

WINTER 2013-2014: LESSONS LEARNED

Jamie Herman and Morris Coolidge | State Circuit Riders



Jamie Herman



Morris Coolidge

By the time you read this article we hope that winter has finally ended, and summer is in full swing here in New York State. It certainly was a season to forget given the number of significant snow events as well as the long durations of extremely cold temperatures. Most weather related statistical data places this past winter as one of the top ten coldest across the state, since records have been maintained. However you slice it, it was a long, cold winter and most of us are ready for slightly warmer weather!

So, what can we take away from the Winter of 2013-2014? The most important thing for each of us as Operations Specialists is to record and prepare to correct our systems deficiencies and vulnerabilities that were glaringly identified during this harsh season. Each and every one of us, as well as our systems, were likely impacted in some form or another, and now is the time to take action to prevent future issues.

TREATMENT PLANTS

Did you experience any damage to your facility or its processes due to the extreme cold, frost heaving, or significant snow events? If so, how can you address these issues to prevent further damage? Was your heating system adequate? Is there a more efficient and economical means to heat your facility? Last, is your emergency power supply adequate to run your treatment systems, pumps, and heating system?

In our travels over the course of the winter, we witnessed issues such as doors heaved so significantly that they could not be opened. In another instance, an emergency generator was pressed into service, but it was not properly sized and could not handle the system pumps and heating at the same time.

Last, make sure you seal any walls or spaces that allow cold air to enter. Many small pump stations experienced frozen lines due to voids which allowed flows of cold air to stream across the piping. Note to self: make sure the heat is set above 32 degrees!

STORAGE TANKS

Did you experience icing within your storage tank? Perhaps you could alter your pump cycles to allow for more movement of the water within your tank. In one case we actually saw an Operations Specialist install a jet pump to keep water circulating within the

tank. Regardless, steps need to be taken to keep circulation and flow within your tank.

FIRE HYDRANTS

Have you flushed and maintained your hydrants? Do you have hydrants that drain? When you complete your annual hydrant flushing and maintenance you should ensure that the hydrant operates properly, all the caps can be removed, and you should document whether the hydrant drains or if you will need to pump the barrel out in the fall.

We worked in a system in which a hydrant froze and the barrel of the hydrant actually split in several sections due to the force of the expansion. These hydrants are a significant component of our systems, are necessary to protect the public, and should be paramount in our annual maintenance plans. The extreme snow events may have made access to our hydrants very difficult. Now would be a good time to finally create a plan for clearing snow from the hydrants. Perhaps you could utilize local organizations such as the Boy Scouts, Volunteer Fire Representatives, etc.... But let's not let another year pass without a plan of action in place.

WATER MAINS AND SERVICE LINES

Do you have adequate and accurate system maps? Have you exercised your main valves and cleaned out the valve boxes to be sure you can access and operate the valves if necessary? Do you have curb box records or measurements? Have you replaced or repaired those boxes which are damaged? Did you experience frozen service lines and/or main lines?

This is a huge item in addressing system vulnerabilities. We do not have data for New York State, but Wisconsin reported in excess of 150,000 frozen water services state wide. If you experienced frozen services or mains you should record the location or address, bury depth if known, and how the line was thawed. We believe that making a list of frozen services could help in the future by notifying the customers who may need to replace their service lines due to continual freezing, or to let them know when they should take steps to prevent future loss of service.

We worked in a system that had 7 main breaks in a 3 day period. In this case the maps were crucial, as well as having their >>>

main valves accessible for leak detection and isolation purposes. In New York State the rule of thumb is a 5' bury depth of all mains and services at a minimum. Many of the frozen and broken lines we experienced were significantly more shallow, and in one case a water main was only 3' deep. Owning or having access to the proper equipment, such as excavation and pipe thawing equipment, is a vital component to identifying your systems true vulnerabilities.

PERSONNEL AND PPE

Are your Operations Specialists properly trained to use these specialty pieces of equipment, and are they adequately supplied with personal protective equipment to work for long hours in these harsh weather conditions?

Our employees are always a systems greatest assets! Make sure they are trained to efficiently and effectively use equipment such as excavators and pipe thawing tools. All employees should be issued the appropriate cold weather gear that allows them to work for long periods of time in the elements, and should be given break periods at routine intervals to allow them to warm up and rest briefly. ALL work is much harder in the cold, and is therefore more time consuming, and we need to consider the effects on each and every one of our employees.

This is admittedly a brief overview of some of the vulnerabilities

you may identify. Your list and action plan may be far more involved, but we hope this provides suggestions and an outline.

We would also strongly encourage you to research membership in the NYWARN Mutual Aid System (New York Water & Wastewater Agency Response Network) at www.nywarn.org as a means of providing or requesting assistance such as what you may have needed this past winter. NYWARN members offered personnel in some cases, and pipe thawing equipment in many cases to requesting member systems during this extreme situation.

The staff and board here at the NYRWA would like to thank and commend all those generous systems who graciously offered of themselves to help others this year!!!

Hopefully we have an easy winter next year, but no matter what Mother Nature brings, we know that identifying and correcting system vulnerabilities will allow our Operations Specialists to continue to provide....**Quality on Tap!** 💧💧