

The Texas Commission on Environmental Quality (commission) proposes new §§218.1, 218.5, 218.10, 218.15, 218.20, 218.25, 218.30, 218.35, and 218.40.

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE PROPOSED RULES

Senate Bill (SB) 1037, 80th Legislature, 2007, amended Subchapter D, Chapter 26 of the Texas Water Code (TWC), by adding §26.132. SB 1037 requires the commission to develop standards to prevent the contamination of ground and surface water resources from brine evaporation pit operations. The proposed rule requires an owner or operator of an existing or new brine evaporation pit to obtain a permit to operate the facility. The rulemaking includes specific criteria for the design and construction of the brine evaporation pit and requires that the rules establish location, operation, and maintenance criteria. Further, the rulemaking includes requirements for the owner or operator to provide financial assurance to ensure satisfactory facility closure and obtain pollution liability insurance covering bodily injury and property damage to third parties. The rulemaking imposes fees necessary to recover the cost of administration and enforcement of the regulations.

The proposed rulemaking is applicable to the process of evaporating groundwater within a surface impoundment or pit to produce concentrated brine water or residual salts, minerals, and other naturally occurring substances present within groundwater. Potential final products from the use of a brine evaporation pit include concentrated magnesium chloride brine, sodium chloride brine, potassium chloride and various other naturally occurring minerals within groundwater. Consequently, there are a multitude of commercial and industrial uses for these products such as ice-melting compounds for roads, agricultural fertilizer, and chemical manufacturing.

Although the commission regulates the disposal of certain wastes via evaporation within surface impoundments, the commission's current regulations do not address the commercial production of a product by evaporation within a surface impoundment. This production activity is not associated with oil and gas production and therefore is not regulated under the authority of the Texas Railroad Commission (RRC). An unregulated brine evaporation pit operation has the potential to cause significant impacts to water quality due to the high chloride content of the brine and mineral products. The proposed rule implements SB 1037 by establishing the safeguards necessary to protect ground and surface water resources.

A corresponding rulemaking is published in this issue of the *Texas Register* that includes the addition of proposed new Subchapter X, Financial Assurance for Brine Evaporation Pits to 30 TAC Chapter 37, Financial Assurance.

SECTION BY SECTION DISCUSSION

Proposed new §218.1, Definitions, defines the terms used within the subchapter. Definitions for the following terms are consistent with definitions found in SB 1037: "licensed engineer" and "evaporation pit." Although the definition of an evaporation pit is consistent with the definition found in SB 1037, the term "evaporation pit" has been modified to "brine evaporation pit" to clarify the applicability of SB 1037 to a surface impoundment used for the production of brine and minerals by evaporation. The definition also shows that the rule is not applicable to a surface impoundment used for the disposal of certain wastes by evaporation which are currently regulated by existing commission rules.

The following definitions were added to those contained in SB 1037: brine product, facility, incidental storm water, owner, and operator. The definition of "brine product" in proposed new §218.1(2) is based upon language provided by the SB 1037. Proposed new §218.1(3) defines "facility" to encompass all components of the brine production evaporation operations that will be required to be addressed within the facility closure plan. Proposed new §218.1(4) defines "incidental storm water" to clarify the intent of the SB 1037 to prohibit storm water runoff from the site from entering the evaporation pit and causing an unauthorized discharge. Rainfall falling directly into the pit and collected storm water runoff from brine production areas are authorized for placement within the pit. Proposed new §218.1(6) and (7) define operator and owner, respectively. The definitions are modified from the definitions included in 30 TAC §305.2 to clarify responsibility consistent with the scope of SB 1037.

Proposed new §218.5, Purpose, identifies the intent of the rule by reiterating the objectives of the SB 1037 to: prohibit the occurrence of a discharge from a brine evaporation pit into or adjacent to water in the state; establishing specific location, operation and design criteria to prevent contamination of surface and groundwater resources during normal operation and failure; require financial assurance to ensure proper closure and post closure care of the facility; and require evidence of pollution liability insurance coverage of bodily injury and property damage to third parties.

Proposed new §218.10, Applicability, clarifies which type of operation will be subject to the proposed rule. The determination is based primarily upon the definition of an evaporation pit as provided by SB 1037. The definition specifies that the rule governs the commercial production of brine, salts, minerals

and naturally occurring substances. The term "commercial" is consistent with SB 1037's explicit exclusion of brine operations associated with oil and gas production. Brine produced during oil and gas exploration is process waste and not a commercial final product. Further, activities associated with oil and gas production are regulated under the authority of the RRC in accordance with memorandum of understanding (MOU) between the RRC and the commission. The proposed rule is consistent with the MOU. Further, the definition of an evaporation pit provided by SB 1037 identifies groundwater and incidental storm water as the applicable source waters for evaporation. Therefore, the rule is not applicable to the evaporation of source waters other than groundwater, such as seawater. SB 1037 also requires the rule be applicable to both existing and new brine evaporation pits, regardless of the date the operation began.

Proposed new §218.15, Authorization, requires an owner or operator of a brine evaporation pit to apply for and obtain a permit from the commission. The commission is proposing authorization of brine evaporation pits under individual wastewater permits issued in accordance with the commission's existing permit application and processing regulations. Under the individual wastewater permit application process, the applicant will be subject to public notice requirements. This process provides the public with the opportunity to comment and request a contested case hearing on a permit application. Individual wastewater permits issued in accordance with the rule will prohibit discharge from a brine evaporation pit into or adjacent to water in the state. An owner or operator of a new brine evaporation pit operation subject to the rule must obtain coverage under an individual wastewater permit prior to construction of the facility. An owner or operator of an existing brine evaporation pit operation must submit an application for an individual wastewater permit within 180 days of the effective date of the rule.

Proposed new §218.20, Surface and Groundwater Protection, includes specific criteria for the location, design, construction, capacity, operation, and maintenance of the brine evaporation pit.

SB 1037 requires the rule govern the location of a brine evaporation pit so that a failure of the pit or unauthorized discharge from the pit would not result in an adverse impact on water in the state. Therefore, the rule includes distance requirements from public and private drinking water wells and more stringent storm water controls for any facility located within the 100-year flood plain. More stringent storm water control criteria are warranted within the 100-year flood plain to prevent storm water from entering and causing an unauthorized discharge from a brine evaporation pit.

SB 1037 requires that the liner meet standards at least as stringent as the commission's existing regulations for a Type I landfill managing Class 1 industrial solid waste. Therefore, the rule includes identical composite liner system criteria as required within the landfill regulations at 30 TAC Chapter 330. The liner must consist of an upper geomembrane liner and lower compacted soil liner. The evaporation pit liner must be designed and certified by a licensed engineer. The rule also includes the option for approval of an alternative liner.

The rule includes operational requirements to prevent the discharge of contaminated storm water from the facility. Product handling areas shall be adequately curbed and sloped to allow for containment of runoff within a storm water retention pond and recycled to the brine evaporation pit. Storm water retention pond

liner criteria are included to prevent groundwater pollution and the migration of wastewater offsite. The owner or operator shall maintain a two-foot freeboard within the evaporation pit at all times.

The rule requires that the owner or operator shall ensure that the facility is properly maintained. The owner or operator shall keep records of examination of liners and storm water controls onsite for a period of at least five years. A licensed engineer shall review the records and conduct a site evaluation on a five-year basis or following a permit amendment due to a significant change in the facility or process.

Proposed new §218.25, Closure and Post Closure Care, delineates the requirements for closure and post closure care of the facility. Although SB 1037 requires closure and the demonstration of financial assurance for closure it does not explicitly require post closure care. However, the intent of SB 1037 is to prevent impacts to groundwater and surface water both during and following closure. Therefore, the rule includes two procedures for closure. Proposed new §218.25(a)(1) requires removal and offsite disposal of all waste and contaminated media. Following removal and decontamination of all wastes, the site must be certified as closed by a licensed engineer in accordance with the approved closure plan.

Proposed new §218.25(a)(2) requires all waste and contaminated media to be enclosed within the lined brine evaporation pit. The rule includes criteria for the design and construction of the cover. Post closure requirements are applicable under proposed new §218.25(b) when waste or contaminated media are left in place at closure. Post closure care requires long term maintenance of the cover. Additional requirements such as groundwater monitoring may be included if determined to be necessary by the executive director.

Proposed new §218.30, Cost Estimate for Closure and Post Closure, requires the owner or operator to estimate closure costs based upon the requirements within §218.25(b) procedure for closure and post closure requirements. This is consistent with the commission's current cost estimate procedures for hazardous waste surface impoundments.

Proposed new §218.35, Financial Assurance, requires an owner or operator to provide proof of financial assurance to ensure proper closure and post closure care of the facility and third party liability insurance coverage of third parties in accordance with SB 1037. The rule requires the owner or operator to submit a cost estimate based upon a closure and post closure plan for approval by the executive director prior to permit issuance.

Proposed new §218.40, Fees, requires that the owner or operator shall comply with the applicable fee requirements established for individual wastewater permits within 30 TAC Chapter 21. This meets the statutory requirement that the commission impose fees necessary to recover the costs of administering and enforcing the rule.

FISCAL NOTE: COSTS TO STATE AND LOCAL GOVERNMENT

Nina Chamness, Analyst, Strategic Planning and Assessment, has determined that, for the first five-year period the proposed rules are in effect, no significant fiscal implications are anticipated for the agency or other units of state or local governments as a result of administration or enforcement of the proposed rules.

The proposed rules implement the provisions of SB 1037, 80th Legislature, Regular Session. SB 1037 requires the agency to develop standards and rules to prevent the contamination of ground and surface water resources from brine evaporation pit operations. Agency rules must include criteria for the design, construction, location, operation, maintenance, and closure of brine evaporation pits. In addition, agency rules must address concerns regarding storm water controls, require owners or operators to obtain financial assurance to ensure satisfactory pit closure, and require owners or operators to obtain insurance to cover bodily injury and property damage to third parties. The agency must also permit the operation of brine evaporation pits and must impose the necessary fee to recover the cost of administering and enforcing the proposed rules.

The agency does not expect to collect additional revenue from permitting brine evaporation pits in the near future. The agency does not know of any local governments or businesses that are currently operating such pits, although one small business has had activity in the past. If a local government or business decides to operate a brine evaporation pit in the future, the agency would collect revenue for a one time permit application fee, estimated to be \$350 and an annual water quality fee of \$800. These revenues would be deposited into the Water Resource Management Account Number 153.

No local governments are known to operate brine evaporation pits, and the agency does not expect local governments to operate such pits in the future. Therefore, the proposed rules are not expected to have a fiscal impact on local governments.

PUBLIC BENEFITS AND COSTS

Nina Chamness also determined that for each year of the first five years the proposed new rules are in effect, the public benefit anticipated from the changes seen in the proposed rules will be greater protection of surface and groundwater from any future brine evaporation pit operations.

The agency does not know of any businesses or individuals that are currently operating brine evaporation pits. However, one small business has conducted these types of operations in the past, and the expected fiscal implications for small business can be found in the SMALL BUSINESS AND MICRO-BUSINESS ASSESSMENT of this fiscal note. Any large business is expected to incur the same costs as would a small business if it decides to operate a brine evaporation pit.

SMALL BUSINESS AND MICRO-BUSINESS ASSESSMENT

Adverse fiscal implications are anticipated for small or micro-businesses that own or operate a brine evaporation pit. One small business has operated such a pit in the past but is not currently in operation. Small or micro-businesses will be required to incur costs to operate brine evaporation pits in the future. Costs to prepare a permit application package are estimated to be \$7,000, and a one time permit application fee is estimated to cost \$350. The proposed rules will also require owners or operators to pay an annual water quality fee of \$800. Financial assurance costs to ensure closure and post closure care can be as much as \$240,000 per year for the active life of the facility plus 30 years for closure, and pollution liability insurance is estimated to cost \$20,000 per year.

SMALL BUSINESS REGULATORY FLEXIBILITY ANALYSIS

The commission has reviewed this proposed rulemaking and determined that the proposed rules will increase operations and compliance costs for small or micro-businesses that own or operate brine evaporation pits. The commission is required to consider alternative regulatory methods only if the alternative methods would be consistent with the health, safety, and environmental, and economic welfare of the state. The commission has developed these proposed rules in accordance with a legislative mandate. Consequently, any variance from the legislative mandate would not be consistent with the health, safety, and environmental and economic welfare of the state and no alternative regulatory methods have been considered.

LOCAL EMPLOYMENT IMPACT STATEMENT

The commission has reviewed this proposed rulemaking and determined that a local employment impact statement is not required because the proposed rules do not adversely affect a local economy in a material way for the first five years that the proposed rules are in effect.

DRAFT REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed the proposed rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225 and determined that the rulemaking is not subject to Texas Government Code, §2001.0225 because, although it does meet the definition of "major environmental rule" as defined in Texas Government Code, §2001.0225 and may adversely affect a sector of the economy, it does not meet any of the four applicability requirements listed in Texas Government Code, §2001.0225(a).

A "major environmental rule" is 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 specific intent of the proposed rulemaking is to protect ground and surface water from the risk of contamination posed by the improper operation of commercial evaporation pits. Also, as noted in the SMALL BUSINESS AND MICRO-BUSINESS ASSESSMENT and SMALL BUSINESS REGULATORY FLEXIBILITY ANALYSIS sections of the FISCAL NOTE, this rulemaking will increase operations and compliance costs for small or micro-businesses that own or operate brine evaporation pits. The FISCAL NOTE found only one business that would be affected by this rule. The commission concludes that the proposed rulemaking meets the definition of a major environmental rule.

Although the proposed rulemaking meets the definition of a major environmental rule, it is not subject to Texas Government Code, §2001.0225 because it does not meet any of the four applicability requirements listed in Texas Government Code, §2001.0225(a). This section applies only to a state agency's adoption of a major environmental rule that: 1) exceeds a standard set by federal law, unless the rule is specifically required by state law; 2) exceeds an express requirement of state law, unless the rule is specifically required by federal law; 3) exceeds 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) was adopted solely under the general powers of the agency instead of under a specific state law.

There are no federal standards governing the operation of commercial brine evaporation pits. Second, the proposed rulemaking is required by SB 1037 and does not exceed its requirements. Third, the proposed rulemaking does not 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. Finally, the proposed rulemaking will be adopted under the express authority of SB 1037, that expressly requires the commission to adopt any rules required to implement the act. Therefore, the rules are not adopted solely under the commission's general powers. The commission invites public comment on the draft regulatory impact analysis determination. Written comments on the draft regulatory impact analysis determination may be submitted to the contact person at the address listed under the SUBMITTAL OF COMMENTS section of this preamble.

TAKINGS IMPACT ASSESSMENT

The commission evaluated these proposed rules and performed an analysis of whether they constitute a taking under Texas Government Code, Chapter 2007. The commission determined that the proposed rulemaking does not constitute a taking. The specific purpose of the proposed rulemaking is to protect ground and surface water from the risk of contamination posed by the improper operation of brine evaporation pits. This rulemaking substantially advances this stated purpose by requiring an owner or operator of an existing or new brine evaporation pit to obtain a permit to operate the facility, provide financial assurance to ensure the satisfactory closure of the facility, obtain pollution liability insurance covering bodily injury and property damage to third parties, and comply with specific design, construction, location, operation, maintenance, and closure requirements.

The commission's analysis indicates that Texas Government Code, Chapter 2007 does not apply to these proposed rules because this is an action that is reasonably taken to fulfill an obligation mandated by state law, which is exempt under Texas Government Code, §2007.003(b)(4). SB 1037 mandates that the commission adopt rules implementing the act.

Nevertheless, the commission further evaluated these proposed rules and performed an assessment of whether these proposed rules constitute a taking under Texas Government Code, Chapter 2007. The specific purpose of the proposed rulemaking is to protect ground and surface water from the risk of contamination posed by the improper operation of brine evaporation pits. This rulemaking substantially advances this stated purpose by requiring an owner or operator of an existing or new brine evaporation pit to obtain a permit to operate the facility, provide financial assurance to ensure the satisfactory closure of the facility, obtain pollution liability insurance covering bodily injury and property damage to third parties, and comply with specific design, construction, location, operation, maintenance, and closure requirements.

Promulgation and enforcement of these proposed rules would be neither a statutory nor a constitutional taking of private real property. Specifically, the proposed regulations do not affect a landowner's rights in private real property because this rulemaking does not burden, nor restrict or limit the owner's right to real property in addition to reducing its value by 25% or more beyond that which would otherwise exist in the absence of the regulations. Requiring an owner or operator of a brine evaporation pit to obtain a permit, provide financial assurance, obtain pollution liability insurance, and comply with specific design,

construction, location, operation, maintenance, and closure requirements will not affect private real property.

CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission reviewed the proposed rules and found that they are neither identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11(b)(2) or (4), nor will they affect any action/authorization identified in Coastal Coordination Act Implementation Rules, 31 TAC §505.11(a)(6). Therefore, the proposed rules are not subject to the Texas Coastal Management Program.

ANNOUNCEMENT OF HEARING

The commission will hold a public hearing on this proposal in Austin on May 8, 2008 at 10:00 am in Room 201S of Building E, at the commission's central office located at 12100 Park 35 Circle. The hearing is structured for the receipt of oral or written comments by interested persons. Individuals may present oral statements when called upon in order of registration. Open discussion will not be permitted during the hearing; however, commission staff members will be available to discuss the proposal 30 minutes prior to the hearing.

Persons who have special communication or other accommodation needs who are planning to attend the hearing should contact Kristin Smith, Office of Legal Services at (512) 239-0177. Requests should be made as far in advance as possible.

SUBMITTAL OF COMMENTS

Written comments may be submitted to Kristin Smith, MC 205, Office of Legal Services, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087, or faxed to (512) 239-4808. Electronic comments may be submitted at: <http://www5.tceq.state.tx.us/rules/ecomments/>. File size restrictions may apply to comments being submitted via the eComments system. All comments should reference Rule Project Number 2007-034-218-PR. The comment period closes on May 12, 2008. Copies of the proposed rulemaking can be obtained from the commission's Web site at http://www.tceq.state.tx.us/nav/rules/propose_adopt.html. For further information, please contact Mr. David W. Galindo, Wastewater Permitting Section at (512) 239-0951.

CHAPTER 218: BRINE EVAPORATION PITS

§§218.1, 218.5, 218.10, 218.15, 218.20, 218.25, 218.30, 218.35, 218.40

STATUTORY AUTHORITY

The new rules are proposed under Texas Water Code (TWC), §5.013, which establishes the general jurisdiction of the commission; TWC, §5.102, which establishes the commission's general authority to carry out its jurisdiction; TWC, §5.103, which requires the commission to adopt any rule necessary to carry out its powers and duties under this code and other laws of this state; TWC, §5.105, which authorizes the commission to adopt rules as necessary to carry out its powers and duties under TWC; TWC, §26.011, which authorizes the commission to adopt any rules necessary to protect the quality of water in the state; TWC, §26.027, which authorizes the commission to issue permits and amendments to permits for the discharge of waste or pollutants into or adjacent to water in the state; TWC, §26.132 as amended by the 80th Legislature, which grants the commission the rulemaking authority to adopt rules to protect surface water and groundwater quality from the risks presented by commercial brine evaporation pits.

The new rules implement TWC, §§5.013, 5.102, 5.103, 5.105, 26.011, 26.027, and §26.132.

§218.1. Definitions.

The following words and terms, when used in the subchapter, have the following meanings unless the context clearly indicates otherwise.

(1) **Brine evaporation pit** -- A surface impoundment within which groundwater and incidental storm water, is or has been retained and evaporated, for the purpose of recovering brine product.

(2) **Brine product** -- concentrated brine water and residual minerals, salts, or other naturally occurring substances produced by the evaporation of groundwater.

(3) **Facility** -- the brine evaporation pit and composite liner system; storm water control and retention structures; and brine product handling areas.

(4) **Incidental storm water** -- rainwater falling directly into a brine evaporation pit and/or collected storm water runoff from brine product handling areas.

(5) **Licensed engineer** -- an engineer who holds a license issued under Texas Occupations Code, Title 6, Chapter 1001.

(6) **Operator** -- Any person responsible for the physical operation and control of a brine evaporation pit.

(7) **Owner** -- Any person having title, wholly or partly, of a brine evaporation pit.

§218.5. Purpose.

The purpose of this subchapter is to regulate brine evaporation pit operations to:

(1) prohibit discharge from the facility into or adjacent to water in the state;

(2) establish standards for design, construction, location, operation, and maintenance to prevent contamination of surface and groundwater resources;

(3) require financial assurance to ensure proper closure of the evaporation pit; and

(4) require the owner or operator submit evidence of pollution liability insurance coverage of bodily injury and property damage to third parties.

§218.10. Applicability.

(a) This subchapter applies to a brine evaporation pit:

(1) operated for the commercial production of brine product by solar evaporation; and

(2) in operation on or after the effective date of this rule, regardless of the date the facility began operation.

(b) This subchapter does not apply to:

(1) operations associated with oil and gas production and regulated under the authority of the Texas Railroad Commission; in accordance with 16 TAC §3.30 (relating to Memorandum of Understanding between the Railroad Commission of Texas (RRC) and the Texas Commission on Environmental Quality); or as is the title of §3.30 in 16 TAC

(2) the recovery of brine product via evaporation of water sources other than groundwater and incidental storm water.

§218.15. Authorization.

(a) An owner or operator must obtain an individual wastewater permit subject to the requirements of Chapter 305 of this title (relating to Consolidated Permits).

(1) For new facilities, the owner or operator shall obtain an issued individual wastewater permit prior to construction of the facility.

(2) For facilities in existence upon the effective date of this section, the owner or operator shall submit an application for an individual wastewater permit within 180 days of the effective date of this section.

(b) An application for an individual wastewater permit must be submitted on the forms provided by the executive director in accordance with §305.45(a)(8) of this title (relating to Contents of Application for Permit) and must include:

(1) a closure and post-closure plan developed in accordance with §218.25 of this title (relating to Closure and Post Closure Care); and

(2) a cost estimate developed in accordance with §218.30 of this title (relating to Cost Estimate for Closure and Post Closure Care).

(c) A new individual wastewater permit application or renewal, amendment, or modification of an existing permit is subject to the public notice requirements within Chapter 281 of this title (relating to Applications Processing).

§218.20. Surface and Groundwater Protection.

(a) Location. The owner or operator shall ensure that the facility is located so that a failure of the facility or unauthorized discharge from the facility does not result in an adverse effect on water in the state.

(1) A brine evaporation pit may not be located in the 100-year flood plain, unless protected from inundation and damage that may occur during that flood event in accordance with subsection (b)(4)(A) of this section.

(2) The facility may not be located within:

(A) 500 feet of a public water well as provided by §290.41(c)(1)(B) of this title (relating to Water Sources); nor

(B) 250 feet of a private water well.

(b) Design and Construction. The owner or operator of a brine evaporation pit shall ensure the facility is designed and constructed to prevent an unauthorized discharge into or adjacent to water in the state. An owner or operator shall not place or allow the placement of groundwater into a brine evaporation pit if the facility does not comply with the provisions of this subsection.

(1) Brine Evaporation Pit Liner. The owner or operator shall ensure the brine evaporation pit is lined with a composite liner system in accordance with §330.331(e)(1) of this title (relating to Design Criteria) that meets at least the following minimum requirements.

(A) The upper component must consist of a geomembrane liner at least 30 mil thick, and must be at least 60 mil thick if constructed of high density polyethylene.

(B) The geomembrane liner component must be installed in direct and uniform contact with the compacted soil component.

(C) The lower component must consist of at least a three-foot layer of re-compact soil with a hydraulic conductivity of no more than 1×10^{-7} centimeters per second (cm/sec).

(D) The composite liner system shall be designed by a licensed engineer.

(E) The owner or operator shall furnish certification, signed, sealed, and dated by a licensed engineer that the completed liner meets the evaporation pit liner criteria described in this paragraph. Certification shall be submitted to the executive director at least 30 days prior to use.

(2) Alternative liner. The owner or operator may apply for approval of an alternative brine evaporation pit liner. An alternative liner design may be authorized by the executive director if the owner or operator demonstrates the proposed alternate liner achieves an equivalent protective hydraulic conductivity which meets or exceeds the composite liner criteria. At the discretion of the executive director, a field demonstration may be required to prove the practicality and performance capabilities of an alternative liner design.

(3) Storm Water Retention Ponds

(A) Storm water retention pond liners must consist of at least a three-foot layer of re-compacted soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec.

(B) Storm water retention ponds must be capable of containing the volume of storm water runoff from brine product handling areas generated from a 24-hour, 25-year storm.

(C) The owner or operator shall furnish certification, signed, sealed, and dated by a licensed engineer that the completed storm water retention pond liner meets the criteria described in this paragraph. Certification shall be submitted to the executive director at least 30 days prior to use.

(4) Storm Water Controls. Storm water control structures must be properly constructed and maintained to prevent storm water from entering the brine evaporation pit.

(A) A facility located in the 100-year flood plain must be equipped with storm water diversion structures at a minimum height equal to two feet above the 100-year flood water elevation around the evaporation pit.

(B) A facility located above the 100-year flood plain shall be equipped with storm water diversion structures that are, at a minimum, capable of diverting all rainfall from a 24-hour, 25-year storm.

(c) Operations and Maintenance.

(1) The owner or operator shall at all times ensure that the facility is properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of the brine evaporation pit liner, and storm water control and retention structures in order to prevent an unauthorized discharge.

(2) Storm water that comes into contact with any brine product storage pile must be collected in a retention pond and recycled to the evaporation pit.

(3) Loading and unloading of brine product must be conducted within an area which is adequately curbed and sloped to allow for containment of storm water runoff.

(4) Storm water runoff from brine product loading and unloading areas must be collected in a lined retention pond and recycled to the evaporation pit.

(5) The owner or operator shall have a licensed engineer review the documentation and evaluate the site at least once every five years or following a permit amendment resulting from a substantial change to the facility or operation.

(6) The brine evaporation pit must maintain a two-foot freeboard at all times.

(7) Operations and maintenance records must be retained at the facility site for a period of five years and be readily available for review by representatives of the executive director.

§218.25. Closure and Post Closure Care.

(a) At closure, the owner or operator must:

(1) remove or decontaminate all brine product waste and waste residues, contaminated design and operating system components such as liners, dikes, storm water retention structures, brine product handling areas, and contaminated media; or

(2) eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues; stabilize remaining wastes to a bearing capacity sufficient to support final cover; and cover the brine evaporation pit with a final cover designed and constructed to:

(A) provide long-term minimization of the migration of liquids through the closed impoundment;

(B) function with minimum maintenance;

(C) promote drainage and minimize erosion or abrasion of the final cover;

(D) accommodate settling and subsidence so that the cover's integrity is maintained; and

(E) be constructed of at least a three-foot layer of re-compacted soil with a hydraulic conductivity of no more than 1×10^{-7} centimeters per second (cm/sec).

(b) If some waste residues or contaminated materials are left in place at final closure, the owner or operator must comply with the following post-closure requirements:

(1) maintain the integrity and effectiveness of the final cover including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events; and

(2) prevent run-on and run-off from eroding or otherwise damaging the final cover.

(c) Additional post closure requirements may be added by the executive director as determined to be necessary to protect human health and/or the environment; including but not limited to, groundwater monitoring.

(d) The closure plan for the brine evaporation pit must include both a plan for complying with subsection (a)(1) of this section and a contingent plan for complying with subsection (a)(2) of this section, in case not all contaminated subsoils can be practicably removed at closure; and the owner or operator

must prepare a contingent post-closure plan for complying with subsection (b) of this section, in case not all contaminated subsoils can be practicably removed at closure.

(e) Written notification must be provided to the executive director at least 90 days prior to conducting any facility closure activity.

(f) Within ten days after completion of final closure activities of a facility, the owner or operator shall submit to the executive director by registered mail the following:

(1) a certification, signed by a licensed professional engineer, verifying that final facility closure has been completed in accordance with the approved closure plan. The submittal to the executive director shall include all applicable documentation necessary for certification of final facility closure; and

(2) for a facility that does not require post-closure care, a request for voluntary revocation of the permit.

§218.30. Cost Estimate for Closure and Post Closure Care.

(a) The owner or operator shall prepare a closure cost estimate based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither the parent nor a subsidiary of the owner or operator. Notwithstanding other closure costs, such estimate must also include the costs associated with third party removal, shipment off-site, and processing or disposal off-site, and

processing or disposal off-site of the following wastes to an authorized storage, processing, or disposal facility:

(1) maximum inventory of wastes in storage and/or processing units, including, but not limited to, storage surface impoundments, waste piles, tanks, and containers;

(2) wastes generated as a result of closure activities (e.g. decontamination, removal of liquids from surface impoundments, or waste piles); and

(3) contaminated storm water.

(b) The cost estimates calculated for closure and post-closure care of a brine evaporation pit facility subject to this chapter must include the cost of complying with the contingent closure plan specified within §218.25(a)(2) of this title (relating to Closure and Post Closure Care) and the contingent post-closure plan specified within §218.25(b) of this title, but are not required to include the cost of expected closure under subsection §218.25(a)(1) of this title.

§218.35. Financial Assurance.

An owner or operator of a brine evaporation pit shall establish and maintain financial assurance for closure and third party pollution liability in accordance with Chapter 37, Subchapter X of this title (relating to Financial Assurance for Brine Evaporation Pits). The amount of financial assurance for

closure must be no less than the amount determined by the executive director as sufficient to meet the requirements of the cost estimate calculated in accordance with §218.30(b) of this title (relating to Cost Estimate for Closure and Post Closure Care).

§218.40. Fees.

The owner or operator shall comply with the applicable fee requirements within Chapter 21 of this title (relating to Water Quality Fees).