

Disasters in Kansas during '07 get water users a boiling!

More boil water advisories were issued during 2007 than in many recent years. During a typical year for Kansas, 20 to 25 boil water advisories will be issued because of events involving public water systems. During 2007, there were 86 boil water advisories issued by the Kansas Department of Health and Environment (KDHE). The 2007 flurry of Kansas advisories happened because of the widespread flooding in July and two major ice storms that affected much of the state.

To clarify, the 86 orders were classified as 'advisory' or a better description might be, 'precautionary action.' An "advisory" is not the highest level of action to be taken

which is the 'boil water ORDER.' KDHE will only issue the more severe 'boil water order' when there is a known microbial risk that is verified. There were no boil water orders issued by KDHE for Kansas systems in 2007.



Lonnie Boller
Surface Water Tech

Boil water advisories can be issued for many reasons, including:

1. Bacteriological samples failing
2. Water Main breaks.
3. Loss of water pressure
4. Tower maintenance
5. Or a chance contamination may have entered the system such as through a cross connection.

In Kansas, all water systems are disinfected with chlorine. Even though chlorine remains in the system's water to kill bacteria,

advisories are put into effect as precautionary measures. This is to say that when system operators and KDHE personnel are not

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during boil water advisories, and as a precautionary measure, water should still be boiled until KDHE lab tests prove that all bacteria have been totally eliminated. Bringing household water to a rolling boil and then letting it continue to boil for one to three minutes is sufficient to eliminate harmful bacteria. Most boil water

entirely certain that contaminants did not inadvertently enter the water supply, a boil water advisory is given to make sure water users are safe from the many dangerous effects of possible contaminated water that can range from the mild to the fatal.

The varied 2007 disaster experiences in Kansas started with



Public water supply systems must ensure that water quality is safe following any disruption of service. Above, KRWA Techs Lonnie Boller and Doug Guenther test chlorine residuals during restoration of water service in Greensburg, Kansas in May 2007. A boil water advisory may be lifted by the Kansas Dept. of Health & Environment, only after a laboratory analysis proves the water to be free of harmful bacteria.

blizzards in late December 2006 that shut down entire power grids in the western third of the state. Then came the May F5 tornado that devastated Greensburg followed by the widespread July flooding in the southeast part of the state. And as if that was not enough, there were two unrelenting December ice storms that downed power lines and paralyzed communities and rural areas in southeast, central and northeast Kansas. All these severe weather related events resulted in the high number of boil water advisories. For many, the high number of disasters during 2007 made boil water advisories seem like a common occurrence.

System responsibilities

According to Kansas law, each city-owned water supply system, RWD, and private water supply system

Correct sampling techniques

When operators collect bacteriological samples they need to make certain that the sample testing was performed properly. The following is a preferred list of approved steps for operators to follow in the collection of bacteriological samples from a water system:

1. Remove any attachments on the faucet.
2. Turn on the water and allow it to run in a steady stream for 5 to 6 min.
3. Open the container.
4. Grasp the container near the bottom.
5. Put the container under the flowing stream.
6. Fill the bottle to the neck or indicated fill line.
7. Seal the container as soon as it is filled and removed from the flow.
8. Turn off the water.
9. Label the container.
10. Complete the required forms.
11. Place the container and completed forms in the shipping box.
12. Clean the sampling site.

If a system operator follows all of these steps there will be adequate assurance that the sample collected was not contaminated by an error in the collection procedure.

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Example of a Boil Water Advisory

Boil water advisory issued for Rural Water District No. ____

The Kansas Department of Health and Environment (KDHE) and Rural Water District No. ____ have issued a boiled water advisory for Rural Water District No. ____. KDHE and the RWD issued the advisory because of problems maintaining pressure in the District due to recent storms and power outages. The loss of pressure creates the potential for backflow incidents and bacteriological contamination.

The advisory took effect on Tuesday, January 8, 2008 and will remain in effect until such time that the test of samples indicate no evidence of contamination and all other conditions which place the system at risk of contamination are deemed by KDHE officials to be adequately resolved.

Anyone served by the District should observe the following precautions:

1. Boil water vigorously for one to three minutes prior to use. Use only boiled water for drinking, diluting fruit juices and other food preparation.
2. Dispose of ice cubes and do not use ice from a household automatic icemaker. Remake ice cubes with water that has been boiled.
3. Disinfect dishes and other food contact surfaces by immersion for at least one minute in clean tap water that contains one teaspoon of unscented household bleach per gallon of water.
4. Water used for bathing does not generally need to be boiled. Supervision of children is necessary while bathing or using backyard pools so water is not ingested. Person with cuts or severe rashes may wish to consult their physician.

The RWD and/or KDHE will notify customers and area media when the boil water advisory has been rescinded. For more information, call (contact name and phone number) or call KDHE at _____.

must notify KDHE and local officials of any situation that presents or could present an imminent and substantial endangerment to health. These situations include major breakdowns, serious loss of water pressure, and possible contamination from a cross connection. Also, each city water supply system, RWD, and private water system must prepare an emergency plan to safeguard the water supply system for the protection of the public if natural or man-made disasters occur. These emergency plans must be submitted to and approved by KDHE. For specific laws concerning operation, maintenance and supervision of water systems by certified personnel, check K.S.A. 65-4501 through K.S.A. 65-4517 and amendments thereto.

Communicate problems to customers

It is normal for system operators to field many questions from the utility's customers. It is imperative to communicate with customers to reassure and tell them exactly what is being done to rectify system problems such as boosting of chlorine residuals and flushing lines to eliminate unwanted bacteria. Customers should be informed that the process may take a few days and that operators will monitor the system retaking bacteriological samples until they come back from the lab free of bacteria.

If water is consumed before proven safe, illness such as nausea and/or vomiting may occur – but not all people will be affected to the same degree. The young and elderly are more at risk to illnesses from water contamination.

Even water used for cooking, washing and making coffee should first be brought to a rolling boil and boiled for several minutes. However, commercial dishwashers that use hot water and chemical sanitizing may be used as well, providing that the equipment is operated with a water temperature that meets KDHE specifications.

Unboiled water should be safe to bathe and shower in as long as the water is not ingested, however infants and young children who may have less control, should not bath since they could swallow some of the contaminated water. Sponge baths would be better for the young ones. With most home water treatment systems and conditioner units including water softeners, the water still may not be safe to drink and is likely the water in that part of the system will require disinfection.

Communication with customers is most important in situations

involving water system problems that result in a boil water advisory. Advising customers of a potentially unsafe condition by whatever means necessary is most

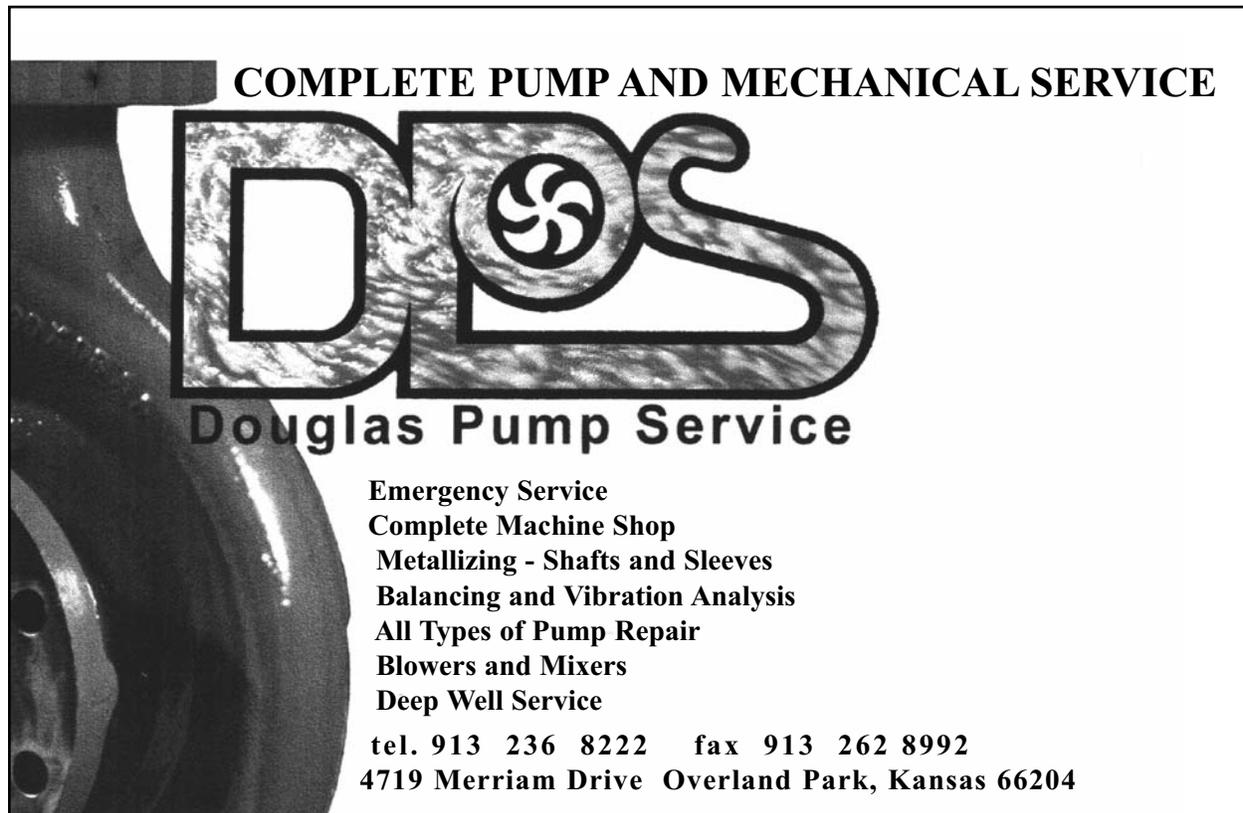
conference has numerous sessions on water quality and drinking water regulations. Check the program that is printed in this issue. KDHE and other agencies

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important. KDHE then also should be notified of the situation and remedies taken to correct the problem. With customers and the regulatory agency on notice, then the system can concentrate on efforts to correct the system problems.

I encourage attendance at the 2008 KRWA conference. The

also will have booths in EXPO Hall where staff are pleased to discuss any water-related issue, from funding to compliance.



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