TONOPAH TOWN BOARD

WORKSHOP MINUTES

JANUARY 11, 2012

Town Board Chairman Jon Zane called the workshop to order at 5:33 p.m. Also present was Horace Carlyle, Javier Gonzalez and Glenn Hatch. Duane Downing arrived at 7:00 pm. There were seven other people in attendance.

1. <u>Cross-connection control training</u>

Liz Andrew with Nevada Rural Water explained that she is a certified backflow tester and a certified cross-connection control specialist.

She explained that a cross-connection is where a consumer is connected to the water system. The concern with a cross-connection is some sort of contaminate or pollutant that could change the aesthetic or quality of the potable water entering the system. It is the actual or potential connection between the water system and any other source of contamination or pollution. She explained that backflow happens frequently with water systems.

Liz Andrew explained that water systems are concerned about backflow so the public is not contaminated. She noted that contamination is not just liquids, it can also be gasses. There are two ways backflow can happen: backsiphonage and backpressure. Backsiphonage is the vacuum event. For example, when a water line breaks, everything from down-stream is drawn into that water system. Water seeks the area of lower pressure and pulls the water out. The other type of back-siphonage is backpressure. This occurs when there is a greater pressure downstream. This pushes the water upstream. She explained that cross-connection takes a lot of public outreach, not just with the community but also with visiting contractors or distributors.

There are three levels of hazards. The worst include things such as raw sewage or radioactive waste. The next level is considered a health hazard. These can make people sick but are not necessarily deadly. The third category is pollutants, or non-health hazards.

The big concern is with backflow is someone getting sick. There is also the cost with getting public notification out about what happened, the cost for testing the water, and the cost of replacing water lines and internal lines to get the contaminate out.

To prevent the possibility of backflow, backflow prevention assemblies need to be used. It is a device that helps eliminate the vacuum or backpressure. The type of assembly installed is dependent upon the type of scenario. A contaminant is something that will make someone sick and a pollutant is something that just changes the aesthetic of the water. The best way to protect a water system is through an air gap. This provides a physical separation. The air gap needs to be twice the size of the diameter of the device or a minimum of one inch (1"). This can be used for any type of scenario. The next best option is a reduced pressure principle assembly. It is a mechanical device that has two check valves that are closed when water is static and open when

water is moving. If water attempts to move backward, the valves close thus preventing backflow. All RPs have two check valves and a relief valve. Jon Zane questioned how this would apply to a residential situation. Liz Andrew noted that it comes down to a survey. Not every residence needs and RP. There are concerns, however, with residences that contain businesses. There are installation requirements. They need to be accessible and tested annually. If the RP is going to be higher than five feet, there needs to be a safe way to access it. It is good for the two types of back flow mentioned and is good for health and non-health concerns.

The next best option is a double-check valve. It is similar to the RP in that it does have two check valves. However, it does not have a relief valve so if both valves are stuck open it is just a pipe. This is only good for non-health concerns. It does provide protection against the vacuum siphonage and backpressure.

The pressure vacuum breaker is the most common device seen in residences and office buildings. It does protect against any kind of health and non-health concern. It has one check valve and an air vent, which breaks the vacuum event. It has to be twelve inches (12") above all downstream piping. It only protects against backsiphonage. Pressure cannot be put against it or the check valve will become stuck.

A spill resistant vacuum is similar to a pressure vacuum breaker and it is an option for areas you do not want to get as wet. It has the same requirements as the pressure vacuum breaker. It only protects against backsiphonage but it does protect against both health and non-health problems.

The most affordable device is an atmospheric vacuum breaker. It also has an air vent. It is supposed to be twelve inches (12") above grade and six inches (6") higher than all downstream plumbing. It cannot have any shutoffs downstream of it. It cannot be under pressure longer than 12 hours per day. They are the most affordable.

Liz Andrew noted that per Nevada Revised Statutes, a public water system is defined as any system, regardless of ownership, that does provide water to the public for human consumption. The system does have to have 15 or more service connections or 25 or more customers. Suppliers of water is any person who owns, controls, or operates a public water system. The state policy is to provide safe drinking water.

Liz Andrew noted that TPU does refer to the NDEP. Their responsibility is to oversee and make sure that systems are implementing programs.

Generally the public water system is responsible for maintaining the sources and the public water lines. The responsibility really ends at the property line. Once a cross-connection control program has been approved by the State, the system has the authority and responsibility to administer that program. Liz Andre noted that the State will approve programs that do go onto private land.

Building inspectors and plumbers have the responsibility to identify where the cross-connections are. The water system does not really have the responsibility to test the devices. Plumbers and

building inspectors do have the responsibility of identifying cross-connections, not creating them, and notifying the homeowners if one is present.

The water system owns the system up to the meter and the consumer is responsible for the internal plumbing. It is usually the consumer who bears the responsibility of paying for the device, installing the device, and testing the device. The consumer should really be notifying the system if a backflow event occurs or they notice anything out of the ordinary.

A specialist is a person who has gone through training to identify cross-connections and how to remediate them. It is a 40-hour class and a proctored test. Currently the State has approved the American Water Works Association (AWWA) and American Backflow Prevention Association to conduct the classes. A tester has also gone through a 40-hour course, different from the specialist course. They are only certified to test devices. They should have education in how to identify cross-connection if they happen to be testing a device and notify something. Currently to be a specialist, you need to be a tester. A lot of the requirements for the testers are also written in the NACs. NAC 445A.67185-.67255 does state that there should be no unprotected cross-connections between the water system and any source of pollution or contamination.

NACs do state which type of device does need to go on a fire suppression system. It is based on class. Heated floors, irrigations systems, and soda machines need to have protection devices. Liz Andrew noted that soda machines are pressurized and a lot of the internal lines are copper. The carbonation in soda machines can mix with the copper plumbing if a backflow event occurred to form carbonic acid. The difference between a backflow prevention assembly and another sort of device is that a backflow prevention assembly they can be tested.

NAC 445A.67185-67255 was passed in 1997 and public water systems were supposed to have a plan by 1999. The plan has to include a schedule for implementation. This can involve setting out goals for the water system. The plan needs to set out how to survey properties. This includes how the public will be notified, how the property will be surveyed and who will survey the property. It needs to set out how the system will test and track all backflow prevention assemblies. It should include a list of approved assemblies. Liz Andrew suggested referring to University of Southern California's Foundation of Cross-Connection Control and Hydraulic Research. They test hundreds of backflow assembly devices. The final part of the plan should include how a water system will make sure people are compliant.

The NACs are a good guide but it is a good idea to survey the site. The water system also has the option of being more stringent than the NACs. The system has the right to implement as much protection as it deems necessary.

Liz Andrew noted that Board and staff training is important because as the System starts to implement the program, there will be a lot of questions and it is good to have everyone on board regarding what the policy is. It is good to have as many people educated as possible.

The big thing in developing a plan is determining which type of protection to choose. There are two options: internal and external. Internal means that the device is located where the hazard is

present. There can be multiple devices inside any one building. The system also has the right to be redundant and require one at the property line. The benefit of internal controls is that they are inside so it is protected from the elements. The disadvantage is that it does take a lot of collaboration with the consumer. The tester does have to go on the property annually to test the device. Another advantage is that it does protect everyone in the building and not just the water system.

Service protection is easier for water systems to implement. They are outside so they can be seen. The system is not going into the individual's house. Unfortunately, it does get cold and if the device freezes it will break. A hot box is required and electricity is occasionally needed. They also need to be protected from snow plows. Liz Andrew noted that for those systems that use service protection, some send out notices alerting the consumer that they should winterize their system or reinstall the backflow prevention device.

Liz Andrew noted that the system needs to figure out how it wants to implement the plan: worrying about the lines up to the meter or implementing internal controls. She recommended starting with the highest priority facilities first. She suggested prioritizing what can be done in a year. She explained that there is a certain way to test a device. Keeping track of where devices are, why they are they, the hazard identified, the last time they were tested, etc. This is all part of the system's responsibility. Devices need to be tested at four different times: when they are installed, if it is ever repaired or removed and annually. The system should know how many assemblies are at a facility and the orientation of the device. The system should keep a list of certified testers in the area, their contact information, and their certification number.

Public education is a good way to start notifying consumers. When the system narrows it down to the priorities, it needs to let them know that a survey is required. Once the survey is completed, the entity then has to install a backflow prevention device based on the findings of the survey and that the device needs to be tested annually. It is up to the water system regarding when and how often they notify the consumer that the device needs to be tested. Liz Andrew explained that every system is different in how they deal with non-compliance but the water system needs to develop a plan for non-compliance.

Joseph Westerlund explained that TPU wants to get two employees trained as testers and specialists. Horace Carlyle questioned if installation needs to be done by a certified plumber. Liz Andrew noted that the NACs do not specify but it makes sense as far as efficiency.

James Eason explained that the workshop is part of the revisions to TPU's cross-connect plan. He noted that the Convention Center, the parks, and Joe Friel all have backflow prevention devices.

Liz Andrew reiterated that the physical examination and physical survey were very important. She explained that once a plan has been implemented it is important to be diligent. Any water system changes that can affect water quality do need to be approved by the health authority. James Eason reiterated that these are just revisions to the existing TPU cross-connect plan. He noted that laws have changed and the plan does need to be updated.

Liz Andrew noted that a lot of times systems will have a single check valve or a dual check valve at the meter. However, these cannot be tested.

2. <u>Public Comment</u>

No action taken by the Board.

3. <u>Adjourn</u>

Workshop was adjourned at 7:18 pm.

Minutes transcribed by:

Approved:

Mariah Rivero

Jon Zane, Chairman

Horace Carlyle, Vice Chairman

Javier Gonzalez, Clerk

Glenn Hatch, Member

Duane Downing, Member