By Charlie Schwindamann, Wastewater Tech

There is a Sanitary Sewer Overflow/Bypass: Who is Responsible for Cleanup?

A nightmare! This photo shows a sewage backup into a home. Is cleanup the responsibility of the customer or system?

The Kansas Rural Water Association receives calls every year for assistance with sewer overflows or bypasses. The official title used by EPA is Sanitary Sewer Overflows or SSOs for short. These overflows or bypasses must be reported to the state primacy agency, the Kansas Department of Health and Environment (KDHE), within twenty-four hours of discovery. This is usually completed by phone to the respective KDHE district office. Then within five days, the system is required to send a written report of the bypass on the Kansas Department of Health and Environment Wastewater Incident Report Form. This form can be downloaded from the KDHE website at: https://www.kdhe.ks.gov/DocumentCenter/View/9325/Incident-Report-Form-PDF?bidId=.

The form asks for this information:

- Who, meaning the system's name with permit number and to whom at KDHE the system initially reported the incident
- When was the incident found or reported, and when did the incident end, including an estimate of the number of gallons bypassed
- Where was the incident located, as in the physical address of the house or location such as the manhole number
- What was the cause of the bypass; tree roots, electrical failure, city line blockage, and even excessive rainfall are just a few of the possible reasons
- The why is an explanation for the reason for the incident, rather than just the checked boxes being the cause of the incident. This form is a one-page sheet that all systems should have copies of and be familiar with. KDHE also defines the incident report form for better understanding to correctly complete the form.

KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT
WASTEWATER INCIDENT REPORT FORM

Definitions are available at http://www.kdheks.gov/water/tech.html

Collection System Bypass ☐ In-Plant Diversion ☐ Upset ☐ In-Plant Flow Through ☐ Spill ☐

1. FACILITY NAME: _____ Kansas Permit # _____
2. Within 24 hours of discovery, notify the KDHE Central Office (email – chris.seeds@ks.gov), (fax 785.559.4257), (telephone 785.296.5517) or your local KDHE district office. Written notification is required within 5 days of discovery. If the incident is not corrected within 5 days, send a written notification to KDHE indicating the status. This form is to be sent to KDHE when the incident ends.

IF THE INCIDENT IS AFTER HOURS AND REPRESENTS A SIGNIFICANT PUBLIC HEALTH THREAT CALL 785.296.1679 IMMEDIATELY

KDHE Person Contacted: _____ Date: _____ Time: _____

3. Date Incident Discovered: _____ Time: _____
4. Date Incident Ended: _____ Time: _____
5. Total estimated gallons bypassed, spilled, or routed through failed equipment for all locations on this form: _____
6. If rainfall induced event, approximate inches of rainfall _____
   If multiple locations listed below due to rain event, check here ☐
7. Incident Location: (check all that apply)
   - ☐ Plant
   - ☐ Lift/Pump Station
   - ☐ Peak Flow Basin
   - ☐ Manhole(s)
   - ☐ City Collection Line (Line Break / Joint)
   - ☐ Private Sewer Line
   - ☐ Basement
   - ☐ Other (specify below)

   Identify **All** Incident Locations by Name, Street Address or Manhole Number as appropriate.
   _____
   _____
8. Cause of Incident:
   - ☐ Intentional Bypass for Repair/Construction
   - ☐ Excessive Rainfall, Snow Melt
   - ☐ Unplanned Construction Related Break
   - ☐ City Line Break (Not Construction Related)
   - ☐ City Line Blockage
   - ☐ Private Line Break
   - ☐ Private Line Blockage
   - ☐ Lagoon High Level
   - ☐ Equipment Failure
   - ☐ Control System Failure
   - ☐ Power Related Failure
   - ☐ Operations Related Failure
   - ☐ Maintenance Related Failure
   - ☐ Vandalism
   - ☐ Other

   Additional explanation of reason for Incident: (use additional page if necessary)
   _____
   _____
9. Corrective Action, if any: (use additional page if necessary)
   _____
   _____

Name: _____ Date: _____
Title: _____ Phone _____

When Completed, E-mail to: chris.seeds@ks.gov
Or Mail to: Kansas Department of Health & Environment – Attn: Chris Seeds
1000 SW Jackson St., Suite 420, Topeka , KS 66612-1367
Fax 785.559.4257

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Within five days of a sewer bypass, the system is required to send a written report of the bypass on the Kansas Department of Health and Environment Wastewater Incident Report Form shown here. This form can be downloaded from the KDHE website at: https://www.kdhe.ks.gov/DocumentCenter/View/9325/Incident-Report-Form-PDF?bidId=. The table below show the definitions on the KDHE ByPass Form.

Incident Definitions

"Incident" means bypasses in the collection system, in-plant diversions, in-plant flow through occurrences, upsets, and spills.

Bypass	The diversion of wastewater from any portion of the collection system
In-Plant Diversion	Routing the wastewater around any treatment unit in the treatment facility through which it would normally flow under the operating conditions at the facility at the time of the re-routing.
In-Plant Flow Through	An incident in which the wastewater continues to be routed through the plant equipment even through full treatment is not being accomplished because of equipment failure for any reason.
Spill	Any discharge of wastewater, sludge or other materials from the treatment facility other than effluent or any incident not more specifically described by other "Incidents" terms.
Upset	An exceptional incident in which there is unintentional and temporary noncompliance or anticipated noncompliance with permit effluent limits because of factors beyond the reasonable control of the permittee.

Causes of Wastewater Bypass – Definitions

Bypass for Repair/Construction	Intentional bypass for maintenance or construction activities
Rainfall	Excessive rainfall, snowmelt, etc.
Construction Related Failure	Unplanned bypass related to damage from construction activities
City Line Failure	Line failure not caused by construction activities
Private Line Failure	Private sewer line failure for any reason
City Line Blockage	Blockage in the city line causing a wastewater discharge
Private Line Blockage	Blockage in the private line causing a discharge from the private line
Equipment Failure	Equipment breakdown
Control System Failure	Control system failed to start equipment or indicate an alarm
Power Related Failure	Loss of power to equipment including control/alarm system
Maintenance Related Bypass	Failure to provide timely or proper maintenance
Vandalism	Intentional equipment damage/adding illicit materials to collection system leading to a bypass
Lagoon High Level	Overtopping the lagoon and/or backing wastewater up into the system due to high water level in the lagoon
Operations Related Bypass	Failure to provide timely and proper operations control - such as respond to alarms, failure to power up equipment, restrict controllable inflows, etc.
Spill	Spillage of waste, usually not directly from the system - such as during loading or hauling/disposing of wastewater or sludge

The most frequently asked question is how the system can get a property owner to fix their sewer bypass from uncapped sewer cleanouts. KRWA staff are not lawyers, but we do offer opinions and suggestions. Still, most information operators and clerks are looking for can be found in the system's ordinances. The owner or its staff should contact the system's attorney if an interpretation of those ordinances is needed. Most operators and city clerks check the sewer use ordinances for information concerning bypasses. Unfortunately, this is NOT where the ordinance for bypasses onto or from private property is located. Bypass remediation is often found in most systems' nuisance ordinances that refer to abandoned houses, cars and weeds. These nuisance ordinances usually include what to do about feces and provide timelines as to when the nuisance needs to be abated. Due to health issues, the time frame for the abatement in the ordinance can be immediate, depending on how the ordinance is written. I recommend that the sewer use ordinance be amended to include either a reference to the nuisance ordinance or amend the sewer use ordinance to allow for immediate action for sewer bypasses due to health concerns.

Be better prepared

Owners and operators of wastewater collection systems should be ready for issues arising from system bypasses at home or businesses. With all bypasses, any solids, toilet paper, and wipes, should be removed as soon as possible and disposed of safely, such as in the wastewater treatment facility. For inside a home, when the system is responsible for clean up, I recommend that a service provider be contacted, such as Servpro, Service Master or other carpet cleaning service that specializing in sewage cleanup projects. If it is not the system's responsibility for cleanup, it is good public relations to provide a list of service providers to the affected customer. Bypasses can result in lawsuits.

Lime was spread over the bypassed sewage along the creek for at least 700 feet.

KRWA Wastewater Tech Charlie Schwindamann spreads lime over the bypassed sewage in the creek.

KRWA Wastewater Tech Charlie Schwindamann is covered with lime after the distribution in a dry streambed. Lime had to be scooped against the wind because of restricted access to the creek.

Lime should be placed on the ground where the wastewater has been after the solids are removed for bypasses that discharge outside. Lime raises the pH levels to as high as 12.4. Cell membranes of harmful pathogens are destroyed at pH levels higher than 12 and also at increased temperatures.

I recently assisted a system that had a bypass from the lift station to an unnamed tributary directly north of the lift station. This creek had no flowing water. When there is flow, it flows to the west. KDHE had been contacted, and the bypass was reported as required. KDHE required lime be applied to the sewage. We estimated that the amount of sewage bypassed was less than 20,000 gallons after reviewing the hours on the hour meters at the lift station.

The system contacted me about how to apply the lime and how much was needed. We reviewed the discharge area and discussed where to get lime and how to apply it. Due to the restricted access to the area, a city council member provided an offroad vehicle with a bed to carry the lime to where we needed to apply it. The city purchased the lime from the local lumber yard. This is the same type of lime used to mark baseball fields. Most cities have access because they have ball fields, but because of the size of this community, no ball games were held regularly and lime was not available in the town. The city purchased ten 50-pound bags. We then went back and loaded the offroad vehicle with five bags of lime. We started at the most distant point where we found sewage and applied lime back to where the bypass occurred near the lift station. The sewage flowed down the creek for a distance of approximately 700 feet. To apply the lime, we used small scoop shovels and spread the lime into the bottom of the creek. That required 250 pounds of lime. This took approximately an hour and a half for two people to complete as accessing the site was difficult. A lesson learned is to pay attention to wind direction so the lime does not blow back on those applying it. However in this case, we were limited to access, so we had to apply the lime into the wind.

Wastewater topics at the Annual Conference

KRWA's annual conference has numerous topics related to the operation and maintenance of wastewater systems. I encourage owners and operators and city clerks and administrators to go over the selection and choose the sessions that will provide answers to questions about sewer ordinances and regulatory requirements. It will be time well-invested.

Charlie Schwindamann has been Wastewater Tech at KRWA since September 1999. Charlie holds Class II Water and Class I Wastewater Operator certification. He has also served as a member of the Marysville, Kansas city council.