



Testimony on HB 2321
AN ACT Concerning Health and Environment; Relating to Graywater
to
The House Agriculture and Natural Resources Committee
By Mike Tate, PE
Director, Bureau of Water
Kansas Department of Health and Environment
February 19, 2013

Good afternoon Chairwoman Schwartz and members of the Agriculture and Natural Resources Committee. I appear before you today to present KDHE's position on House Bill 2321. The intent of House Bill 2321 is to allow graywater to be used or reused for irrigation and other agricultural purposes, commercial, industrial and domestic purposes. Graywater is defined in the bill as wastewater from showers, bathtubs, clothes-washing machines, hand-washing lavatories or sinks (not used for disposal of hazardous material).

According to the Water Environment Research Foundation, approximately 50% of the total wastewater generated in a household is graywater¹. For domestic sources, this water is either discharged to a public sewer system or approved private sewer system.

KDHE recognizes the opportunity for water conservation through the use or reuse of graywater, however, recommends to the Committee it be done in a manner in which potential health risks are minimized. It is well established that levels of fecal coliform bacteria are found in graywater and typically exceed allowable water quality criteria for discharge of wastewater². In addition to bacteria, graywater is likely to contain household chemicals and products such as bleach, oil, grease, detergents, rinse aides, soaps, etc. Such chemicals, products and organic matter can affect the chemical characteristics of water.

KDHE supports many features of the bill and believes those core components should be a part of any bill that moves forward. Those items include:

- A requirement to contain irrigated graywater on the site where it was produced. Graywater can contain disease causing pathogens, and potentially damaging chemicals so the water should remain on the residential site where it was produced and not allowed to run off site.
- A requirement to prohibit irrigation on frozen or saturated soil. Application on frozen or saturated soil will lead to runoff to other properties.
- A requirement to label any plumbing associated with graywater reuse as "non-potable". Individuals need to be aware of plumbing containing graywater due to its likelihood to contain pathogens and harmful chemicals.
- A requirement to have adequate storage capacity during times when frozen or saturated soil would preclude irrigating graywater. Again, graywater could run off site if applied to frozen or saturated soil, so the homeowner needs to be able to store water during those times.

KDHE is recommending the following modifications to the Committee for consideration:

1. Modify the language requiring graywater be stored in tanks (Section (4)(A-D) to allow for variances permitted by KDHE or the appropriate local authority.

2. Add an option of a subsurface drip irrigation system to (b)(9). Allowing graywater to be distributed below the surface aids in minimizing human contact and subsequent potential health risks.
3. Have the existing language regarding the secretary of health and environment adopting rules and regulations, be moved from section (c)(4) to its own section (d). This change would clarify that the secretary is charged with adopting rules and regulations for both non-permitted and permitted uses.
4. Add a reference for local authorities to adopt rules and regulations developed by the secretary of health and environment, per proposed section (d) referenced in number 2 above. Local authorities responsible for enforcing County Sanitary Codes should have the ability to adopt graywater rules and regulations as part of their approved Sanitary Code, in order to allow graywater use and reuse. If the county does not adopt the rules, regulations and minimum standards then the county code would not be voided, but graywater use and reuse would not be allowed in that county.
5. Add a permit requirement for graywater systems in which the graywater source is not connected to a public sewer system and domestic use is less than 400 gallons per day (gpd). Section (b) states a permit is required for domestic use of less than 400 gpd and the user is connected to a public sewer system. Section (c)(4) states that a permit may be required if domestic use is 400 gpd or more. There appears to be a gap for systems that use less than 400 gpd and are not connected to a public sewer system.
6. Include the words “and amendments thereto” in Section 2(a)/KSA 65-165(a). Unless the amendments to the Federal Water Pollution Control Act are referenced, KDHE may be out of compliance with the authorizations to administer the Act.
7. Modify the language restricting application of graywater to food producing plants. Irrigation restrictions are typically applied only to crops that are consumed raw.

Please note that the fiscal note developed by KDHE anticipates a fiscal impact. It is estimated that the counties with approved Sanitary Codes will adopt rules and regulations for graywater use and reuse. This estimate is approximately \$360,500. It is estimated that the fiscal impact on investigating complaints by KDHE to be minimal, however, to develop rules and regulations the estimated fiscal impact is approximately \$47,000.

The fiscal note also identifies an estimate for local governments to adopt rules and regulations, inspect and permit systems and inspect complaints. However, with the elimination of state resources to the local environmental protection program, it is unclear how many local governments will be in a position to take on the additional workload of permitting and inspecting graywater systems. Please note any potential fiscal impacts on local governments as a result of possible plumbing code modifications were not noted, as the KDHE is not the authority in this discipline.

The fiscal note did not identify impacts to potential domestic, industrial or commercial users of graywater. It should be noted that costs associated with plumbing to separate graywater, install a holding tank and drip irrigation system would have a fiscal impact on the user, in some cases significant.

Thank you for the opportunity to appear and present the position of KDHE to the House Agriculture and Natural Resources Committee on House Bill 2321. I will be happy to respond to questions at the appropriate time.

References:

1. Roesner, L.; Qian, Y., Criswell, M., Stromberger, M., Klein, S. 2006. Long-term Effects of Landscape Irrigation Using Household Graywater – Literature Review and Synthesis. *Water Environment Research Foundation*. 03-CTS-18CO: ES-1.

2. Roesner, L.; Qian, Y., Criswell, M., Stromberger, M., Klein, S. 2006. Long-term Effects of Landscape Irrigation Using Household Graywater – Literature Review and Synthesis. *Water Environment Research Foundation*. 03-CTS-18CO: ES-3.