The Texas Commission on Environmental Quality (commission or TCEQ) adopts new §§210.81 - 210.85. Sections 210.83, 210.84, and 210.85 are adopted *with changes* to the proposed text as published in the August 13, 2004 issue of the *Texas Register* (29 TexReg 7865). Sections 210.81 and 210.82 are adopted *without changes* and the text will not be republished.

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED RULES

The legislature passed House Bill 346 in 1993 which required rules to be developed by the commission and the Texas State Board of Plumbing Examiners for graywater use in Texas. The commission adopted rules under 30 TAC Chapter 285, On-Site Sewage Facilities, in June 2001 that allow water from clothes-washing machines as the only graywater to be discharged without going through an on-site sewage facility (OSSF). Water from other sources in a residence was not included in the use of graywater.

In 2003, the 78th Legislature passed House Bill 2661 which amended Texas Water Code (TWC), §26.0311, and Texas Health and Safety Code (THSC), §341.039 and §366.012. These amendments modify the definition of graywater and require the commission to adopt and implement standards for the use of graywater and to address the separation of graywater in a residence served by publicly or privately owned treatment works. Additionally, this legislation directs the commission to address the use of graywater for commercial, industrial, irrigation, and other agricultural purposes.

To implement this legislation, the commission concurrently amended Chapter 210; Chapter 285; and 30 TAC Chapter 317; Design Criteria for Sewerage Systems. Adopted amendments to Chapter 285 and Chapter 317 are also published in the Adopted Rules section of this issue of the *Texas Register*.

SECTION BY SECTION DISCUSSION

TWC, §26.0311(b), requires the commission to adopt and implement minimum standards for the use of graywater. TWC, §26.0311(b)(2), requires that the minimum standards for the domestic use of graywater be consistent with THSC, §341.039. Therefore, the commission creates a new Subchapter F, Use of Graywater Systems, to include the requirements for graywater to implement TWC, §26.0311 and THSC, §341.039 and §366.012.

Adopted §210.81, Applicability, specifies that this subchapter applies to individuals who use graywater for: irrigation and other agricultural purposes; domestic use; commercial purposes; industrial purposes; and institutional purposes. This section also specifies that reclaimed water is regulated under Subchapters A - E of this chapter. The commission created an applicability section for new Subchapter F to be consistent with the structure of the other subchapters in this chapter and to ensure the consistency of the term "Site."

Adopted §210.82, General Requirements, provides the general requirements for graywater use. These criteria implement TWC, §26.0311, and THSC, §341.039.

Adopted §210.82(a) defines graywater as wastewater from clothes-washing machines; showers; bathtubs; handwashing lavatories; sinks that are not used for disposal of hazardous or toxic ingredients; and sinks not used for food preparation or disposal. This definition is from THSC, §341.039(e), and TWC, §26.0311(a), as amended by House Bill 2661.

Adopted §210.82(b) excludes from the definition of graywater wastewater from the washing of

material, including diapers, soiled with human excreta, and wastewater that has come in contact with toilet waste. This definition is from THSC, §341.039(e), and TWC, §26.0311(a), as amended by House Bill 2661.

Adopted §210.82(c) requires that construction of a graywater system, including the storage and disposal systems, comply with Chapter 210 and any requirements of the local permitting authority. The commission is adopting this provision to provide notice that local permitting authorities may have additional requirements, such as a plumbing code, to those in this rule.

Adopted §210.83, Criteria for the Domestic Use of Graywater, provides the criteria for use of graywater. The criteria are incorporated from TWC, §26.0311, and THSC, §341.039, as amended by House Bill 2661.

Adopted §210.83(a) specifies that a person using less than 400 gallons of graywater each day does not need an authorization if the graywater originates from a private residence and if the graywater system is designed so that 100% of the graywater can be diverted to an organized wastewater collection system during periods of non-use of the graywater system. New subsection (a) would also specify that the discharge from the graywater system must enter the organized wastewater system through two backwater valves or backwater preventers. The commission includes two backwater valves or backwater preventers to prevent cross-contamination between the graywater system and the organized wastewater system. This will help ensure that toilet waste or other types of wastewater that are not defined as graywater in TWC, §26.0311(a), do not commingle with the graywater system. Additionally, the graywater must be stored in tanks and the tanks must be clearly labeled as nonpotable

water; must restrict access, especially to children; and eliminate habitat for mosquitoes and other vectors. These requirements are from THSC, §341.039(c).

While THSC, §341.039(c)(4), requires tanks, the statute is silent with regard to any tank specifications. However, TWC, §26.0311(b), requires the commission to adopt and implement minimum standards for the use of graywater and TWC, §26.0311(b)(2), requires that the domestic use of graywater be consistent with the requirements in THSC, §341.039. Both THSC, §341.039(b), and TWC, §26.0311(c), require that the use of graywater not be a nuisance and not damage the quality of surface water or groundwater in the state. Additionally, THSC, §341.039(c)(6) and (7) require that the graywater be used without the formation of ponds or pools and that graywater use does not create surface runoff across property lines or onto any paved surface. Thus, the commission is adopting two requirements that are not specifically enumerated in the statute to implement these statutory provisions: 1) that tanks are able to be cleaned; and 2) that the tanks meet certain structural requirements.

If the tanks cannot be cleaned, solid materials could clog the lines or increase the biomat buildup at the end of the line if graywater is discharged directly onto the ground. A clogged line could lead to a backup or overflow of the system, and a buildup of biomat could cause odor and prevent the graywater from soaking into the ground, causing ponding, pooling, or runoff. Furthermore, the commission adopts a provision that the tanks must meet the structural requirements of §210.25(i) to ensure the structural integrity of the tanks. All of these provisions will help to ensure that graywater use is not a nuisance and does not damage the quality of surface water or groundwater in the state as required by TWC, §26.0311(c), and THSC, §341.039(b).

Finally, adopted subsection (a) requires that a graywater system use piping that meets the purple piping requirements of §210.25; that the graywater be applied at a rate that will not result in ponding or pooling; that graywater use will not create runoff across property lines or onto any paved surface; and that the graywater is not disposed of using a spray distribution system. These provisions are from THSC, §341.039.

Adopted §210.83(b) encourages builders of private residences to install plumbing in new housing to collect graywater from all allowable sources and design and install a subsurface graywater system around the foundation of new housing to minimize foundation movement or cracking. This provision is from THSC, §341.039(d).

Adopted §210.83(c) includes the allowable uses for graywater. This subsection specifies that the graywater system may only be used around the foundation of new housing to minimize foundation movement or cracking; for gardening; for composting; or for landscaping at the private residence. These requirements are from THSC, §341.039, and TWC, §26.0311.

Adopted §210.83(d) prohibits graywater use from creating a nuisance or damaging surface water or groundwater. This provision is from THSC, §341.039(b), and TWC, §26.0311(c).

Adopted §210.83(e) adds language to allow homeowners who dispose of wastewater from residential clothes-washing machines before the effective date of the adopted rules to continue to dispose directly onto the ground surface as long as the homeowners meet certain conditions. The commission adopts this provision to limit the impact that the adopted rules will have on homeowners who currently dispose

of laundry graywater.

Adopted §210.83(f) specifies that graywater systems that are altered, create a nuisance, or discharge graywater from any source other than clothes-washing machines will not be authorized to discharge graywater under subsection (e) of this section. The commission adopts this provision to provide notice to homeowners that if they alter their system, allow their system to create a nuisance, or add an additional source of graywater to their system's discharge that they are no longer eligible to discharge graywater under subsection (e) of this section.

Adopted §210.84, Criteria for Use of Graywater for Industrial, Commercial, or Institutional Purposes, specifies the criteria that a person would need to follow to use graywater for industrial, commercial, or institutional purposes. New §210.84(a) specifies that graywater use for an industrial, commercial, or institutional purpose does not require authorization from the commission. If graywater is used in a closed-loop process, it is covered under Subchapter E of this chapter and is not subject to these rules.

Adopted §210.84(b) requires that graywater systems used for industrial, institutional, or commercial purposes be designed so that 100% of the graywater can be diverted to an organized wastewater collection system during periods of non-use of the graywater system. This subsection also requires that the discharge from the graywater system enter the organized wastewater system through two backwater valves or backwater preventers. The commission includes two backwater valves or backwater preventers to prevent cross-contamination between the graywater system and the organized wastewater system. This will help ensure that toilet waste or other types of wastewater that are not defined as graywater in TWC, §26.0311(a), do not commingle with the graywater system.

Adopted §210.84(c) specifies the allowable uses for graywater for commercial, institutional, or industrial purposes. Graywater may be used as process water, for landscape maintenance, for dust control, for toilet flushing, and for other similar uses. This subsection also allows graywater to be treated for use in an operational process and specifies that the treatment does not require authorization from the agency. The commission adopts these requirements to be consistent with §210.52(d). Under this adopted section, graywater that is used for landscape maintenance, dust control, toilet flushing, and similar uses must meet certain levels for fecal coliform, as determined by the potential for public contact with the graywater. The commission adopts these requirements to be consistent with §210.33(a)(2). Additionally, for toilet flushing that uses graywater the commission adopts a provision that all exposed piping and piping within a building must be either purple pipe or painted purple; all buried piping installed after the effective date of these rules must be either manufactured in purple, painted purple, taped with purple metallic tape, or bagged in purple; and all exposed piping must be stenciled in white with a warning reading "NON-POTABLE WATER." The commission adopts these requirements to be consistent with §210.25(g)(2).

Adopted §210.84(d) requires that graywater used for commercial, industrial, or institutional purposes be monitored for fecal coliform at least monthly in areas where the public may come into contact with graywater. These records must be readily available for inspection by the commission for a minimum of five years. The commission adopts this requirement to be consistent with §210.57(b)(2)(B).

Adopted §210.85, Criteria for Use of Graywater for Irrigation and for Other Agricultural Purposes, specifies the criteria for the use of graywater for irrigation and other agricultural purposes.

Adopted §210.85(a) specifies that graywater used for irrigation and for other agricultural purposes does not require authorization from the commission.

Adopted §210.85(b) requires that graywater systems used for irrigation and other agricultural purposes be designed so that 100% of the graywater can be diverted to an organized wastewater collection system during periods of non-use of the graywater system. This subsection also requires that the discharge from the graywater system enter the organized wastewater system through two backwater valves or backwater preventers. The commission includes two backwater valves or backwater preventers to prevent cross-contamination between the graywater system and the organized wastewater system. This will help ensure that toilet waste or other types of wastewater that are not defined as graywater in TWC, §26.0311(a), do not commingle with the graywater system.

Adopted §210.85(c) lists the allowable uses for graywater. Graywater can be used for process water, landscape maintenance, dust control, irrigation for fields, and other uses. This subsection also allows graywater to be treated for use in an operational process and specifies that the treatment does not require authorization from the agency. The commission adopts these treatments to be consistent with §210.51(d). Under this adopted section, graywater that is used for landscape maintenance, irrigation for fields where edible crops are grown or fields that are pastures for milking animals, and other uses must meet certain levels for fecal coliform, as determined by the potential for public contact with the graywater. The commission adopts these requirements to be consistent with §210.33(a)(2).

Adopted §210.85(d) requires that graywater used for irrigation and for other agricultural purposes be monitored at least monthly in areas where the public may come into contact with graywater. These

records must be readily available for inspection by the commission for a minimum of five years. The commission adopts this requirement to be consistent with §210.57(b)(2)(B).

FINAL REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed this rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and determined that the rulemaking is not subject to §2001.0225 because it does not meet the definition of a "major environmental rule" in that statute. Major environmental rule means a rule, the specific intent of which, is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The intent of this rulemaking is to implement legislative amendments that modify the definition of graywater and require the commission to adopt and implement standards for the use of graywater and to address the separation of graywater in a residence served by publicly or privately owned treatment works. New Subchapter F, entitled “Use of Graywater Systems,” applies to individuals who use graywater for: irrigation and other agricultural practices; domestic use, to the extent consistent with §210.83(c); commercial purposes; institutional purposes; and industrial purposes. This new subchapter also sets out specific standards and installation requirements for graywater systems. The adopted graywater rules do not adversely affect, in a material way, the economy, a section of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state.

In addition, the adopted rules are not subject to Texas Government Code, §2001.0225, because they do not meet any of the four criteria specified in §2001.0225(a). Texas Government Code, §2001.0225(a),

applies to a rule adopted by an agency, the result of which is to: 1) exceed a standard set by federal law, unless the rule is specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or 4) adopt a rule solely under the general powers of the agency instead of under a specific state law.

The adopted revisions to Chapter 210 do not meet any of these requirements. First, these revisions do not exceed a standard set by federal law as there are no federal requirements for these rules. As a result, there are no applicable standards set by federal law that could be exceeded by these rules. Second, these revisions do not exceed an express requirement of state law, but are being adopted to implement state law, including the requirement that graywater use not be a nuisance and not damage the quality of surface water or groundwater in the state. Therefore, the rulemaking does not exceed an express requirement of state law. Third, the commission is not a party to a delegation agreement with the federal government concerning a state and federal program that would be applicable to requirements set forth in these rules. Therefore, there are no delegation agreement requirements that could be exceeded by these rules. Fourth, the adopted rules were not developed solely under the commission's general powers, but rather were developed to implement the specific requirements of House Bill 2661, amending TWC, §26.0311, and THSC, §341.039 and §366.012. Therefore, the commission does not adopt these rules solely under the commission's general powers. Thus, the commission concludes that a regulatory analysis is not required in this instance because the adopted rules do not meet any of the criteria of a major environmental rule as defined by Texas Government Code, §2001.0225.

TAKINGS IMPACT ASSESSMENT

The commission performed an assessment of these rules in accordance with Texas Government Code, §2007.043. The intent of the adopted rules is to implement legislative amendments that modify the definition of graywater and require the commission to adopt and implement standards for the use of graywater and to address the separation of graywater in a residence served by publicly or privately owned treatment works. The adopted graywater rules are voluntary. Thus, the commission's assessment indicates that Texas Government Code, Chapter 2007, does not apply to this rulemaking because the promulgation and enforcement of these rules will not create a burden on private real property.

CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission reviewed the adopted rulemaking and found that the rules are neither identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11, nor will they affect any action/authorization identified in §505.11. Therefore, the adopted rules are not subject to the Texas Coastal Management Program.

PUBLIC COMMENT

A public hearing was held in Austin on September 8, 2004. The comment period closed at 5:00 p.m. on September 13, 2004. The commission received written and/or oral comments from: City of Austin, Austin Water Utility (COA Utility); Lower Colorado River Authority (LCRA); San Antonio Water System (SAWS), Texas Cooperative Extension (TCE), and two individuals.

COA Utility, LCRA, SAWS, and TCE generally supported the proposed rules but raised issues or

suggested changes to the rules as specified in the RESPONSE TO COMMENTS section of this preamble.

The two individuals generally did not support the proposed rules and raised issues or suggested changes to the rules as specified in the RESPONSE TO COMMENTS section of this preamble.

RESPONSE TO COMMENTS

General

One individual commented that allowing construction of graywater disposal systems with no requirement for permit, no design criteria, and no inspection is a very bad idea. This individual stated that it is impossible to eliminate the introduction of many potentially dangerous pathogens into graywater. To safeguard public health and to protect the environment, the management of water containing pathogens clearly should be regulated.

The commission responds that THSC, §341.039, and TWC, §26.0311 do not allow the commission to require a permit for the domestic use of less than 400 gallons of graywater each day if the graywater use meets the requirements in THSC, §341.039, and TWC, §26.0311. Additionally, the commission responds that THSC, §341.039, and TWC, §26.0311, do not require treatment for graywater. The commission did not include treatment requirements because the statutes do not provide for any treatment requirements; therefore, to include these provisions in the rules would be inconsistent with statutory requirements. The commission made no change to the rules based on this comment.

LCRA suggested that graywater systems be required to operate using a minimum vertical separation of at least two feet from the point of graywater application to the top of the seasonally high groundwater table. LCRA stated that this is consistent with the separation distance from wastewaters to a seasonally high groundwater table under the existing Chapter 285 rules.

The commission proposed the amendments to Chapter 285 to implement the changes in THSC, §341.039. The revisions to this section of the THSC do not specify a minimum vertical separation distance between the point of graywater application and the top of the seasonally high groundwater table. Additionally, the original legislation for graywater in the 78th legislative session specified that the graywater be collected using a system that maintained a certain vertical distance between the system and the highest seasonal water table. This requirement, however, was dropped from the final legislation and, therefore, the commission did not include a similar requirement in its proposed rules. The commission made no change to the rules based on this comment.

One individual commented that these rules should not encourage the use of graywater systems "to minimize foundation movement or cracking" for two reasons: 1) not all foundations can benefit from the addition of moisture to the perimeter of the foundation; and 2) foundations placed on high shrink/swell soils may not benefit from, and could actually be damaged, by the application of moisture to the perimeter of the foundation.

The commission responds that THSC, §341.039, requires that the commission, by rule, incorporate this provision into the rule. The commission made no change to the rules based on

this comment.

General: Tanks

SAWS commented that storage tanks should be optional and not a required component of graywater systems. Additionally, SAWS commented that the language in House Bill 2661 that references tanks does so to establish standards that ensure such tanks will not pose a threat to public safety and should not be construed as a mandate that graywater must be stored in tanks.

The commission disagrees that the mention of tanks in THSC, §341.039(c)(4), is solely to establish requirements to eliminate threats to public safety. While THSC, §341.039(c)(4), does establish requirements to protect public safety, it also establishes tanks as one of the requirements that a domestic user of less than 400 gallons of graywater per day must meet to avoid obtaining a permit for graywater use from the commission. THSC, §341.039(c)(4), expressly prohibits the commission from requiring a permit for the "domestic use of less than 400 gallons of graywater each day *if* the graywater is *stored* in tanks that. . .." (Emphasis added.) Since THSC, §341.039(c)(4), expressly requires storing graywater in a tank as an element that domestic users of less than 400 gallons of graywater per day must meet if they want to use their graywater without a permit from the commission, the commission has included this as a requirement in its proposed rules. The commission made no change to the rules based on this comment.

SAWS commented that the proposed rules should enumerate the tank standards that relate to specific material and/or operational criteria rather than referring to the American Water Works Association (AWWA) standards for homeowners who elect to use tanks in their graywater system. Specifically, SAWS commented that if a tank is included in a graywater system the tank should be constructed of

non-metallic material because metallic tanks are prone to corrosion and rust.

The commission responds that the reference to the AWWA standards allows graywater users flexibility in selecting a tank for their graywater system. The commission has not developed standards for tanks but instead uses standards set by the industry since standards can vary based on many elements related to tank design, including the type of material used to construct the tank; the location of installation; size of the tank; and the type of natural elements to which the tank is exposed. Additionally, the commission disagrees that tanks for graywater systems should be constructed of non-metallic material. For example, a steel tank would be acceptable for a graywater system if the tank meets AWWA standards. The commission made no change to the rules based on this comment.

One individual asked how the use of a tank that meets the AWWA standards will be monitored. One individual asked how the requirement in §285.81(a)(5) that does not allow ponding or pooling is going to be monitored. Additionally, this individual asked what criteria will be used to determine the loading rate.

The commission responds that THSC §341.039, and TWC, §26.0311, do not allow the commission to require a permit for the domestic use of less than 400 gallons of graywater each day if the graywater use meets the requirements in THSC, §341.039, and TWC, §26.0311.

The commission did not include monitoring requirements or loading rate requirements because the statute does not provide for any monitoring procedures or loading rate requirements;

therefore, to include these provision in the rules would be inconsistent with statutory requirements.

The commission anticipates that the users of graywater will follow the requirements as laid out in the commission's rules. However, if the requirements are not followed, one of the means of monitoring these rules will come in the form of citizen complaints to the commission regarding the inappropriate use of graywater. The commission made no change to the rules based on this comment.

General: Backflow Prevention

SAWS commented that the requirements for backflow prevention as proposed do not seem appropriate because an airgap on the line leading to an OSSF or sewer main will potentially create an odor problem. SAWS suggested a backwater valve designed to withstand the harsh environment created by sewage would provide a better and more reliable safety measure. COA Utility commented that the term "backflow preventer" should be replaced by "backwater valve" throughout Chapter 210 and Chapter 285. TCE commented that "backflow preventer" should be replaced with a "check valve" or something similar to avoid confusion which could arise between a plumbing inspector and another type of inspector.

The commission agrees that an airgap could potentially create an odor problem and, therefore, did not include an airgap as part of its backflow prevention requirements in the proposed rules.

The commission responds that to avoid confusion with plumbing codes the commission agrees to

change the term "backflow preventer" to "backwater valve or backwater preventer" in §§210.83(a), 210.84(b), 210.85(b), and 285.81(a)(2)(B). A check valve is a type of backwater valve; however, the commission decided to use the term "backwater valve" or "backwater preventer" to allow maximum flexibility for the graywater systems.

General: Purple Pipe

SAWS commented that the commission should consider allowing identification of graywater system piping by a means other than the use of the color purple. SAWS stated that the system requirements and treatment methods are different for Type I and Type II reclaimed water versus graywater. SAWS commented that color-coding both types of systems using purple can create confusion. SAWS suggested that other standards of identification exist.

The commission responds that THSC, §341.039(c)(5), establishes purple pipe, purple tape, or similar markings for graywater as one of the requirements that a domestic user of less than 400 gallons of graywater per day must meet to avoid the requirement of a permit for graywater use from the commission. THSC, §341.039(c)(5), expressly prohibits the commission from requiring a permit for the "domestic use of less than 400 gallons of graywater each day *if* the graywater uses piping clearly identified as a nonpotable water conduit, including identification through the use of *purple pipe, purple tape, or similar markings*. . . ." (Emphasis added.) Since THSC, §341.039(c)(5), expressly requires purple pipe, purple tape, or similar markings as an element that domestic users of less than 400 gallons of graywater per day must meet if they want to use their graywater without a permit from the commission, the commission has included this as a requirement in its proposed rules. The commission made no change to the rules based on this

comment.

COA Utility commented to reduce confusion between reclaimed water and graywater that the proposed rules should refer to the Uniform Plumbing Code, Appendix G, which states that graywater pipes should have "continuous tape stating: Danger, Unsafe Water."

The commission proposed the amendments to Chapter 210 and Chapter 285 to implement the changes in THSC, §341.039, and TWC, §26.0311. The revisions to these sections of the THSC and the TWC do not reference the Uniform Plumbing Code, Appendix G, as an option for identifying pipes that carry graywater. THSC, §341.039(c)(5), expressly prohibits the commission from requiring a permit for the "domestic use of less than 400 gallons of graywater each day *if* the graywater uses piping clearly identified as a nonpotable water conduit, including identification through the use of purple pipe, purple tape, or similar markings. . .." (Emphasis added.) Since THSC, §341.039(c)(5), expressly requires purple pipe, purple tape, or similar markings as an element that domestic users of less than 400 gallons of graywater per day must meet if they want to use their graywater without a permit from the commission, the commission has included this as a requirement in its proposed rules. The commission made no change to the rules based on this comment.

One individual asked how anyone will know if purple pipe is not used since no permit, inspection, or oversight is required.

The commission responds that THSC, §341.039, and TWC, §26.0311, do not allow the

commission to require a permit for the domestic use of less than 400 gallons of graywater each day if the graywater use meets the requirements in THSC, §341.039, and TWC, §26.0311. The commission did not include an inspection or oversight requirement because the statutes do not provide for any inspection or oversight procedures; therefore, to include these provisions in the rules would be inconsistent with statutory requirements. The commission made no change to the rules based on this comment.

General: Guidance

LCRA encouraged the commission to conduct an extensive public education program regarding these new graywater rules.

The commission responds that agency staff has provided educational presentations on the proposed graywater rules in Austin, Dallas, Kingsville, Round Rock, San Antonio, and Waco. Additionally, agency staff has been working with industry associations regarding these rules. The commission made no change to the rules based on this comment.

COA Utility commented that the commission should develop a guidance document for non-permitted systems using less than 400 gallons per day. Additionally, COA Utility commented that §210.83(b) and §285.81(c) and (h)(7) "should be removed from the statute and placed in the guidance document."

The commission responds that it declines, at this time, to develop a guidance document for these rules. As long as users of less than 400 gallons of domestic graywater meet the requirements in Chapter 210 and Chapter 285, they have flexibility to meet the requirements in whatever manner

is most cost-effective. Additionally, if domestic graywater users have questions about the manner in which they have chosen to meet the graywater requirements, agency staff is available to respond to their questions.

The commission declines to remove §210.83(b) and §285.81(c) from the rule language. These rule sections implement TWC, §26.0311(b)(2), and THSC, §341.039(d), which encourage builders "to install plumbing in a manner that provides the capacity to collect graywater from all allowable sources and to design and install a subsurface graywater system around the foundation of new housing in a way that minimizes foundation movement or cracking." TWC, §26.0311(b), and THSC, §341.039(a), require that "the commission *by rule*. . ." implement the provisions found in TWC, §26.0311(b)(2), and THSC, §341.039(d). (Emphasis added.)

The commission declines to remove §285.81(h)(7) and place in a guidance document since no guidance document is being developed at this time. The commission made no change to the rules based on this comment.

Chapter 210

One individual commented that §210.82(a) and §210.80(b) are mutually exclusive and therefore nonsensical.

The commission responds that the rules do not contain §210.80(b). The commission assumes that the commenter meant to refer to the requirements in §210.82(a) and §210.82(b). These requirements are from THSC, §341.039(e), and TWC, §26.0311(a). The commission declines to

change this definition because to alter this definition in the rules would be inconsistent with statutory requirements. The commission made no change to the rules based on this comment.

One individual commented that §210.83(a) is not enforceable and, as such, should be eliminated. Since there is no permit, no plan review, no inspection, nor any continuing monitoring, there will rarely be time where a flow in excess of 400 gallons per day is noted and corrected.

The commission declines to delete §210.83(a). The commission responds that THSC, §341.039, and TWC, §26.0311 do not allow the commission to require a permit for the domestic use of less than 400 gallons of graywater each day if the graywater use meets the requirements in THSC, §341.039, and TWC, §26.0311. The commission anticipates that the users of graywater will follow the requirements as laid out in the commission's rules. However, if the requirements are not followed, one of the means of monitoring this rule is citizen complaints to the commission regarding the inappropriate use of graywater. The commission made no change to the rules based on this comment.

One individual commented that §210.83(a)(3)(C) must have much more guidance provided. The individual also stated that at this time we are either breeding or harboring mosquitoes at an alarming rate in the pump tanks following aerobic treatment units. With that as a given, what will be required, that is not being required in OSSFs, to prevent a habitat for mosquitoes? Whatever will eliminate the habitat must be specifically identified to be followed.

The commission responds that in the OSSF system described by the commenter the tanks should

be sealed, thereby, preventing a mosquito habitat. For graywater systems, §210.83(a)(3)(C) requires that "the graywater is stored in tanks and the tanks eliminate habitat for mosquitoes and other vectors. . .." Additionally, §210.83(a)(5)(A) and (B) require that the graywater not pond or pool, or cause runoff across the property lines or onto any paved surface. As long as users of less than 400 gallons of domestic graywater meet the requirements in Chapter 210, they have flexibility to meet the requirements in whatever manner is most cost-effective. Further, if domestic graywater users have questions about the manner in which they have chosen to meet the graywater requirements, agency staff is available to respond to their questions. The commission made no change to the rules based on this comment.

SAWS commented that in §210.83(a)(4) and §210.84(c)(4)(B) the use of the word "piping" is ambiguous. SAWS asked whether piping includes fittings that become an integral part of pipe on installation of such systems. SAWS stated that a clear regulatory definition of what is included within "piping" is essential to avoid inadvertent regulatory violations and to permit a thorough understanding of what the construction of such systems will require.

The commission responds that the term "piping" includes fittings and appurtenances. Because the statute does not define "piping," to include this definition in the rules would be inconsistent with statutory requirements. Therefore, the commission has made no change to the rules based on this comment.

Chapter 285

SAWS commented that the conditions for the use of laundry graywater should remain as they are in

existing Chapter 285, Subchapter H. SAWS stated that it is without benefit to add a storage tank requirement for laundry graywater use.

The commission responds that THSC, §341.039(e), defines graywater as "wastewater from clothes-washing machines, showers, bathtubs, hand-washing lavatories, and sinks that are not used for disposal of hazardous or toxic ingredients." THSC, §341.039(c), subjects graywater use to additional requirements and does not exempt laundry graywater from the new requirements; therefore, the commission has included wastewater from clothes-washing machines in the types of graywater subject to the proposed requirements.

However, §285.81(h) and (i) allow people currently using laundry graywater to continue their use of graywater without subjecting them to the new provisions unless the graywater system is altered, creates a nuisance, or discharges graywater from any other source than a clothes-washing machine.

The commission responds that THSC, §341.039(c)(4), establishes tanks as one of the requirements that a domestic user of less than 400 gallons of graywater per day must meet to avoid the necessity of obtaining a permit for graywater use from the commission. THSC, §341.039(c)(4), expressly prohibits the commission from requiring a permit for the "domestic use of less than 400 gallons of graywater each day *if* the graywater is *stored* in tanks that. . .." (Emphasis added.) Since THSC, §341.039(c)(4), expressly requires storing graywater in a tank as an element that domestic users of less than 400 gallons of graywater per day must meet if they want to use their graywater without a permit from the commission, and because the statute defines wastewater from clothes-washing

machines as graywater, the commission has included a tank as part of the requirements in its proposed rules. The commission made no change to the rules based on this comment.

TCE commented that the commission should add process water to the definition of graywater in §285.80.

The commission responds that it has taken the definition of graywater directly from THSC, §341.039, and to alter this definition in the rules would be inconsistent with statutory requirements. The commission made no change to the rules based on this comment.

One individual commented that the definition of graywater in §285.80(a) and §285.80(b) does not work. This individual stated that water that is used to wash hands, bodies, and undergarments will contain fecal material.

The commission agrees that in some instances water used to wash hands, bodies, and undergarments could contain fecal material. However, the definition of graywater in TWC, §26.0311(a)(1) and (2), and THSC, §341.039(e)(1) and (2), specifies that graywater does not include wastewater that has come in contact with toilet waste or from the washing of material, including diapers, soiled with human excreta. The commission made no change to the rules based on this comment.

Referencing §285.81(a), COA Utility commented that the commission should require residents who install a graywater system producing less than 400 gallons of graywater per day to provide written

notification to the local authorized agent.

The commission responds that the amendments to Chapter 285 implement the changes in THSC, §341.039. THSC, §341.039(c), specifically states that "the commission may not require a permit for the domestic use of less than 400 gallons of graywater each day. . .." None of the amendments to the THSC from House Bill 2661 authorize the commission to require written notification to the local authorized agent for the use of less than 400 gallons of graywater each day. Because the statute does not provide for written authorizations to the local authorized agents, to include these provisions in the rules would be inconsistent with statutory requirements. Therefore, the commission made no change to the rules based on this comment.

However, §285.80(c) states that the construction of a graywater system must comply with any requirements of the local permitting authority. THSC, §366.032, states that if a local governmental entity's order, ordinance, or resolution adopts more stringent standards for on-site sewage disposal systems than this chapter or the commission's standards and provides greater public health and safety protection, the authorized agent's order or resolution prevails over this chapter or the standards. Therefore, if properly adopted, a local permitting authority may adopt more stringent requirements, such as a requirement that graywater users notify their local permitting authority in writing of their graywater use.

One individual asked how the 400 gallons per day limit in §285.81(a) is going to be monitored.

The commission anticipates that the users of graywater will follow the requirements as laid out in

the commission's rules. However, if the requirements are not followed, one of the means of monitoring this rule is citizen complaints to the commission regarding the inappropriate use of graywater. The commission made no change to the rules based on this comment.

One individual asked how the requirement in §285.81(a)(2) that requires the graywater system to be designed so that 100% of the graywater can be diverted to the owner's OSSF during periods of non-use and that the system may only be connected to an OSSF under certain requirements will be monitored. Additionally, the individual asked if a provision has been made to notify the buyer of the property that this system is only allowed under certain circumstances.

The commission anticipates that the users of graywater will follow the requirements as laid out in the commission's rules. However, if the requirements are not followed, one of the means of monitoring this rule is citizen complaints to the commission regarding the inappropriate use of graywater. The commission made no change to the rules based on this comment.

The commission responds that THSC, §341.039, does not require that notification be given to a buyer that the graywater system is located on the property. The commission did not include a requirement for notification to the buyer regarding the graywater system because the statute does not provide for this; therefore, to include this provision in the rules would be inconsistent with statutory requirements.

One individual stated that §285.81(a)(2)(B) requires the discharge from a graywater system to enter the OSSF through two backflow preventers. This individual asked how a problem can be detected before it

occurs if a permit and inspection are not required.

The commission responds that THSC, §341.039, does not allow the commission to require a permit for the domestic use of less than 400 gallons of graywater each day if the graywater use meets the requirements in THSC, §341.039.

The commission did not include an inspection requirement because the statutes do not provide for any inspection procedures; therefore, to include these provisions in the rules would be inconsistent with statutory requirements. The commission made no change to the rules based on this comment.

One individual stated that §285.81(a)(5) does not allow graywater to create a nuisance or damage the quality of surface or groundwater. This individual asked how a violation could be detected before it occurs since no permit, inspection, or oversight is required.

The commission responds that THSC, §341.039, does not allow the commission to require a permit for the domestic use of less than 400 gallons of graywater each day if the graywater use meets the requirements in THSC, §341.039. The commission did not include an inspection or oversight requirement because the statute does not provide for inspection or oversight; therefore, to include a provision regarding inspection or oversight in the rules would be inconsistent with statutory requirements. The commission made no change to the rules based on this comment.

One individual asked how §285.81(d)(2), which requires that graywater only be used for gardening

except on the edible parts of crops intended for human consumption, will be monitored.

The commission responds that in §285.81(d)(2), it has deleted the language "except that it may not be used such that the edible parts of crops intended for human consumption come into direct contact with graywater." Therefore, this is not a requirement that the commission will need to monitor. The commission made this change to more closely track the language in THSC, §341.039(c)(2).

The commission anticipates that the users of graywater will follow the requirements as laid out in the commission's rules. However, if the requirements are not followed, one of the means of monitoring this rule is citizen complaints to the commission regarding the inappropriate use of graywater. The commission made no change to the rules based on this comment.

One individual commented that a problem currently exists with graywater being discharged where the ground is wet. This individual stated that §285.81(h)(6) makes this worse because of the potential for untreated wastewater to be discharged to the ground's surface.

The commission responds that in the current rules §285.81 requires that the disposal area not create a public health nuisance; §285.81 requires that no ponding occur in the disposal area; and §285.81 requires that laundry graywater not be discharged if the soil is wet. The commission retained these requirements in the proposed §285.81(h) for current graywater users. Graywater use that begins after the effective date of these rules is subject to similar requirements in §285.81.

The commission did not include treatment requirements in the proposed rules because THSC, §341.039, does not provide for any treatment requirements; therefore, to include these provisions in the rules would be inconsistent with statutory requirements. The commission made no change to the rules based on this comment.

SUBCHAPTER F: USE OF GRAYWATER SYSTEMS

§§210.81 - 210.85

STATUTORY AUTHORITY

The new sections are adopted under the authority granted to the commission by the legislature in THSC, Chapter 366. The new sections implement THSC, §366.012(a)(1), which requires the commission to adopt rules consistent with the policy defined in TWC, §26.0311 and THSC, §341.039 and §366.012, relating to Standards for Control of Graywater, Graywater Standards, and Rules Concerning On-Site Disposal Systems. Specific statutory authorization derives from House Bill 2661, which amended TWC, §26.0311, and THSC, §341.039 and §366.012. The new sections are also adopted under the general authority granted in TWC, §5.013, which establishes the general jurisdiction of the commission over other areas of responsibility as assigned to the commission under the TWC and other laws of the state; TWC, §5.103 and §5.105, which authorize the commission to adopt rules and policies necessary to carry out its responsibilities and duties under TWC, §5.013(14)(b); and TWC, §7.002, which authorizes the commission to enforce provisions of the TWC and the THSC.

§210.81. Applicability.

(a) This subchapter applies to graywater used for irrigation and other agricultural purposes; for domestic use; for commercial purposes; for industrial purposes; and for institutional purposes.

(b) Reclaimed water use is regulated by Subchapters A - E of this chapter (relating to General Provisions; General Requirements for the Production, Conveyance, and Use of Reclaimed Water;

Quality Criteria and Specific Uses for Reclaimed Water; Alternative and Pre-Existing Reclaimed Water Systems; and Special Requirements for Use of Industrial Reclaimed Water).

(c) For the purpose of this subchapter, the term "Site" has the same meaning as defined in Chapter 305, Subchapter A of this title (relating to General Provisions).

§210.82. General Requirements.

(a) Graywater is defined as wastewater from:

(1) showers;

(2) bathtubs;

(3) handwashing lavatories;

(4) sinks that are not used for disposal of hazardous or toxic ingredients;

(5) sinks not used for food preparation or disposal; and

(6) clothes-washing machines.

(b) Graywater does not include wastewater from the washing of material, including diapers,

soiled with human excreta or wastewater that has come into contact with toilet waste.

(c) Construction of a graywater system, including storage and disposal systems, must comply with this chapter and any requirements of the local permitting authority.

§210.83. Criteria for the Domestic Use of Graywater.

(a) An authorization is not required for the domestic use of less than 400 gallons of graywater each day if:

(1) the graywater originates from a private residence;

(2) the graywater system is designed so that 100% of the graywater can be diverted to an organized wastewater collection system during periods of non-use of the graywater system and the discharge from the graywater system must enter the organized wastewater system through two backwater valves or backwater preventers;

(3) the graywater is stored in tanks and the tanks:

(A) are clearly labeled as nonpotable water;

(B) must restrict access, especially to children;

(C) eliminate habitat for mosquitoes and other vectors;

(D) are able to be cleaned; and

(E) meet the structural requirements of §210.25(i) of this title (relating to Special Design Criteria for Reclaimed Water Systems);

(4) the graywater system uses piping that meets the piping requirement of §210.25 of this title;

(5) the graywater is applied at a rate that:

(A) will not result in ponding or pooling; or

(B) will not cause runoff across the property lines or onto any paved surface; and

(6) the graywater is not disposed of using a spray distribution system.

(b) Builders of private residences are encouraged to:

(1) install plumbing in new housing to collect graywater from all allowable sources; and

(2) design and install a subsurface graywater system around the foundation of new housing to minimize foundation movement or cracking.

(c) A graywater system as described in subsection (a) of this section may only be used:

(1) around the foundation of new housing to minimize foundation movement or cracking;

(2) for gardening;

(3) for composting; or

(4) for landscaping at the private residence.

(d) The graywater system must not create a nuisance or damage the quality of surface water or groundwater.

(e) Homeowners who have been disposing wastewater from residential clothes-washing machines, otherwise known as laundry graywater, directly onto the ground before the effective date of this rule may continue disposing under the following conditions.

(1) The disposal area must not create a public health nuisance.

(2) Surface ponding must not occur in the disposal area.

(3) The disposal area must support plant growth or be sodded with vegetative cover.

(4) The disposal area must have limited access and use by residents and pets.

(5) Laundry graywater that has been in contact with human or animal waste must not be disposed onto the ground surface.

(6) Laundry graywater must not be disposed to an area where the soil is wet.

(7) A lint trap must be affixed to the end of the discharge line.

(f) Graywater systems that are altered, create a nuisance, or discharge graywater from any source other than clothes-washing machines are not authorized to discharge graywater under subsection (e) of this section.

§210.84. Criteria for Use of Graywater for Industrial, Commercial, or Institutional Purposes.

(a) Authorization. If used in accordance with this subchapter, graywater used for an industrial, commercial, or institutional purpose does not require authorization from the commission.

(b) Graywater systems used for industrial, commercial, or institutional purposes must be

designed so that 100% of the graywater can be diverted to an organized wastewater collection system during periods of non-use of the graywater system. The discharge from the graywater system must enter the organized wastewater system through two backwater valves or backwater preventers.

(c) Graywater, as defined in §210.82(a) of this title (relating to General Requirements), may be used for the following activities.

(1) Process water.

(A) Graywater used for industrial, commercial, or institutional purposes must be treated to a standard that allows the graywater to be used in operational processes.

(B) Treatment described in subparagraph (A) of this paragraph does not require an authorization from the agency.

(2) Landscape maintenance. If graywater is used for landscape maintenance, the graywater must meet the following standards.

(A) If the graywater will be applied in areas where the public may come into contact with the graywater, the graywater must meet the following standards:

(i) Fecal coliform, 20 colony forming units (CFU)/100 mililiters (ml), geometric mean; or

(ii) Fecal coliform (not to exceed), 75 CFU/100 ml, single grab sample.

(B) If the graywater will be applied in areas where the public is not present during the time when irrigation activities occur or disposed of for other uses where the public would not come into contact with the graywater, the graywater must meet the following standards:

(i) Fecal coliform, 200 CFU/100 ml, geometric mean; or

(ii) Fecal coliform (not to exceed), 800 CFU/100 ml, single grab sample.

(3) Dust control. If graywater is used for dust control, the graywater must meet the standards in paragraph (2)(B) of this subsection.

(4) Toilet flushing. If graywater is used for toilet flushing:

(A) the fecal coliform levels must meet the limits in paragraph (2)(A) of this subsection; and

(B) all exposed piping and piping carrying graywater within a building must be either purple pipe or painted purple; all buried piping installed after the effective date of these rules must be either manufactured in purple, painted purple, taped with purple metallic tape, or bagged in

purple; and all exposed piping must be stenciled in white with a warning reading "NON-POTABLE WATER."

(5) Other uses. If graywater is used for other similar activities where the potential for unintentional human exposure may occur, the graywater must meet the fecal coliform limits in paragraph (2)(A) of this subsection.

(d) Graywater used for commercial, industrial, or institutional purposes must be monitored for fecal coliform at least monthly in areas where the public may come into contact with graywater and these records must be maintained at the site. These records must be readily available for inspection by the commission for a minimum of five years.

§210.85. Criteria for Use of Graywater for Irrigation and for Other Agricultural Purposes.

(a) If used in accordance with this subchapter, graywater used for irrigation and other agricultural purposes does not require authorization from the commission.

(b) Graywater systems used for irrigation and other agricultural purposes must be designed so that 100% of the graywater can be diverted to an organized wastewater collection system during periods of non-use of the graywater system. The discharge from the graywater system must enter the organized wastewater system through two backwater valves or backwater preventers.

(c) Graywater, as defined in §210.82(a) of this title (relating to General Requirements), may be

used for the following activities.

(1) Process water.

(A) Graywater used for irrigation and other agricultural purposes may be treated to a standard that allows the graywater to be used in operational processes.

(B) Treatment described in subparagraph (A) of this paragraph does not require an authorization from the commission.

(2) Landscape maintenance. If graywater is used for landscape maintenance, the graywater must meet the following standards.

(A) If the graywater will be applied in areas where the public may come into contact with the graywater, the graywater must meet the following standards:

(i) Fecal coliform, 20 colony forming units (CFU)/100 mililiters (ml), geometric mean; or

(ii) Fecal coliform (not to exceed), 75 CFU/100 ml, single grab sample.

(B) If the graywater will be applied in areas where the public is not present

during the time when irrigation activities occur or disposed of for other uses where the public would not come into contact with the graywater, the graywater must meet the following standards:

(i) Fecal coliform, 200 CFU/100 ml, geometric mean; or

(ii) Fecal coliform, 800 CFU/100 ml, single grab sample.

(3) Dust control. If graywater is used for dust control, the graywater must meet the standards in paragraph (2)(B) of this subsection.

(4) Irrigation of fields. If graywater is used to irrigate fields where edible crops are grown or fields that are pastures for milking animals, the graywater must meet the standards in paragraph (2)(A) of this subsection.

(5) Other uses. If graywater is used for other similar activities where the potential for unintentional human exposure may occur, the graywater must meet the fecal coliform limits in paragraph (2)(A) of this subsection.

(d) Graywater used for irrigation and for other agricultural purposes must be monitored for fecal coliform at least monthly in areas where the public may come into contact with graywater and the records must be maintained at the site. These records must be readily available for inspection by the commission for a minimum period of five years.