of the preparation of getting ready for the cold weather. This includes winterizing well houses to be sure the heaters are functioning properly. Don’t forget to check those problem hydrants that may not have drained back. Remember those valve boxes that fill with gravel, if they freeze it will be next to impossible to operate them if you need to. If you are fortunate enough to have one of those new fangled monopod towers, be sure the sampling tap and transducer tap can’t freeze.

Most of the new style monopod water towers I have been in have a sampling tap and quite often a tap for the transducer on the riser pipe inside the base of the tower. If you have a new tower or are a new water operator at a system that has one of these towers, these taps need to be protected from freezing.

Last winter I received a call from Kevin Mathes the new Water Operator with the Village of Panama. He was afraid that the water tower may have frozen up. The first thing I asked him was, do you still have water pressure and Kevin assured me he did. I was several hours away, but I told him I would stop by on my way home. After an investigation as to what was going on, we discovered that the water in the tower was not frozen and the problem was elsewhere. The transducer was located in a pit just outside the tower. The Village has experienced problems with the transducer almost every winter. The tap was located too close to the top of the pit and would freeze almost ever year. The tower also has a sampling tap and pressure gauge on the stand pipe that were both froze. Both taps had been wrapped with heat tape by a previous Operator, unfortunately the heat tape had been wrapped over it’s self and every time it came on, it would start to heat up and then shut off. If you use heat tape be sure to remember, most heat tape cannot be wrapped over it’s self. If it is, it won’t work properly.

Eric Johnson the Board Chairman for the Village was on sight and explained that this had been an ongoing problem and he would like to see a permanent solution. It was decided to move the transducer inside the tower and build a hot box around the taps.

Kevin and I put our heads together and designed a hot box to install on the riser pipe inside the tower. The next day Kevin purchased the material to build the box and we got started. We built the box four feet by four feet square and two feet tall. The box was built in two halves with a circle cut out in the center to accommodate the riser pipe. Then the box was insulated on all six sides. We took the box up to the tower in two halves and assembled it together around the riser pipe inside the tower. We used three 2x4’s for legs to support the box at the height where the taps where located. The box was designed with a full sized door for access to the transducer and sample tap. With a small heater or heat lamp the box will keep the taps from freezing and should alleviate a lot of headaches in the future.

Salli,
I have included some pictures.

1) Caption under the one with heat tape could read something like,
Heat tape will not function properly if installed wrapped over it’s self in this manner.

2) The box on the floor. The box was built in two halves and put together in side the tower.

3) Kevin putting the final touches on the box.

4) Finished product.

Thanks, Russ