State of Oregon
Department of Environmental Quality Memorandum

Date: November 15, 2010

To: Environmental Quality Commission

From: Dick Pedersen, Director

Subject: Agenda item J, Informational item: Graywater rulemaking
December 9-10, 2010, EQC meeting

Purpose of item This item will provide the commission with the DEQ Graywater Advisory Committee's final recommendations on graywater treatment, disposal and reuse.

Background In June 2009, Governor Kulongoski signed House Bill 2080, which legalized the use of graywater for beneficial purposes. The bill directed EQC to consider the recommendations of an advisory committee when adopting rules for the permitting of graywater reuse and disposal systems.

In September 2009, DEQ selected and appointed a Graywater Advisory Committee, which met monthly from December 2009 through October 2010. The committee researched, discussed and developed recommendations on the treatment, disposal, and reuse of graywater that minimize the burden of permit requirements on property owners, and protect public health, safety, and welfare; public water supplies; and state waters. The committee's research included how graywater is regulated in other states.

Key issues Key recommendations of the advisory committee include:

Policy and purpose
The committee recommends that EQC adopt a graywater policy that encourages the use of graywater in a manner that protects public health and the environment as well as acknowledges the public and environmental benefits of using this valuable resource. The graywater rule should coordinate the requirements of multiple agencies, provide clear guidelines to the public on graywater use and educate both the public and regulatory agencies on graywater use and potential environmental and public health hazards.

General provisions
The recommendations include general provisions that pertain to all graywater systems:

- Prohibiting the introduction of hazardous chemicals into graywater
- Requiring non-graywater to be diverted to an approved disposal system
- Ensuring that the construction of graywater systems meets any plumbing code requirements, where applicable, and
- Specifying that graywater system components are labelled to prevent unintentional contact with graywater.

The committee developed a general set of recommendations for graywater irrigation systems that are intended to protect ground and surface water resources. These include limiting graywater discharges to times when natural precipitation is insufficient to meet plant needs and prohibiting release to sites with steep slopes or shallow groundwater.

Untreated graywater

The committee recognizes the use of untreated graywater carries potential hazards to public health and developed specific recommendations to address these concerns:

- Direct contact with untreated graywater by humans and domestic pets should be minimized
- When used for irrigation, the edible portion of crops should not contact the graywater
- Untreated graywater should only be used for subsurface irrigation and composting, where the point of release is under at least two inches of soil, mulch or other cover
- Untreated graywater may not be stored for more than 24 hours
- Buffers or horizontal setback distances should be maintained from surface waters, stormwater systems and property lines
- Because of potentially high concentrations of organic material, solids and bacteria, all graywater originating from kitchen sinks should pass through primary treatment to reduce grease, floatable and settleable solids.

Treated graywater

The committee also recognizes that with secondary treatment, graywater may be safely used for other uses, such as surface irrigation and landscape ponds. The committee recommends that graywater treatment systems either use a technology-based system recognized by an accreditation authority such as the American National Standards Institute or meet performance based criteria for five-day biochemical oxygen demand and total suspended solids. Performance-based graywater treatment systems should be subject to monitoring and reporting requirements to demonstrate compliance with these standards. With disinfection, graywater may be safely used for additional applications, such as spray irrigation, equipment and vehicle wash

water and various construction uses. Graywater disinfection standards should be consistent with Oregon's definition for Class B recycled water, which is based on total coliform.

Graywater permits

Finally, the committee recommends that EQC adopt rules that use a tiered approach to graywater permitting, based upon the volume of graywater produced. This tiered approach to permitting should allow low-volume residential graywater systems, which represent a low risk to public health or the environment, to be permitted with minimal effort, while high-volume complex systems should be subject to the appropriate review and approval.

- Tier 1 General Permit. A Tier 1 general permit should be available to a single-family residence or duplex that generates fewer than 300 gallons per day of graywater, used only for subsurface irrigation. If the system meets certain requirements, the system owner can obtain a permit by registering the system with DEQ and paying a small fee.
- Tier 2 General Permit. A Tier 2 permit should be available to a single-family residence, duplex, multifamily unit, institution, commercial facility or industrial facility that produces up to 1,200 gallons per day of graywater. Based on the source of the graywater and the quantity, this type of system represents a higher risk to public health and the environment. A system owner may obtain a permit after paying a fee and submitting documentation on system design and operation to DEQ for review and approval.
- Tier 3 Individual Permit. Any graywater system producing greater than 1,200 gallons per day should be allowed only under an individual Tier 3 permit; any owner of a low-volume or medium-volume graywater system that fails to qualify for a Tier 1 or Tier 2 permit can also apply for an individual permit. The committee also recommends that additional graywater disposal options be considered by DEQ under an individual Tier 3 permit. Because of volume, potential complexity, site limitations or other conditions, this type of a graywater system may require careful review of system design, maintenance and operation. The fee for a Tier 3 permit should be appropriately scaled to the amount of effort required to develop the permit and the amount of graywater produced.

Next steps

In February 2011, DEQ will publish a notice of proposed rulemaking for public comment in the Secretary of State Bulletin, and hold a public comment period with hearings in February and March 2011.

EQC involvement

No action from the EQC is needed at this time. DEQ plans to bring proposed final rules for commission action at the August 2011 EQC meeting.

Attachments

A. Graywater Advisory Committee report: *Recommendations on Graywater Treatment, Disposal and Reuse*

Available upon request

The Graywater Advisory Committee meeting minutes and supporting documentation may be downloaded from DEQ's Graywater Advisory Committee Web site (http://www.deq.state.or.us/wq/reuse/gwadvisory.htm) or may be requested from DEQ as hardcopies.

Approved:

Division: _____

Section: _____

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