

Sometimes Frozen Water Lines Can Be A Good Thing

As most of you know Nebraska Rural Water Association has a fairly extensive inventory of equipment. Almost all of this equipment is a result of the generous donations given to us by you, our membership. Most of the donations come in the form of money for the equipment fund but occasionally we receive equipment that a system may feel could be useful to other systems around the state. We have been fortunate enough to acquire a freeze kit from the Village of Dorchester.

This freeze kit uses liquid CO₂ (dry ice) to freeze a water line so that repairs can be performed down stream. Nebraska Rural Water Association would appreciate a donation to cover the price of the CO₂ or have the appropriate amount of CO₂ on hand at the site. This kit can freeze water lines, plastic or metal, from ½ inch up to 4 inch lines. Provided you have enough liquid CO₂, you can keep the line frozen as long as necessary to perform the appropriate repairs. To freeze a water line it is imperative that the water remain still in the line until the line is frozen. It is possible to freeze a broken service line provided you are able to kink or hammer the line shut to stop the flow, freeze the line then make the appropriate repairs. Notice in the accompanying photos, when using the freeze kit in a trench or confined space it is necessary to use a fan to ensure good air quality.

Recently, Randy and I were requested by Brian Wilson, the Water Operator for the Village of Bellwood, to freeze a couple of service lines. One of the services was ¾ inch copper and the other was one inch plastic. We were able to freeze both of these service lines without shutting down any water mains or disrupting water service to anyone else in the Village. By repairing the services lines in this manner it was not necessary to collect all of the special bacti samples otherwise required by the Nebraska Health and Human Services Department.

Visiting with operators across the state, it's apparent there are a lot of older fire hydrants that do not work properly. Most of these hydrants were installed without isolation valves. If these hydrants must be replaced you have to shut down at least part of the distribution system. If the hydrant lead is no larger than 4 inch, the line could be frozen and a new hydrant installed without disrupting service.

If you have any service lines or hydrants that need to be repaired or replaced and would like to use this kit, please let us know. We will make arrangements to either freeze the lines for you or train you so you can freeze them and make the repairs at your convenience.