

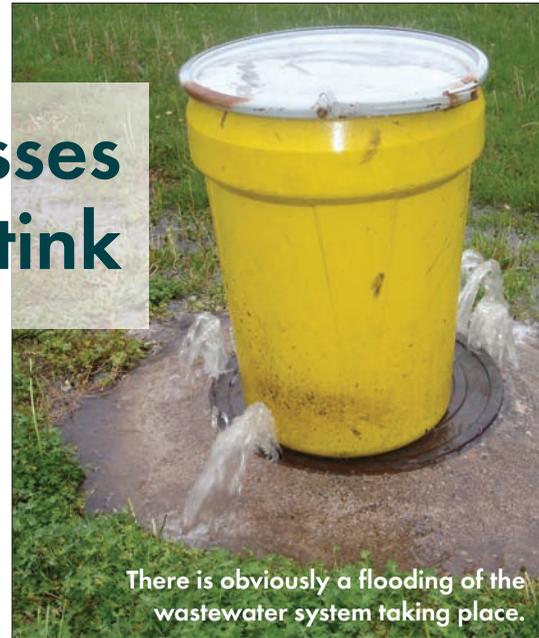
Sanitary sewer bypasses really create a stink

Anually, billions upon billions of gallons of raw sewage are discharged from municipal wastewater systems without treatment. There are four ways that raw sewage is released:

- Sanitary Sewer Overflows (SSOs) which are releases of undiluted sewage from manholes or sewer mains;
- Combined Sewer Overflows (CSOs) occur when sewage mixed with storm water is released;
- Bypasses occur when the treatment plant is hydraulically overloaded and diverts untreated sewage into the receiving stream;
- Basement backups of raw sewage can occur when the sewer system is overloaded.

Many small towns in Kansas routinely confront sanitary-sewer-overflow (SSOs) problems. I am finding that many municipalities are not aware of their obligations regarding sanitary sewer overflows.

SSOs are violations of either Section 301 of the Clean Water Act or their National Pollutant Discharge Elimination System (NPDES) permit requirements.

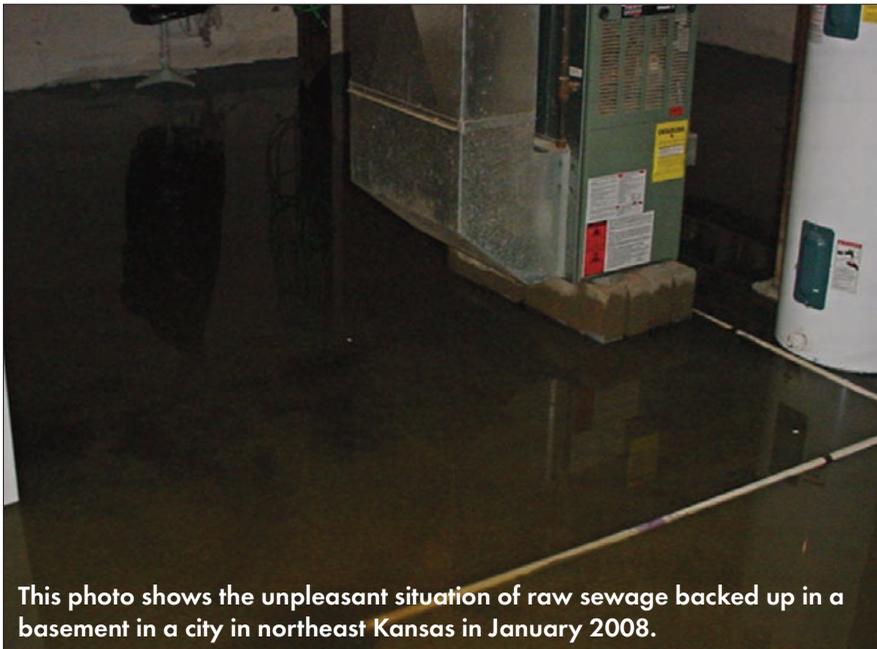


There is obviously a flooding of the wastewater system taking place.

As I explained in an article in the July 2003 issue of *The Lifeline*, SSOs are violations of either Section 301 of the Clean Water Act or their National Pollutant Discharge Elimination System (NPDES) permit requirements. SSOs are caused by several conditions, mainly infiltration and inflow (I & I) due to deterioration of an aging sanitary sewer system. In any event, the causes of the problem should be addressed so that bypasses of raw sewage are eliminated.

Back in December 2008, an operator questioned KRWA whether SSOs must be reported to the Kansas Department of Health and Environment (KDHE). Yes, all systems are legally required by their permit to report all known bypasses to KDHE. KDHE recently revised its bypass report form to include SSOs as reportable offenses. The new report form is available electronically in either MS Word or Adobe pdf format at www.kdheks.gov/water/tech.html.

Why is it important for systems to report all bypasses to KDHE? First, it is legally required by all KDHE-issued permits. Second, KDHE wants to know all situations where raw sewage is discharged near homes and businesses, and accessible to the public. In some cases, KDHE may issue a Stream Advisory to warn the public to avoid



This photo shows the unpleasant situation of raw sewage backed up in a basement in a city in northeast Kansas in January 2008.

contact with a body of water that may contain raw sewage with a high concentration of pathogens. And third, KDHE wants to know if a system has recurring bypasses at the same location so that corrective actions can be taken if needed. For example, if an obsolete 40-year-old lift station frequently bypasses due to mechanical failures, maybe it should be replaced. Without the required reporting of bypasses in this example, KDHE would not be aware that a serious problem exists and that upgrading or replacement of the lift stations is needed to prevent future bypasses.

A system experiencing a bypass is required to notify KDHE, either the central office or the respective district office, within 24 hours of discovery of the by-pass. Written notification of the bypass is required within five days of the discovery of the bypass. The new form can be used to satisfy the written notification requirement. For many years, KDHE has required that a bypass report form be completed and submitted to the agency after any discharge from the sanitary sewer system. The older form was brief but did not have the detail for what was considered a by-pass; the new form is expanded. I have been surprised by the number of operators who did not know they were required to report bypasses to KDHE, but this could be because they were unaware of what constituted a bypass. Hopefully this will clear up the confusion of what a bypass actually is.

The new form has nine lines with a number of fill-in-the-blanks. The form is self-explanatory. It includes facility name and permit number. The name of the agency contact is required. Remember, when you call KDHE, the agency maintains a record of all calls. This is then easily cross-referenced. The date and time the by-pass was discovered, the date and time the by-pass ended and estimated total gallons by-passed are other items of interest to KDHE.

If the bypass was due to a rainfall event, be prepared to provide the

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approximate amount of rainfall. There have been bypasses this spring due to excessive rainfall events. One email I saw from a district office was the list of water systems with problems due to storms and at the bottom it said something like “too many sewer bypasses to mention here”. The agency also wants to know if bypasses occurred at multiple locations due to rain events.

The next section asks about the locations of the bypasses, such as plant, lift station, peak flow basin, city collection line, manhole, private sewer, etc.

The next question is more difficult. It asks for definitions of causes of the bypasses. The most challenging to me is that related to private line blockage and private line breaks. For example, if there is a blockage in a private line, how is the system (city or sewer district) going to know about it unless sewage surfaces above ground and is reported? If it is like most blockages, the only people who are going to know about it are the customer and maybe a plumber cleaning the line. So does this require everyone who has a blockage to report it to the system, so the System can report it to KDHE? I do not believe this will occur and in my opinion it is not necessary if the bypass is contained on the property, but it is required on the by-pass report form.

The same will be said of the private line break. Most will not be reported to the system unless the line is replaced to the main and/or DIG SAFE is called. Again I find this scenario very unlikely to occur and do not see how it should affect the system. The only advantage of these two problems will be if the property is sold and bypasses have

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been reported, then the bypass form will be on hand, possibly as part of the Open Records Act for the potential buyer. This would alert any potential buyers that the original owner had problems with their sewer service line. Some systems have a digital camera in the sewer truck and take pictures of the property where a by-pass has occurred before cleaning for insurance purposes. This can protect the system from having to pay too much or reduce insurance premiums.

Basement Backups

A frequent question is if the city has a blockage or other problem and it backs up into a basement, is it considered a by-pass? The answer is “Yes!” It must be reported like all other bypasses. At one time it was believed that if the sewage from a city problem was contained, even in a property owner’s basement, it was not a by-pass. This is not correct.

As I understand it, EPA is the driving force behind these changes regarding bypass notification. Some staff at EPA believe most, if not all, bypasses can be prevented. I believe

this is a great goal but is not very practical. I believe that routine line cleaning can significantly reduce bypasses. I suggest having a goal of cleaning all your sewer lines at least every three years. Line repairs or replacement to reduce I & I are also factors to help reduce bypasses. Certain situations may require complete replacement or repairs, such as cured in place pipe and manhole rehabilitation.

In my opinion, the new report form is more user-friendly; it is more descriptive and makes it more understandable as to what must be reported. KRWA has the new forms. Call KRWA at 785/336-3760 for copies. The form has also been provided at the recent wastewater lagoon training sessions.

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