The Texas Natural Resource Conservation Commission (commission) adopts new Subchapter O, §§321.271-321.280, concerning the authorization by rule of discharges to waters in the state from certain aquaculture production facilities. Sections 321.271-321.273, 321.277, 321.279 and 321.280 are adopted with changes to the proposed text as published in the January 21, 1997, issue of the *Texas Register* (22 TexReg 885). Sections 321.274-321.276 and 321.278 are adopted without changes and will not be republished.

EXPLANATION OF ADOPTED RULE

The purpose of this new Subchapter O is to streamline the current permitting process by authorizing by rule certain activities, thereby eliminating the need for individually issued commission permits for a subset of specific wastewater discharge and waste handling facilities. This subchapter covers activities that were previously subject to individual permits. In developing these regulations, the commission is specifying which particular aquaculture production facilities may be authorized by individual permit, those which may be authorized by rule, and those which may be considered exempt. The commission has chosen to retain the policy of requiring individual permits for larger aquaculture facilities which propose to locate in the coastal zone. By doing so, the unique issues associated with these operations can be better addressed. It will also help monitor the types of species being produced and help assess the potential impacts on native species and coastal water quality. In addition, all shrimp aquaculture facilities in the coastal zone, with the exception of certain shrimp research facilities, will not be eligible for authorization by rule and must obtain an individual wastewater discharge permit. The regulation of shrimp facilities is a special issue of concern for the public in coastal areas of the state and the commission has determined that these facilities should continue to be evaluated on a case-by-case basis.

Those facilities authorized by rule are categorized as posing a low risk of harm to human health and the environment, and would represent a significant demand on agency resources if permitted individually. Such activities may be authorized by rule as provided by §26.040 of the Texas Water Code.

Wastewater effluent quality will be controlled under the rule by requiring specific design and operational best management practices and specific discharge requirements at aquaculture facilities. The rule also requires that an individual commission permit be obtained if a facility cannot adequately control waste by utilizing the best management practices provided by this subchapter. Also, facilities are required to be operated in a manner that will prevent the creation of a nuisance or condition of air pollution, as provided by Chapters 341 and 382 of the Texas Health and Safety Code.

TAKINGS IMPACT ASSESSMENT

The commission has prepared a Takings Impact Assessment for these rules pursuant to Texas Government Code, §2007.043. The following is a summary of that assessment. The specific purpose of the proposed rule is to ease the burden on the commission and those regulated by the rule in authorizing certain aquaculture discharges while providing protection to public health and the environment. The rule will substantially advance this specific purpose by streamlining the current permitting process by authorizing by rule certain activities. Promulgation and enforcement of these rules will not affect private real property that is the subject of these rules because the change does not restrict or limit the owner's right to the property that would otherwise exist in the absence of the rulemaking.

HEARINGS AND COMMENTERS

A public hearing was held on the rule in Austin, Texas on January 28, 1997, and oral testimony was provided. The written comment period closed on February 20, 1997. Eighteen commenters provided both general and specific comments on the overall proposal. The Texas Parks and Wildlife Department (TPWD) generally supported the proposal. Harlingen Shrimp Farm (Harlingen Shrimp) generally supported the proposal but suggested changes. The following seven commenters opposed the proposal: Aransas County Commissioners' Court (Aransas County); Coalition for the Protection of Copano Bay (Copano Coalition); Coastal Conservation Association (CCA); Environmental Defense Fund (EDF); Henry, Lowerre, Johnson, Hess & Frederick for Aransas County Commissioners' Court, the Coalition to Protect Hynes Bay, the Aransas Wildlife Refuge, and the Coalition to Save the Arroyo Colorado (Henry, Lowerre); Neighbors Interested in Copano Environment, Inc. (NICE), and State Representative Gene Seaman, District 32 of Corpus Christi, Texas. The following nine commenters did not generally voice support or opposition to the proposal, but suggested changes: Ekstrom Enterprises (Ekstrom); General Land Office (GLO); La Bahia Shrimp Farm (La Bahia); Mayor, Day, Caldwell & Keeton, L.L.P. (Mayor, Day); Public Interest Council for the Texas Natural Resource Conservation Commission (PIC); Regal Farms (Regal); Texas Aquaculture Association (TAA); Texas Redfish Company (Texas Redfish); and Texas Shrimp Association (TSA).

GENERAL COMMENTS

CCA, Copano Coalition, EDF, Henry, Lowerre, NICE and Representative Seaman are opposed to the adoption of the rule until proposed legislation is acted upon by the Texas Legislature. Henry, Lowerre suggested there is no need to rush new regulations.

The commission awaited the conclusion of the 75th Legislature for the purpose of ensuring this rule making is not in conflict with legislation. No legislation passed which affects this rule making. Also, this rule complements the recommendations of the 1996 Senate Natural Resources Interim Subcommittee which studied aquaculture issues. The commission disagrees that it has rushed in its consideration of how to regulate aquaculture discharges. The agency has been developing the rule since 1993, and has sought extensive input from many individuals and groups representing a variety of perspectives. This rule replaces one proposed in April 1996 that was withdrawn, largely in response to concerns from citizen groups. After considering these concerns, the commission created this revised version.

NICE and Aransas County raised concerns that a discharge that pollutes coastal waters would be an economic disaster. Aransas County and Copano Coalition opposed the rule and authorization of any coastal discharges by rule, because they believe it would lead to pollution of coastal waters. TSA recommended individual permits for all coastal aquaculture facilities. EDF recommended individual permits for all coastal shrimp farms.

The commission responds that the regulation by rule of discharges from non-coastal facilities and small discharges from all facilities will minimize any impacts to water quality. Although smaller and non-coastal facilities historically have had no demonstrated impacts to water quality, the executive director has the authority to require these facilities to apply for an individual permit if the situation warrants such action. The rule has been modified to retain the existing requirement for individual permits for all commercial coastal shrimp aquaculture discharges. The commission

will evaluate the results of future studies of these facilities in its determination of whether amendments to the rule or individual permits are needed. The permitting process will help prevent individual discharges from causing pollution of coastal waters. The commission has determined that the regulation of such commercial shrimp-raising operations is a special item of concern for the public in coastal areas of the state, and has decided not to authorize those discharges by rule, at this time. Interest in this issue by many commenters has led the commission to conclude that further examination of the issues is needed, and that retaining individual permits in the interim will allow for a more focused approach on the potential water quality impacts from these facilities.

CCA requested that the rulemaking not proceed until after a study on the mariculture industry along the Texas coast is conducted. The commenter asserted that a study could provide a more informed basis on which to derive a rule. EDF suggested research is needed to develop procedures to measure the effects of water diversions and wastewater discharges and to develop guidelines to control these activities.

The commission is aware that several legislative proposals called for water quality studies which could have aided the commission and other agencies that regulate this industry. However, without a rule in place, all aquaculture discharges in the state would remain subject to individual permits. Without establishing the permit by rule, the setting of performance standards would be delayed. By proceeding with the rulemaking, the commission can establish a regulatory framework for getting an estimated 300 aquaculture facilities in compliance, instead of forcing them to cease discharging until a study is completed.

CCA and Copano Coalition recommended a moratorium be imposed on authorization of new discharges by facilities in the coastal zone until siting criteria are promulgated as a result of a mariculture study.

The commission acknowledges that a moratorium was included in some of the proposed legislation this session and was also an action considered in policy discussions by the commission last year. Instead, the commission developed this rule which preserves an individual permitting process for all significant coastal discharges including all commercial shrimp farms. The commission also entered into an Memorandum of Understanding (MOU) with TPWD to resolve water quality issues relating to aquaculture. Because the commission lacks zoning authority, it cannot prohibit a facility from locating in any specific site in its decisions on authorization of a discharge into or adjacent to waters in the state. However, the commission is responsible for protecting water resources on a site-specific basis in individual permits. If a facility appears to qualify for exemption from a permit requirement or registration under the rule, the discharge request will be sufficiently screened for the potential effects of the proposed discharge on the environment. The rulemaking does not have any effect on other authorizations or permits an aquaculture facility might need, such as local government requirements or a United States Army Corps of Engineers permit under Section 404 of the Clean Water Act.

TAA commented that an exemption to the rule should be allowed for beneficial research projects or demonstration projects which are not directly designed for the commercial production of shellfish or finfish. Research projects may contribute valuable knowledge to the subjects of waste minimization and waste treatment techniques for this developing industry.

To address this issue, a definition has been added for "shrimp research facilities." A shrimp research facility will not need to obtain an individual permit if it exists in the coastal zone and does not exceed the thresholds requiring an individual permit as specified in §321.272(b). Additionally, a non-shrimp project that does not exceed the established thresholds of the rule will not need an individual permit. The commission has determined that research operations will help generate important information relating to coastal water quality impacts and should be promoted, and that the expanded definition will adequately identify facilities that are involved in conducting research. The commission and the TPWD will also be evaluating applications from coastal operations under the criteria of §321.272(e) to ensure an individual permit is not needed.

TAA commented that there are many bait and stocker fish dealers in the state that do not produce but merely buy and resale fish and that discharge little or no wastewater from their facilities. TAA further stated that the proposed rule would require a large number of facilities to obtain acknowledgment from the commission that they are not required to obtain a permit or registration, placing demands on the time and resources of agency staff and delaying the operation of these facilities.

The commission has modified the rule to exempt certain bait and stocker fish dealers.

NICE urged the commission to work with TPWD to ban the importation of exotic shrimp into the state. Henry, Lowerre recommended that individual permits be required for any shrimp or exotic species raised in the coastal area.

The commission and TPWD have entered into a MOU which requires interagency cooperation on exotic species issues. The commission has no legal authority to restrict the importation of shrimp or any other commodity or product. Also, the rule has been modified so that it will not apply to coastal shrimp farms of the greatest concern to the commenters; all commercial shrimp farms that discharge in coastal areas of the state will be subject to an individual permit and this rule will not apply to them.

Aransas County and Copano Coalition were concerned that the rule will result in aquaculture facilities that obtain authorization without public input or hearings.

The rule preserves individual permitting of significant coastal aquaculture operations including all commercial shrimp farms, with public notice and opportunity for hearings. For small coastal operations that have limited aquaculture production and days of discharge, and for all significant non-coastal operations, the rule requires a registration process which includes public notice and an opportunity to submit comments for agency consideration. While there is no requirement to provide public notice for facilities exempt from permitting and registration, the commission has determined that this category of discharges would pose an insignificant potential impact on the environment. Additionally, the development of an extensive review process for facilities that are deemed exempt would pose a heavy burden on both the commission and the entity seeking to discharge.

Representative Seaman and Henry, Lowerre recommended that a bond or other financial assurance be established for coastal aquaculture facilities to ensure clean-up and restoration of abandoned ponds.

The commission responds that requiring a bond or other financial assurance has potential as a stringent and protective mechanism, especially for significant operations that are required to get individual permits and are not subject to this rule. There is an absence of legislative direction on this issue. The commission may study the idea before developing or recommending regulations to implement it, should it become aware of actual environmental problems from abandoned ponds.

Texas Redfish commented that aquaculture facilities in the Trans-Pecos region should be allowed to operate under the conditionally exempt provisions of the rule. The commenter stated that the facilities in that region release their wastewater onto abandoned farm land and abandoned gravel pits.

The commission responds that the proposed rule would find facilities which discharge less than 30 days per year as conditionally exempt. The commission will evaluate conditionally exempt facilities on a case-by-case basis to determine if they may be exempted, required to register with the rule or required to obtain an individual permit.

GLO indicated it would be helpful if the commission would compile and make available information on all discharges from aquaculture facilities in the coastal area of the state.

The commission agrees this would be helpful. The request can likely be fulfilled once all existing aquaculture facilities comply with the rule which sets deadlines for notification, registration, or application for permit to this agency.

GLO also commented that information on consistency with the Coastal Management Plan (CMP) was not included in the preamble to the proposed rule, as required under §505.22(a) of the Coastal Coordination Act. Henry, Lowerre indicated that the proposed rule does not appear to address compliance with the CMP.

Only rules that were proposed after the CMP received federal approval are required to include a consistency determination in the preamble to the proposed rule, pursuant to §505.22(a) of the Coastal Coordination Act implementation rules. The commission ordered the proposal of the rule on December 18, 1996, prior to the effective date of the CMP on January 10, 1997. Therefore, the preamble did not include information on consistency with the CMP.

TPWD indicated its support of the rulemaking and stated that the rule will increase protection of fish and wildlife resources from unregulated wastewater discharges from large aquaculture facilities. TPWD also noted the lack of specific information about some aspects of the aquaculture industry and its impact on fish and wildlife resources. It stated the rulemaking and development of an MOU provides an adequate mechanism to address these types of issues and future amendments to the rule could address other situations.

The commission agrees with these comments.

Copano Coalition requested an explanation of a statement presented in the preamble to the rule published on January 21, 1997, which states, "It will also help monitor the type of species being produced and help assess impacts on native species and coastal water quality caused by coastal aquaculture facilities."

The statement refers to the agency's decision that the larger facilities in the coastal zone will remain subject to individual permits. The combination of a site-specific permit application review and individual monitoring requirements in a permit will better address unique issues that authorizations under a rule cannot.

Copano Coalition requested an explanation of a statement presented in the January 21, 1997, preamble to the rule. The statement is found in the fiscal note and indicates the rule would result in " … improved protection of the quality of the surface water resources of the state."

Most of the aquaculture facilities which must register under the rule currently are not permitted. By registering after the effective date of this rule, each of these facilities will be subject to required effluent quality limitations and best management practices. The rule will also serve to facilitate the receipt, processing, and possible approval of applications for individual permits from those unpermitted facilities which waited until a rule set the applicability requirements.

Copano Coalition questioned how the commission would enforce the following provision found in the preamble of the proposed rule: "…an individual commission permit must be obtained if a facility cannot adequately control waste by utilizing the best management practices" outlined in the rule.

Applicants for registration must specify their intent to meet the best management practices contained in the rule. If they indicate that they will not or cannot utilize the best management practices, the rule does not apply and they must obtain an individual permit. Applicants who are issued a registration after indicating they will meet the required best management practices are subject to §321.279, which specifies that a facility that fails to comply with the requirements of this subchapter will be subject to enforcement by the executive director, including revocation, suspension or annulment of their registration.

Representative Seaman, CCA and Henry, Lowerre commented that the commission has not provided for adequate public hearings. Henry, Lowerre asserted that the hearing was held in Austin, not along the Texas coast. CCA requested that the public comment period be extended to allow for at least one additional public hearing in the coastal zone. Henry, Lowerre and CCA asserted that the public had almost no time to obtain copies and prepare meaningful oral comments.

The commission held a public hearing on January 28, 1997, pursuant to §2001.029(b) of the Texas Administrative Procedure Act, which requires a public hearing to be held before a substantive rule is adopted. The Act does not require the commission to hold the hearing in any specific location or at any specific time. The proposed rule was approved by the commission for

publication on December 18, 1996, at which time it became available to the public. Although the rule was originally scheduled for publication in the January 3, 1997 edition of the *Texas Register*, technical delays prevented the proposed rule from being published until January 21, 1997. Copies of the hearing notice were sent two weeks prior to the hearing to individuals who had expressed an interest in the aquaculture rules. The commission has received numerous written comments in addition to the oral comments that were received at the hearing and believes that ample opportunity to provide comments has been provided.

Henry, Lowerre commented that the commission staff initially consulted only with representatives from the aquaculture industry before the rule was in draft form and that the commission staff may have violated the Texas law governing the use of advisory committees.

Aquaculture products are highly diverse and the production techniques for each can be very dissimilar. As a result, the commission sought specific information from industry representatives during that development period. As soon as a draft rule was developed, the commission distributed it to industry groups, environmental groups and academia for review and comment. These groups included the Unites States Environmental Protection Agency (EPA) Region VI, the Conservation Fund, Texas A & M Shrimp Mariculture Program, Oceanic Institute, Texas Department of Agriculture, and TPWD. An invitation to attend a meeting to discuss the draft rule was specifically sent to the commenter. The distribution of the draft rule to these various groups was not inconsistent with Texas law governing the use of advisory committees. Advisory committees, whose sole duty is to advise the commission, are created by commission resolution

pursuant to Chapter 5 of the commission rules. No such committees were created with regard to aquaculture facilities.

DEFINITIONS (§321.271)

Mayor, Day commented that the definition for "existing facilities" would not include active facilities which have a seasonal discharge. Mayor, Day suggested that the definition be changed to read "Aquaculture production facilities which have operated and have discharged wastewater prior to the effective date of the rule."

The commission responds that the definition should not allow a facility that is closed for business to qualify for the status of an "existing facility" based upon historic aquaculture production at the site. Public notice requirements of the rule are different for an existing facility than they are for a new facility. Requirements differ because the general public in the area of an existing facility presumably would already be aware of and have general knowledge of the operation. The commission has modified the definition to include the circumstance of seasonal discharge from a facility that is currently active. The definition now reads "Aquaculture production facilities in active operation, and that have discharged during the calendar year previous to the effective date of this rule."

Mayor, Day commented that the definition for "new facilities" should not include those that have historically operated but are not active at the time that the rule is effective.

As previously stated in regard to the definition of "existing facilities," it is not the intent of the rule to allow those facilities that retain ownership of a site but have not operated in recent years to qualify for the status of "existing facility." The definition has been modified such that active facilities that produce seasonal products will not be defined as "new facilities." The definition now reads, "Aquaculture production facilities not in active operation and that have not discharged wastewater during the calendar year previous to the effective date of this rule."

EDF commented that the definition of "aquaculture facility" should be revised to state that individually owned, managed or leased ponds "will be considered as a single facility" if they are located within a contiguous tract of land, utilize a common water source, or utilize a common discharge canal/route. The current definition states such ponds "may be considered as a single facility."

The definition is written so that the commission can more effectively regulate numerous individual discharges that originate in close proximity to each other or that share other compounding factors such as a common discharge canal. The definition is worded to allow the commission some needed flexibility. Individual ponds may be located within a contiguous tract of land and yet be many miles apart. In such cases, the commission may find that regulating the ponds as individual facilities is more protective.

PURPOSE AND APPLICABILITY (§321.272)

Copano Coalition commented that the applicability of the rule should not be based upon production rates of aquatic species and the number of days per year of discharge. Aquaculture facilities should be

regulated based upon discharge quantity and quality. EDF stated that production rates is not a good measure of discharge quality or quantity, and a facility producing less than 100,000 pounds of shrimp can have severely polluted wastewater. CCA commented that facilities which produce in excess of 100,000 pounds of harvest should be required to obtain an individual permit regardless of the number of days or the volume of the discharge.

The commission seeks to develop rules and regulations consistent with those of the federal government. Guidelines associated with production rates and days of discharge, the thresholds delineated in §321.272 (relating to Purpose and Applicability), are based on those developed by the EPA and delineated at Title 40 of the Code of Federal Regulations, Part 122, Appendix C (Criteria for Determining a Concentrated Aquatic Animal Production Facility). Therefore, the commission will continue to develop individual permits based on discharge quantity and quality. Also, as mentioned earlier, coastal commercial shrimp facilities will be required to obtain an individual permit. In addition, revisions have been made to §321.272(b) to clarify which facilities will be required to obtain an individual permit or a registration, and which facilities will be considered conditionally exempt.

Copano Coalition commented that the criteria of 100,000 pounds of production can be manipulated by allowing ownership of one to several ponds to be held by different individuals. Overall production could exceed 100,000 pounds but no individual owner would exceed the criteria. CCA suggested that multiple farms within specified distances be evaluated in the aggregate.

The proposed rule defines an aquaculture facility so that individually owned, managed or leased ponds may be considered as a single facility. This definition will allow the commission to consider situations described by Copano Coalition as a single entity when evaluating the requirement of either a permit or authorization under the proposed rule. The commission agrees that proximity to another facility is important to consider and has included this among the requirements in both subsection (d) and (e). The commission has not established a distance so as to prevent creating an unwanted loophole within these boundaries. The latitude given the commission is needed to develop the most protective controls.

Henry, Lowerre commented that any new facility that meets the conditions of exemption should be prohibited from expanding for some period of time. The commenter also noted that the prohibition would eliminate facilities from getting a "foot in the door" while planning future expansions. Henry, Lowerre also stated that it was inappropriate for facilities to be allowed to expand without first receiving authorization.

Facilities that are initially exempted by the rule, but that later exceed the criteria of the rule and are subject to registration or individual permit, must obtain such an authorization in accordance with §321.272(h). The application for registration or individual permit, whichever is appropriate, is required within 45 days of exceeding threshold criteria defined at §321.272 (b) and (c). The criteria are based, in part, on pounds of production. The commission recognizes that production at a particular facility may vary substantially based on a number of factors. The status of a facility and the resultant regulatory requirements may unforeseeably change because of changes in

production rates. Therefore, a short period of time is allowed for facilities to apply for appropriate authorization. Planned expansions to include new waste management units, addressed by §321.272 (i), require the appropriate authorization prior to operation of the units. Whether or not a facility was initially exempted will have no bearing on the subsequent requirements of an individual permit or registration.

Mayor, Day commented that the definition for "expanding facility" or a reference to §321.272(h) should be included in §321.272(i). The commenter stated that the latter provision would require an expanding facility to halt operation of existing waste management units until authorization for the entire facility is obtained.

The commission has modified §321.272(i) to read: "Any new facility required to obtain either registration or an individual permit may not commence operation of any waste management unit without first receiving either authorization in accordance with this subchapter, an individual permit, or authorization for the construction. Any expanding facility, described by §321.272(h), may not commence operation of any new waste management unit without first receiving authorization in accordance with this subchapter, an individual permit, or authorization for the construction."

Henry, Lowerre expressed concerns that registrations and exemptions should be effective for a limited term in order that regulatory reforms can be included as additional information about this new industry

is gained. Henry, Lowerre further stated that the commission has already created serious problems by "grandfathering" facilities.

This rule may be amended, as is true for all other rules of this chapter, if additional controls or requirements are warranted in the future. Aquaculture facilities are not currently privileged by a "grandfathering" status. Facilities must obtain an individual permit or other authorization before discharging wastewater.

GLO recommended that individual permits should always be required of any facility that discharges in the coastal zone and is above the commission threshold for Coastal Coordination Council consistency review.

The commission has modified the rule to require coastal shrimp aquaculture facilities to obtain individual permits. All other significant coastal aquaculture facilities must also obtain individual permits.

In comments on proposed §321.272(b), La Bahia, Harlingen Shrimp, and TAA asked why clean water discharges would be subject to permitting unless a facility limited the number of days and also limited the gallons of discharge per day. Harlingen Shrimp and TAA are concerned that any 50-acre shrimp farm will be subject to permitting and contend that the provisions will likely reduce incentives for water conservation or in limiting discharges. Harlingen Shrimp also questioned the scientific basis for setting

a permit threshold at five million gallons per day for a shrimp farm, while TAA commented that it was not appropriate to use such a threshold for shrimp if it is not also utilized for finfish operations.

The permitting criteria apply only in the defined coastal zone, and the permitting threshold of days of discharge is the same as EPA criteria and is utilized in this rule for state/federal consistency. The commission disagrees that requiring a permit eliminates or reduces the incentive to discharge less. It has been the commission's observation that shrimp farms already permitted are reducing the volume of discharge. Shrimp farms that have been permitted with specific effluent limitations may find it easier to consistently meet those limits by using and discharging less wastewater.

As specified in an earlier response, the rule has been modified to require any commercial coastal shrimp farm to obtain an individual permit, so the issue surrounding the five million gallon per day threshold no longer applies to these facilities. The rule has retained the threshold as a criterion for coastal shrimp facilities engaged in research. The threshold addresses the potential impacts on the quality of receiving waters when a large shrimping operation stores water in order to limit the number of days of discharge and later releases large volumes of stored water all at once. Also, the threshold represents a more conservative approach than the commission typically uses in evaluating individual permits for discharges to coastal waters.

Although shrimp farms might confine discharges to less than 30 days per year, complete dewatering of the production ponds is typically required in order to harvest the crop.

Historically, in Texas, shrimp farms discharge wastewater at very high flow rates and of comparatively poor water quality. This same pattern is not typical of finfish operations.

The commission has chosen to more fully examine the issues and respond to the issues raised by the public in response to the proposed rules. This widespread concern, coupled with legislative interest in resolving these difficult issues, has convinced the commission to take a conservative approach to authorizing these discharges until future studies regarding virus, disease and other issues are undertaken by interested parties or researchers. The commission will also have the opportunity to monitor the quality of effluent from permittees or registrants and will continue its existing surface water quality monitoring efforts in coastal areas. Over the course of time, the commission may re-visit the concept of an authorization framework that would allow approval of commercial coastal shrimp farm discharges other than through individual permits.

Copano Coalition expressed concern that a shrimp farm could begin operation without a permit by claiming it will not cross the permitting thresholds and then exceed such thresholds later, undercutting the intended process.

The commission has addressed this issue by requiring all commercial coastal shrimp farms to obtain an individual permit. Also, §321.272(i) requires that expanding aquaculture facilities may not commence operation of any waste management unit without first receiving the necessary authorization. Failure to receive a permit before expanding an aquaculture facility could likely

result in enforcement by the commission and could jeopardize commission approval of a permit due to the noncompliance and lack of good faith.

Henry, Lowerre suggested that the rule specify siting requirements for coastal facilities to minimize adverse impacts. For instance, an applicant could describe the site selection process and reason for deciding upon one site from the alternatives. The process could involve local government and resource agencies in this process. CCA suggested the rule include siting criteria which would require an applicant to evaluate assimilative capacity and aquatic resource characteristics of the receiving waters. Representative Seaman felt the rule does not reduce risks associated with the improper siting of aquaculture facilities along the coast, or address the water quality impacts of such facilities. EDF recommended that shrimp aquaculture farmers conduct an environmental assessment to identify siting concerns and plans for mitigation. Copano Coalition was concerned that the rule does not establish siting standards and also commented that the rule lacks standards for receiving water conditions, effluent quality, and standards for specific pollutants.

The rule addresses the issue not by specifying siting criteria but by requiring individual permits for larger facilities and for all commercial shrimp operations in the coastal zone. The permitting process includes site-specific application reviews, and a review of permit applications by the commission with input from TPWD as specified in an MOU. Additionally, §321.272(d) establishes more stringent criteria for individual permits based on the location of a facility and the quality of a receiving water. The rule was developed to provide authorization for discharges from aquaculture facilities categorized as posing low risk of harm to human health and the

environment. Facilities which qualify for authorization are those which may be effectively regulated through general provisions and do not require site-specific considerations. Those considerations listed by Copano Coalition, with the exception of siting, will be considered by the commission in the development of individual permits. The commission has no authority to regulate the siting of an industrial facility.

CCA and Copano Coalition commented that subsections (d) and (e) of §321.272 provide too much discretion to the executive director on the question of imposing either a permit, registration, or exempt status on facilities below the rule thresholds.

The commission agrees it is provided significant flexibility over facilities below the threshold. This flexibility is reduced by the effect of the MOU with TPWD, which provides that staff of TPWD will assist the commission in reaching these decisions. The commenters should note that the primary criteria established in (b) and (c) of §321.272 allow no discretion, including the amendment that requires an individual permit for a coastal, commercial shrimp facility.

CCA suggested the rule prohibit site development or construction of production ponds, retention basins, pumps, pipes, and ditches until a discharge authorization is obtained.

The commission has authority to limit development of waste management units under Texas Water Code, §26.027(c), which requires commission authorization prior to construction of waste treatment facilities. Additionally, §321.272(f) requires exempt facilities to notify the commission

within 30 days of changes in the number of production ponds or expansion of existing ponds and §321.272(i) requires that new or expanding facilities may not commence operation of any waste management unit without first receiving the necessary authorization. In the MOU between TPWD and the commission, TPWD will not issue a new exotic species permit until the commission authorization is obtained by the facility. The commission and TPWD share the concern of CCA that all site permits should be received before discharges occur.

CERTIFICATE OF REGISTRATION AND PUBLIC NOTICE (§321.273)

Representative Seaman was concerned that the proposed rules do not provide for adequate input from affected local governments. Henry, Lowerre commented that the proposed rules omit clear requirements that all notices, applications, registrations or other documents filed with the commission should be filed simultaneously with the local governmental bodies having jurisdiction over the area where the facility is located. Henry, Lowerre further commented that local governmental bodies should receive an early opportunity to comment to the commission before any registration or permit is accepted or issued.

The rule provides for notification of the local community by requiring an applicant for registration to provide notice of the application in a newspaper regularly published and generally circulated within the county and area where the proposed facility and discharge are to be located. Further, the applicant provides written notice of the application to the county judge of the county in which the facility is to be located and to the mayor of the city or town in which the facility is to be located. This notice must set forth the substance of the application and the proposed action in

accordance with §321.273(c)(1)(C). Applicants for individual permits must follow the notice requirements set forth in Chapter 39 of the commission's rules. The commission believes that these notice requirements provide potentially affected persons and entities reasonable notice of the proposed action and a fair opportunity to provide objections to the application.

Henry, Lowerre and PIC objected to §321.273(d) because it exempts existing facilities from all public notice requirements if an application for registration is received by the commission within 180 days after the date this rule takes effect. PIC and EDF commented that the proposed rules deprive the public of an evidentiary hearing on the merits of a registration issuance, and should be amended to allow the public an effective forum by which to provide the executive director with information.

The commission agrees with these comments and has deleted the provision that would exempt registrants for existing facilities from public notice requirements. Both new and existing facilities applying for a certificate of registration will be required to follow the public notice requirements of §321.273(c).

Under §26.040 of the Texas Water Code, facilities that are regulated by rule and not required to obtain an individual permit are not subject to the requirements relating to evidentiary hearings. However, the public may provide information to the executive director, under §321.273(c)(4), and the affected persons may file a motion for reconsideration of the executive director's decision to issue a registration. The commission will then consider the motion, and may request a public hearing to be held on the matter.

In its comments that the rule does not provide for a public hearing if contentious issues are brought to the attention of the executive director, PIC stated that procedures similar to those in 30 Texas Administrative Code, Chapter 321, Subchapter K, concerning Concentrated Animal Feeding Operations, should be used whenever the executive director determines that a public comment warrants further investigation.

The rule allows the executive director to require that an individual permit be obtained based on any of nine factors listed in §321.272 (d). Therefore, when a comment is filed that raises one of the nine factors, the executive director shall consider whether a permit should be obtained rather than a registration or exemption. If a permit is deemed necessary, and if a request for a contested case hearing is filed with the commission, the commission will evaluate the request and refer the application for hearing if the request meets all legal requirements. If a permit is not required, affected persons may file a motion for reconsideration of the decision, which the commission may determine warrants a public hearing.

Mayor, Day noted that §321.273(c)(4), regarding motions for reconsideration, varies from the commission's procedural rules in 30 TAC §50.39(b), and recommended that the provision be deleted.

The commission agrees with the comment and responds by changing the rule to omit the motion for reconsideration language and has inserted a reference to §50.39.

GROUND-WATER PROTECTION (§321.274)

Regal commented that requirements applicable to facilities described by §321.274 (a) should apply only when ponds contain 2,000 milligrams per liter (mg/l) total dissolved solids content above the concentration of the underlying groundwater.

The commission recognizes the unique situation of shrimp farm culture in areas of West Texas where underlying ground waters are excessively high in dissolved solids. Exemption from the requirements of this section of the proposed rule are allowed at §321.274 (d).

NICE recommended that all shrimp farms be required to have at least one empty pond which may be used to store water during emergency harvest of a pond due to viral infection. NICE also recommended that no discharge be allowed until it is determined that there is no remaining virus.

The commission has modified the rule to require all coastal shrimp farm production facilities to obtain an individual permit. Specific requirements for each facility will then be developed within an individual permit for the facility.

TAA stated that requirements at §321.274 (a)(1) for a synthetic liner with minimum thickness of 40 mils is harmful and costly. TAA recommended the industry standard of 30 mils be used instead and recommended the rule be modified to allow for alternatives to a 40 mil minimum.

The commission responds that alternative methods and materials may be approved by the executive director in accordance with §321.274 (c).

REQUIRED BEST MANAGEMENT PRACTICES (§321.277)

Texas Redfish commented that the various reporting requirements in the rule duplicate the requirements of TPWD and of the Texas Department of Agriculture.

Only an initial notification is necessary if a facility is exempt from the rule, requiring only updates if the exempt facility expands or changes significantly. Information needed from a facility subject to registration will be greatly streamlined by comparison to the requirements for facilities needing an individual permit. For instance, the application for registration is much shorter and reporting of effluent quality is only needed quarterly instead of monthly from individual permit holders.

Regal stated that the best management practices are overly specific. Regal further suggested that only the desired results should be addressed by the commission in order to allow each facility to determine how best to achieve that goal. Texas Redfish suggested that the commission require specific levels of effluent quality and allow the operator to determine how to best achieve those levels, as EPA does, rather than dictating how a facility shall be built and operated.

Best management practices are, whenever practical, flexible and in many instances provide alternatives. Facilities which choose not to register with the rule are allowed to obtain authorization through an individual permit. Individual permits are written with specific effluent

limitations and allow the operator to meet the required quality by whatever means, similarly to those written by EPA. The proposed rule would simply serve as an alternative form of authorization for some facilities.

TAA questioned why §321.277(a)(3) requires a 30 mg/l total suspended solids concentration when the discharge of treated sewage wastewater is often allowed a higher content. NICE stated that the effluent quality from aquaculture facilities should be required to meet the same standards as the discharge from sewage treatment plants.

The commission responds that effluent from aquaculture activity is not comparable to domestic sewage. Effluent limitations for domestic sewage treatment plants are based upon expected levels of treatment of raw sewage through specific types of wastewater treatment plants.

TAA and Harlingen Shrimp requested the commission to consider basing allowable levels of suspended solids upon the conditions of the receiving stream for each discharge. TAA suggested a 30 mg/l allowable net increase over receiving stream conditions.

By its nature, a rule that is universally applied statewide cannot allow for site-specific considerations. Facilities which either cannot meet the required concentration, or choose not to do so, may detain the volume of water for 48 hours or obtain an individual permit to obtain requirements which are based upon a site-specific evaluation.

EDF commented that best management practices are effective to minimize negative effects of wastewater discharges from shrimp aquaculture facilities. EDF further stated that there should be three categories of best management practices to regulate pond water management, pond bottom management and disease management.

The proposed rule has been modified to require coastal shrimp aquaculture facilities, with the exception of some research facilities, to obtain an individual permit. Requirements related to these three areas of pollution control will then be evaluated on a case-by-case basis during development of these permits.

Henry, Lowerre recommended that the rule include best management practices which require specific feeding regimes which minimize waste and thereby reduce pollution.

The rule will authorize the discharges from aquaculture facilities which may produce a wide variety of aquatic species utilizing many different techniques. Therefore, the rule cannot provide specific management requirements appropriate for each type of facility. The rule states that operations that cannot be effectively regulated by the requirements of the proposed rule shall be required to obtain an individual permit. Site-specific conditions are evaluated during the processing of these permit applications.

Henry, Lowerre commented that §321.277(a)(3) is unclear. The commenter was uncertain as to which volume of water the section references.

The initial sentence of §321.277 (a)(3) has been modified to read "Exemption from the requirements of paragraphs (1) and (2) of this subsection is allowed if the volumes of water defined by paragraphs (1) and (2) of this subsection as requiring detention do not exceed a total suspended solids concentration of 30 mg/l."

Texas Redfish commented that requirements to vegetate levees, §321.277(a)(5), may be difficult in water-scarce west Texas.

The commission responds that other methods of stabilization are allowable under the rule.

GENERAL REQUIREMENTS (§321.278)

GLO commented that §321.278 should be revised to include a provision stating that discharges authorized under the rule must comply with applicable water quality standards, so that the rule is consistent with the Coastal Management Program requirements.

The commission disagrees that such a provision needs to be added as such a provision is already included in Chapter 307 of TNRCC rules. Section 501.14(f) of the Coastal Coordination Act implementation rules requires that TNRCC rules comply with federal requirements establishing surface water quality standards. Chapter 307, which contains the surface water quality standards, applies to all wastewater discharges, including those from aquaculture facilities. It is therefore unnecessary to restate such standards in Chapter 321. In addition, §321.272(d)

authorizes the executive director to require facilities to obtain a permit, rather than a registration or exemption, as necessary to protect water quality.

Ekstrom and Texas Redfish commented that §321.278(d) requires discharges from a pond to occur from the uppermost portion of the water column. The commenters stated that the requirement will eliminate a common use of external stand pipes and may not allow for the agricultural reuse of pond bottom sludges.

The rule states that discharges "should" be accomplished from the uppermost water column but stops short of requiring this technique. The commission recognizes that management techniques may be incorporated into other methods of discharge, such as bottom drains, to avoid or lessen the discharge of disturbed bottom sediments.

TAA objected to the provision under §321.278(g) that gives the executive director of the commission discretion to require a facility raising shrimp to cease discharge following mortalities due to disease. TAA stated that such a requirement will jeopardize entire shrimp crops. The commenter also suggested that the rule give authority to an Emergency Response Task Force of the commission, Texas Animal Health Commission, Texas Veterinary Medical Diagnostic Lab, and TPWD to determine the level of threat.

The rule has been amended to allow only certain research facilities to raise shrimp and discharge under authorization of the rule. Therefore, coastal commercial production of shrimp will not be affected by this provision.

Henry, Lowerre recommended that specific measures are needed to prevent the potential introduction of exotic disease into native populations. Representative Seaman commented that the rules do not adequately address the risks associated with the release of viruses and exotic species into Texas bays and estuaries.

There have been many concerns expressed regarding viral infection of exotic shrimp species and possible effects on native shrimp populations. The commission has modified the rule to retain the individual permitting process for coastal commercial shrimp production. These issues may now be evaluated in conjunction with TPWD during development of those individual permits.

Henry, Lowerre recommends that discharges should cease immediately following the detection of any disease and that such a provision should be included for all cultured organisms and not limited to shrimp or exotic species.

Diseases associated with many aquatic species are well documented and have not represented a risk to native wild populations. Such a provision could exacerbate the problem or place the crop in jeopardy without providing additional protection to native wild populations.

Copano Coalition commented that when shrimp aquaculture facilities suffer mortalities due to disease, the operator should be required to diagnose the cause of mortality immediately, not "as soon as practicable."

The proposed rule has been modified to require coastal shrimp aquaculture facilities, with the exception of some research facilities, to obtain an individual permit. This provision no longer applies to the class of facilities of greatest concern to the public. Instead, requirements related to disease control will now be evaluated on a case-by-case basis during development of individual permits.

EDF recommended that disease monitoring and control programs be developed by TPWD and the Texas Animal Health Commission.

The commission recognizes that proposed legislation would have required the Texas Animal Health Commission to regulate disease at aquaculture facilities in coordination with TPWD and the commission. Although legislation failed to be enacted, TNRCC and other state agencies will remain interested in these issues and remain responsible for ensuring that a disease affecting species being cultured, such as shrimp viruses, will not pose an adverse effect upon surface water quality when wastewater is discharged into waters in the state.

Copano Coalition recommended that §321.278 (h) contain more specific requirements for reuse or recycling of pond water.

The commission recognizes the environmental benefits of recycling and reuse of wastes and encourages all industry in this direction. The technology for the aquaculture industry is fast evolving in the area of water minimization and recycling and it is premature to define what may be achievable or expected.

TSA recommended that all waters be disinfected and contained in covered storage areas where water will not be available to interim hosts of potential disease causing agents. TSA further recommended sanitizing water through the use of distillation, chemical treatment, ultra-violet light, irradiation or other methods.

Aquaculture facilities have historically discharged effluents which have not demonstrated effects to warrant the suggested disinfection or sterilization requirements. The recent production of exotic shrimp in Texas has raised concerns for potential impacts to native wild stocks of aquatic species. The commission has modified the proposed rule to continue to require individual permits for these facilities.

ENFORCEMENT AND REVOCATION, SUSPENSION, ANNULMENT OR WITHDRAWAL (§321.279)

Mayor, Day commented that this provision, which is contained in a chapter of substantive rules, contains a procedural rule which is better placed within the commission's general procedural rules. The commenter referred to an earlier observation that procedural rules within substantive rules that differ

slightly from program to program lead to confusion on the part of the regulated community and the public at large.

The commission responds that revocation, suspension, annulment and withdrawal of a registration are not explicitly addressed in the general procedural rules. In order to communicate to the regulated community the consequences of noncompliance, the commission has determined the need to include this provision in the rule.

Mayor, Day alternatively stated that the rule should be clarified to indicate whether a registration holder will be afforded the opportunity for hearing prior to the revocation, suspension, annulment or withdrawal of a registration. They also commented that the due process rights be clarified, as well as the burden of proof and the findings that must be made prior to such actions. Mayor, Day stated that a false statement should only warrant revocation or annulment if the statement was both significant and the registrant has made no substantial attempt to correct the violation.

The commission agrees that clarification is necessary and has amended the rule accordingly. The rule now incorporates the revocation and suspension procedures set forth in 30 TAC §§305.66, 305.67 and 305.68 for registrations. The annulment provision was clarified with respect to the grounds and procedures applicable to such an action. Only those facilities that did not meet, at the time the application was filed, the conditions necessary to invoke the executive director's authority to grant them a registration are subject to annulment. In the event that the executive director annuls a registration under this subchapter, the affected person has all of the same rights

that he or she would have upon denial of the application. The person may file a motion for reconsideration of the executive director's decision with the commission, and the commission may request a public hearing to be held on the matter.

Mayor, Day requested that §321.279(b) be revised to clearly state when a facility must cease discharging after appealing a decision by the executive director to revoke, suspend, annul or withdraw their registration.

The commission has amended the rule to specifically address the impact of an annulment of a registration. Under §26.121 of the Texas Water Code, no person may discharge waste into or adjacent to any water in the state except as authorized by rule, permit or order issued by the commission. If a registration has been revoked, suspended, or annulled, the facility is not authorized to discharge unless and until the commission provides such authorization. The act of appealing a decision of the commission does not confer any authority to discharge.

STATUTORY AUTHORITY

These sections are proposed under the Texas Water Code, §5.102, which provides the commission with general powers to carry out duties under the Texas Water Code, and §§5.103, 5.105 and 5.120 which provide the commission with the authority to adopt any rules necessary to carry out the powers and duties under the provisions of the Texas Water Code and other laws of this state and to establish and approve all general policies of the commission.

Additionally, these sections are proposed pursuant to the Texas Water Code, §26.040 which provides the commission with the authority to regulate certain waste discharges by rule and set the requirements and conditions of the discharges of waste.

SUBCHAPTER O : DISCHARGES FROM AQUACULTURE PRODUCTION FACILITIES

These sections are adopted under the Texas Water Code, §5.102, which provides the commission with general powers to carry out duties under the Texas Water Code, and §§5.103, 5.105 and 5.120 which provide the commission with the authority to adopt any rules necessary to carry out the powers and duties under the provisions of the Texas Water Code and other laws of this state and to establish and approve all general policies of the commission. Additionally, these sections are proposed pursuant to the Texas Water Code, §26.040 which provides the commission with the authority to regulate certain waste discharges by rule and set the requirements and conditions of the discharges of waste.

§321.271. Definitions.

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

Aquaculture facility or aquaculture production facility - An establishment engaged in the propagation and/or rearing of aquatic species which utilizes ponds, lakes, fabricated tanks and raceways, or other similar structures. Individually owned, managed, or leased ponds may be considered as a single aquaculture facility if they are located within a contiguous tract of land, utilize a common water source, or utilize a common discharge canal/route. For the purposes of this subchapter, an aquaculture facility does not include: cages or other enclosures placed within public waters for the propagation or rearing of aquatic species; public and private reservoirs constructed and utilized

primarily for water supply, flood control, domestic purposes, livestock watering, recreation, or similar uses; or retail bait dealers who are not required by the Texas Parks & Wildlife Department to obtain an exotic species permit.

Aquatic species - Fish, crustaceans, mollusks, or any other organisms occurring within either fresh or salt waters.

Best Management Practices (BMP) - Schedule of activities, maintenance procedures, and other management practices to prevent or reduce the pollution of water in the state. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, drainage from raw material storage, or the abatement of nuisance odors and conditions. BMPs are those measures that are reasonable and necessary to achieve a performance standard that protects and maintains air and water quality standards as well as existing and potential uses of groundwater.

Closed ponds - Ponds (or lakes) without a mechanism to manipulate water levels (except for emergency spillways and other similar non-mechanical structures) or those ponds that are operated such that drawdowns are not allowed. If the use of ground-water wells or the diversion of surface water results in dry-weather discharges, such ponds are not defined as closed ponds.

Coastal zone - That area along the Texas coast of the Gulf of Mexico as depicted in this definition. The boundary includes areas within the following Texas counties: Cameron, Willacy, Kenedy, Kleberg, Nueces, San Patricio, Aransas, Refugio, Calhoun, Victoria, Jackson, Matagorda, Brazoria, Galveston, Harris, Chambers, Liberty, Jefferson, and Orange. **Figure 1: 30 TAC §321.271.**

(A) The inland boundary is delineated as: The boundary begins at the International Toll Bridge in Brownsville, thence northward along U.S. Highway 77 to the junction of Paredes Lines

Road (FM Road 1847) in Brownsville, thence northward along FM Road 1847 to the junction of FM Road 106 east of Rio Hondo, thence westward along FM Road 106 to the junction of FM Road 508 in Rio Hondo, thence northward along FM Road 508 to the junction of FM Road 1420, thence northward along FM Road 1420 to the junction of State Highway 186 east of Raymondville, thence westward along State Highway 186 to the junction of U.S. Highway 77 near Raymondville, thence northward along U.S. Highway 77 to the junction of FM Road 774 in Refugio, thence eastward along FM Road 774 to the junction of State Highway 35 south of Tivoli, thence northward along State Highway 35 to the junction of State Highway 185 between Bloomington and Seadrift, thence northwestward along State Highway 185 to the junction of FM Road 616 in Bloomington, thence northeastward along FM Road 616 to the junction of State Highway 35 east of Blessing, thence southward along State Highway 35 to the junction of FM Road 521 north of Palacios, thence northeastward along FM Road 521 to the junction of State Highway 36 south of Brazoria, thence northward along State Highway 36 to the junction of State Highway 332 in Brazoria, thence eastward along State Highway 332 to the junction FM Road 2004 in Lake Jackson, thence northeastward along FM Road 2004 to the junction of Interstate Highway 45 between Dickinson and La Marque, thence northwestward along Interstate Highway 45 to the junction of Interstate Highway 610 in Houston, thence east and northward along Interstate Highway 610 to the junction of Interstate Highway 10 in Houston, thence eastward along Interstate Highway 10 to the Louisiana State line.

(B) The tidal boundary is delineated as: The boundary runs a distance of 100 yards inland from the mean high tide lines along each of the following tidal river and stream segments from the points where they intersect the roadway boundary described in subparagraph (A) of this definition:

(i) on the Arroyo Colorado, to a point 100 meters (110 yards) downstream of Cemetery Road south of Port Harlingen in Cameron County;

(ii) on the Nueces River, to Calallen Dam 1.7 kilometers (1.1 miles) upstream of U.S. Highway 77 in Nueces/San Patricio County;

(iii) on the Guadalupe River, to the Guadalupe-Blanco River Authority Salt Water Barrier 0.7 kilometers (0.4 mile) downstream of the confluence of the San Antonio River in Calhoun and Refugio Counties;

(iv) on the Lavaca River, to a point 8.6 kilometers (5.3 miles) downstream of U.S. Highway 59 in Jackson County;

(v) on the Navidad River, to Palmetto Bend Dam in Jackson County;

(vi) on Tres Palacios Creek, to a point 0.6 kilometer (1.0 mile) upstream of the confluence of Wilson Creek in Matagorda County;

(vii) on the Colorado River, to a point 2.1 kilometers (1.3 miles) downstream of the Missouri-Pacific Railroad in Matagorda County;

(viii) on the San Bernard River, to a point 3.2 kilometers (2.0 miles) upstream of State Highway 35 in Brazoria County;

(ix) on Chocolate Bayou, to a point 4.2 kilometers (2.6 miles) downstream of State Highway 35 in Brazoria County;

(x) on Clear Creek, to a point 100 meters (110 yards) upstream of FM Road 528 in Galveston/Harris County;

(xi) on Buffalo Bayou, to a point 400 meters (440 yards) upstream of Shepherd Drive in Harris County;

(xii) on the San Jacinto River, to Lake Houston Dam in Harris County;

(xiii) on Cedar Bayou, to a point 2.2 kilometers (1.4 miles) upstream of Interstate Highway 10 in Chambers/Harris County;

(xiv) on the Trinity River, to a point 3.1 kilometers (1.9 miles) downstream of U.S. Highway 90 in Liberty County;

(xv) on the Neches River, to a point 11.3 kilometers (7.0 miles) upstream of Interstate Highway 10 in Orange County;

(xvi) on the Sabine River, to Morgan Bluff in Orange County.

(C) The wetlands portion of the boundary is delineated as: except for the part of the boundary adjacent to the Trinity and Neches Rivers, the boundary includes wetland lying one mile inland of the mean high tide lines of the tidal river and stream segments identified in the description of the tidal boundary, subparagraph (B) of this definition.

(i) Adjacent to the Trinity River, the boundary includes wetlands within the area located between the mean high tide line on the western shoreline of the river and FM Road 565 and FM Road 1409, and wetlands within the area located between the mean high tide line on the eastern shoreline of that portion of the river and FM Road 563.

(ii) Adjacent to the Neches River, the boundary includes wetlands within one mile of the mean high tide line on the western shoreline of the river, and wetlands within the area located between the mean high tide line on the eastern shoreline of that portion of the river and FM Road 105.

(D) The boundary with the State of Louisiana is delineated as: The boundary begins in Orange County at Morgans Bluff, the northernmost extent of tidal influence, along the adjudicated

boundary between the State of Texas and the State of Louisiana; thence it continues in a southerly direction along the adjudicated boundary out into the Gulf of Mexico until it intersects the seaward boundary.

(E) The seaward boundary is delineated as: That line marking the seaward limit of Texas title and ownership under the Submerged Lands Act (43 United States Code (U.S.C.) §1301 et seq).

(F) The boundary with the Republic of Mexico is delineated as: The boundary begins at a point three marine leagues into the Gulf of Mexico where the line marking the seaward limit of Texas title and ownership under the Submerged Lands Act (43 U.S.C. §1301 et seq) intersects the international boundary between the United States and the Republic of Mexico; thence it continues in a westerly direction along the international border with the Republic of Mexico until it meets the International Toll Bridge in Brownsville.

Cold water aquatic species - Fish in the family *Salmonidae* (trout and salmon).

Daily average flow - The arithmetic average of all determinations of the daily discharge within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily discharge, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.

Daily maximum concentration - The maximum concentration measured on a single day within a period of one calendar month.

Domestic sewage - Waterborne human waste and waste from domestic activities such as washing, bathing, and food preparation.

Edwards Aquifer - As defined under §213.3 of this title (relating to the Edwards Aquifer), that portion of an arcuate belt of porous, water-bearing, predominantly carbonate rocks known as the Edwards and Associated Limestones in the Balcones Fault Zone trending from west to east to northeast in Kinney, Uvalde, Medina, Bexar, Comal, Hays, Travis, and Williamson Counties; and composed of the Salmon Peak Limestone, McKnight Formation, West Nueces Formation, Devil's River Limestone, Person Formation, Kainer Formation, Edwards Formation, and Georgetown Formation. The permeable aquifer units generally overlie the less-permeable Glen Rose Formation to the south, overlie the less-permeable Comanche Peak and Walnut Formations north of the Colorado River, and underlie the less-permeable Del Rio Clay regionally.

Edwards Aquifer Recharge Zone - Generally, that area where the stratigraphic units constituting the Edwards Aquifer crop out, including the outcrops of other geologic formations in proximity to the Edwards Aquifer, where caves, sinkholes, faults, fractures, or other permeable features would create a potential for recharge of surface waters into the Edwards Aquifer. The recharge zone is identified as that area designated as such on official maps located in the offices of the Texas Natural Resource Conservation Commission and the appropriate underground water conservation district.

Existing facilities - Aquaculture production facilities in active operation, and that have discharged, during the calendar year previous to the effective date of this rule.

Grab sample - An individual sample collected in less than 15 minutes.

mg/l - Abbreviation for milligrams per liter.

New facilities - Aquaculture production facilities not in active operation and that have not discharged wastewater during the calendar year previous to the effective date of this rule.

Nuisance - Any emission of air contaminant(s), including but not limited to odors, that is of sufficient concentration and duration so as to be injurious or potentially injurious to human health or welfare, animal life, vegetation, or property, or which interferes with the normal use and enjoyment of animal life, vegetation, or property.

Operator - Any person or entity in control of or having responsibility for the daily operation of an aquaculture production facility.

Pond bottom sludges - Accumulations of silt, soils, and other matter in the bottom of ponds.

Process controls - Structures, technologies, and practices utilized to control the rate, volume, or quality of a discharge.

Production pond - Earthen ponds, raceways, fabricated tanks, or similar structures utilized in conjunction with the propagation or rearing of aquatic species.

Production - Weight of aquatic species as measured following harvest and prior to processing.

Publicly owned treatment works (POTW) - A treatment works owned and operated by a state or municipality which includes any device or systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature. This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment. This term also means the municipality that has jurisdiction over indirect discharges to and discharges from such a treatment works.

Registrant - An individual or entity authorized by the executive director to discharge wastewater from aquaculture facilities under the terms and requirements of a registration issued pursuant to this subchapter.

Shrimp research facilities - Facilities whose primary purpose is the scientific research of shrimp aquaculture methods, disease control, waste control, wastewater treatment technology, and similar subjects.

Tailwater control - Diked or bermed area, pond or other similar structure placed down-gradient of an irrigation site and designed to prevent off-site runoff or runoff to waters in the state.

Total residual chlorine - Chlorine concentration of the wastewater when discharged.

Warm water aquatic species - All aquatic species except those in the family *Salmonidae* (trout and salmon).

Wastewater management pond - Any structure used for containment, detainment, or treatment of wastewater, including settling ponds and canals utilized to transport wastewater from the production pond to a settling pond or discharge point.

Waste management unit - Any structure used for containment, detainment, storage, processing, or treatment of solid wastes.

Wastewater - Water that is a result of the following operations:

(A) propagation, rearing, or transportation of aquatic species;

(B) washdown, cleaning, and flushing of fabricated tanks, raceways, ponds, and other containment structures;

(C) washdown and cleaning of equipment; or

(D) washing, treating, or any other direct contact with aquatic species.

25-Year, 24-Hour rainfall event - The maximum rainfall event with a probable recurrence interval of once in 25 years (four percent probability of occurrence in a given year), with a duration of 24 hours, as defined by the National Weather Service in Technical Paper Number 40, "Rainfall Frequency Atlas of the United States," May 1961, and subsequent amendments, or equivalent information developed therefrom.

§321.272. Purpose and Applicability.

(a) The purpose of this subchapter is to specify which aquaculture facilities may be authorized by rule and which facilities are required to obtain an individual permit to discharge wastewater into or adjacent to waters in the state. Additionally, it is the purpose of this subchapter to regulate by registration, or to exempt from permitting or registration, certain aquaculture facilities for which it is not practical to issue individual permits because of the general nature of waste discharge from such facilities, the relatively small-quantity discharges of waste being made, and because it would be unnecessarily burdensome to both the waste discharger and the commission to require individual permits.

(b) An aquaculture facility that discharges within the coastal zone, and that discharges to waters in the state, may not receive authorization for discharge under this rule and must obtain an individual wastewater discharge permit in accordance with Chapter 305 of this title (relating to Consolidated Permits) if the facility contains, grows, or holds aquatic species as described in any of the following three categories:

(1) Cold water aquatic species in ponds, raceways, or other similar structures that discharge at least 30 days per year and:

(A) produce more than 20,000 pounds harvest weight of aquatic species per year; and

(B) feed more than 5,000 pounds of food during the calendar month of maximum feeding.

(2) Warm water aquatic species in ponds, raceways, or other similar structures that discharge at least 30 days per year and produce more than 100,000 pounds harvest-weight of aquatic species per year. This does not include those facilities that utilize closed ponds that discharge only during periods of excess storm water runoff.

(3) Shrimp species in ponds, raceways, or other similar structures at:

(A) a shrimp research facility that discharges less than 30 days per year but at a flow rate that exceeds five million gallons on any single day of discharge, or

(B) any other shrimp aquaculture facility regardless of production or discharge quantity.

(c) An aquaculture facility that discharges to waters in the state located outside of the coastal zone, as defined in §321.271 of this title, and that exceeds the thresholds described in either subsection (b) (1), (2) or (3) of this section must obtain a certificate of registration issued by the executive director unless the executive director determines that a permit is required pursuant to subsection (d) of this section.

(d) The executive director may require any aquaculture facility that discharges into or adjacent to waters in the state to obtain either an individual permit or a certificate of registration, regardless of the criteria in subsection (b) of this section. In making this designation, the executive director shall consider, at a minimum, the following factors:

(1) the facility's ability to protect water quality while operating within the terms of its registration or exemption;

(2) the location of the facility and quality of the receiving waters in the state;

(3) the holding, feeding, and production capacities of the facility and the proximity of other aquaculture facilities conducting similar operations;

(4) the quantity and nature of the pollutants reaching waters in the state;

(5) the quantity and frequency of the discharge;

(6) the results of any on-site inspection of such an aquaculture facility;

(7) the operation's impact upon existing and potential uses of ground-water resources;

(8) the operation's ability to comply with the standards and requirements of this subchapter applicable to registrants; and

(9) whether, because of the nature of the discharge and the quality of the receiving waters in the state, the discharge should be regulated by individual permit or by registration.

(e) An aquaculture facility that is not required to obtain a permit under subsection (b) of this section and that is not required to obtain a registration under subsection (c) of this section shall be considered initially as conditionally exempt. Operators of such facilities shall meet the following requirements in order that the executive director may assess whether the facility shall be considered as exempt, required to obtain an individual permit, or required to obtain a certificate of registration in accordance with subsection (d) of this section.

(1) The operator shall provide written notification to the executive director prior to generating wastewater from a new facility that meets the description of conditionally exempt. The operator of an existing facility which meets the description of conditionally exempt must mail written notification within 180 days of the effective date of this subchapter. Notification shall include, at a minimum, the following information and be provided to the executive director on approved forms:

(A) name and address of the facility operator;

(B) physical location of the facility as described by latitude and longitude;

(C) description of the discharge route of effluent from the facility for a minimum distance of three miles;

(D) description of the number and sizes of production ponds;

(E) description of the quantity and frequency of the discharge;

(F) description of the quantity and nature of the pollutants reaching waters in the state;

(G) description of process controls or wastewater management ponds utilized;

(H) list of aquatic species produced and estimated annual production in pounds; and

(I) proximity to other aquaculture facilities.

(2) Following receipt of notification from a conditionally exempt facility, the operator will be notified:

(A) the facility is considered as exempt; or

(B) the operator must submit additional information for evaluation; or

(C) an individual permit is required in accordance with subsection (d) of this section, or

(D) authorization by registration is required in accordance with subsection (d) of this section.

(f) Operators of any aquaculture facilities exempt from registration or permit under this section must construct and manage facilities to protect the water quality standards of surface water and the existing and potential uses of ground water. Any exempt facility that does not discharge wastewater directly into surface waters, but instead disposes of wastewater adjacent to waters in the state (such as by land application, evaporation, or irrigation) must comply with any applicable provisions of §321.275 of this title (relating to Waste Utilization or Disposal by Land Application of Wastewater and Pond Bottom Sludges). Any exempt facility must additionally notify the executive director, in writing, within 30 days of any change in control or ownership of facilities, change or addition in the aquatic

species produced, increase in the number of production ponds, or expansion of existing production ponds.

(g) Operators of aquaculture facilities who would be otherwise eligible to obtain registration under this section but who either are unable or choose not to implement all required best management practices (BMPs) set forth in §321.277 of this title (relating to Required Best Management Practices) are required to apply for an individual permit under Chapter 305 of this title (relating to Consolidated Permits), within 180 days of the date this rule takes effect.

(h) Operators of aquaculture facilities exempt from registration and permit under this section, who subsequently expand facilities, production, or discharge days resulting in exceedance of the criteria in subsections (b) and/or (c) of this section, must submit either an application for registration or an application for individual permit within 45 days following exceedance of the criteria.

(i) Any new facility required to obtain either registration or an individual permit may not commence operation of any waste management unit without first receiving either authorization in accordance with this subchapter, an individual permit, or authorization for the construction. Any expanding facility, described by §321.272(h) of this title, may not commence operation of any new waste management unit without first receiving authorization in accordance with this subchapter, an individual permit, or authorization for the construction.

(j) Discharges associated with the processing of aquatic organisms by packing as fresh or frozen product, canning, smoking, salting, drying or otherwise curing, or rendering for use as human or animal food are not authorized by this subchapter.

(k) Discharges associated with the propagation or rearing of aquatic species utilizing cages or other enclosures which are placed within public waters are not authorized by this chapter. Operators are required to apply for an individual permit under Chapter 305 of this title, within 180 days after the date this rule takes effect.

(l) Registration under this rule does not convey property or water rights of any sort and does not grant any exclusive privilege.

(m) An existing aquaculture facility subject to permitting or registration requirements under this section that does not hold a valid commission wastewater discharge permit must submit an application for registration or an application for an individual permit within 180 days after the date this rule takes effect.

§321.273. Certificate of Registration and Public Notice.

(a) An applicant must apply for registration on a form approved by the executive director. A completed application shall be submitted to the commission's Wastewater Permits Section, P.O. Box 13087 (MC-148), Austin, Texas 78711-3087. Before issuing a certificate of registration, the executive director will review the application to determine whether the facility operations meet the requirements of §321.274 of this title (relating to Ground-Water Protection), §321.275 of this title (relating to Waste Utilization or Disposal By Land Application of Wastewater and Pond Bottom Sludge), §321.276 of this title (relating to Edwards Aquifer), and §321.277 of this title (relating to Required Best Management Practices).

(b) The registrant must notify the executive director, in writing, 30 days prior to any change in control or ownership of facilities, change or addition to the aquatic species produced, increase in the number of production ponds, or expansion of existing production ponds. The registrant must notify the executive director, in writing, at least 30 days following harvest if annual production exceeds criteria specified in §321.272 (b) of this title (relating to Purpose and Applicability).

(c) The executive director may take action on an application to issue a certificate of registration if the following actions regarding public notice are met.

(1) At least 30 days prior to executive director approval of an application and issuance of the certificate of registration, notice of the application shall be provided at the applicant's cost:

(A) in a newspaper regularly published and generally circulated within the county and area where the proposed facility and discharge are to be located;

(B) in writing by certified mail (return receipt requested) to the county judge of the county in which the facility is to be located and also, when the facility is to be located within the jurisdictional boundaries of a city or town, to the mayor of that city or town; and

(C) in a format approved by the executive director and setting forth the substance of the application and proposed action including, but not limited to, the general location of any point of discharge, the method for obtaining additional information about the application, and the method for submitting comment on the application.

(2) With any application for registration submitted pursuant to this subchapter, the applicant shall also provide proof to the executive director that public notice was provided in accordance with paragraph (1) of this subsection. The proof shall be provided within 14 days of obtaining the following information:

(A) a signed affidavit from the publisher acknowledging that the notice was published, indicating the date of publication, and providing a copy of the newspaper clipping; and

(B) a sworn statement from the applicant that written notice was mailed to the entities identified in this subsection, along with a copy(s) of the return receipt acknowledgment from the U.S. Postal Service.

(3) The applicant shall mail the application, including the material required by paragraph (2) of this subsection, to the commission's Wastewater Permits Section, P.O. Box 13087 (MC 148), Austin, Texas 78711-3087. The application shall undergo review by the executive director following the determination that notice requirements of this section are met.

(4) Any comments received by the executive director prior to the end of the 30-day period, after all of the notices have been provided, will be considered as a part of any decision of approval, denial, or modification of a request for registration from an applicant. The executive director shall mail notice of the final decision to the applicant and to any person who submitted comments on the application. A person who wishes to appeal the executive director's decision on the application shall file a motion for reconsideration, under §50.39 of this title (relating to Motion for Reconsideration).

(5) The executive director may deny an application for registration based on the potential or actual adverse impact, or close proximity to a public park, school, recreational area, spring, water supply well, surface water supply intake, water treatment plant intake, potable water storage facility, or sewage treatment plant. A determination of potential adverse impact may arise from consideration of such factors as proposed flow rate, production rate, or nature of the receiving stream. In making such a determination, the executive director may also consider other factors, as necessary.

§321.274. Ground-Water Protection.

(a) Wastewater management ponds and production ponds that contain water with a total dissolved solids content in excess of 2000 mg/l and all wastewater management ponds and production ponds which are located within the Edwards Aquifer Recharge Zone, regardless of total dissolved solids content, shall conform to the following requirements.

(1) All ponds whether constructed of earthen or other impervious material shall be designed and constructed so as to prevent ground-water contamination.

(A) Soils used for pond lining shall be free from foreign material such as paper, brush, trees, and large rocks. All soil liners must be comprised of compacted material, at least 24-inches thick, compacted in lifts not greater than six inches thick and compacted to 95% of Standard Proctor Density. Soil liners must meet the following particle size gradation and Atterberg limits: 30% or more passing a number 200 mesh sieve; a liquid limit of 30% or greater; and a plasticity index of 15 or greater and a permeability less than or equal to 1×10^{-7} cm/sec.

(B) Synthetic membrane linings shall have a minimum thickness of 40 mils with a leak detection system.

(C) In-situ liners at least 24-inches thick and meeting a permeability less than or equal to 1 X 10^{-7} cm/sec are acceptable alternatives to the requirements of subparagraphs (A) and (B) of this paragraph.

(D) In-situ or emplaced soil or compacted clay liners must be proven, by laboratory or field testing, to retain their permeability characteristics when exposed to the quality of water proposed to be contained in the pond, i.e. saline or other water shall not chemically alter the liner in such a manner that the permeability is increased over the above standard.

(E) Certification shall be furnished by a Texas Registered Professional Engineer that the pond lining meets the appropriate criteria prior to utilization of the facilities.

(2) Soils used in the construction of a pond's embankment walls shall be free of foreign material such as paper, brush, trees, and large rocks. Soil embankment walls shall have a top width of at least five feet. The interior and exterior slopes of soil embankment walls shall be no steeper than one foot vertical to three feet horizontal unless alternate methods of slope stabilization are utilized. Soil embankment walls must be constructed of material compacted in lifts no greater than six inches to 95% of Standard Proctor Density. All soil embankment walls shall be protected by a vegetative cover or other stabilizing material to prevent erosion. Erosion stops and water seals shall be installed on all piping penetrating the embankments.

(b) Production ponds and wastewater management ponds utilizing water which will not exceed a total dissolved solids concentration of 2000 mg/l and are not located within the Edwards Aquifer Recharge Zone, and those which are not constructed in accordance with subsection (a) of this section shall conform to the following requirements.

(1) All ponds whether constructed of earthen or other impervious materials shall be designed and constructed so as to prevent ground-water contamination.

(A) Soils used for pond lining shall be free from foreign material such as paper, brush, trees, and large rocks. All soil liners must be of compacted material, at least 24-inches thick, compacted in lifts no greater than six inches and with material that has a permeability less than or equal to 1×10^{-4} cm/sec.

(B) Synthetic membrane linings shall have a minimum thickness of 40 mils and a leak detection system.

(C) In-situ liners at least 24-inches thick meeting a permeability less than or equal to 1×10^{-4} cm/sec are acceptable alternatives to the requirements of subparagraphs (A) and (B) of this paragraph.

(D) Certification shall be furnished by a Texas Registered Professional Engineer that the pond lining meets the appropriate criteria prior to utilization of the facilities.

(2) Soils used in the construction of a pond's embankment walls shall be free of foreign material such as paper, brush, trees, and large rocks. Soil embankment walls shall have a top width of at least five feet. The interior and exterior slopes of soil embankment walls shall be no steeper than one foot vertical to three feet horizontal unless alternate methods of slope stabilization are utilized. Soil embankment walls must be constructed of material compacted in lifts not greater than six inches to 95% of Standard Proctor Density. All soil embankment walls shall be protected by a vegetative cover or other stabilizing material to prevent erosion. Erosion stops and water seals shall be installed on all piping penetrating the embankments.

(c) An alternative method of pond lining, which will meet the performance standards provided by this section, may be utilized with the prior written approval of the executive director. Suitable materials for alternate pond linings may include impervious materials such as flexible membrane linings, asphalt-sealed fabric liners, and bentonite sealants. Installation of bentonite sealants and flexible membrane linings shall be in accordance with a detailed plan which meets the conservation practice standard and specification code 521, "Pond Sealing or Lining," of the USDA Natural Resources Conservation Service.

(d) A specific exemption from the ground-water protection requirements of this section may be obtained from the executive director if, after the review of data submitted by the applicant, the executive director determines containment of the water in a production pond or wastewater management pond is not necessary, considering:

(1) soil and geologic data, and ground-water data, including its quality, uses, quantity and yield, and

(2) adequate demonstration that impairment of ground-water for its actual or potential use will be prevented.

(e) Earthen ponds in existence on the date this subchapter becomes effective shall be exempt from the requirements of subsections (a), (b), or (c) of this section provided that:

(1) exemption does not conflict with permit terms and conditions of previously issued permits that specifically require the lining of ponds, and

(2) operation of such ponds does not cause an adverse impact upon ground-water.

(f) Whenever the discharge of waste or wastewater into ground-water occurs or is likely to occur which could cause degradation of ground-water quality, the executive director may require compliance with the provisions of subsections (a), (b) and (c) of this section.

§321.275. Waste Utilization or Disposal by Land Application of Wastewater and Pond Bottom Sludges.

(a) If the registrant utilizes land application for disposal of wastewater or solid waste, the following requirements shall apply.

(1) Management of solid waste.

(A) All solid waste stockpiled or retained on-site shall be isolated from all run-on of stormwater by dikes, terraces, berms, ditches, or other similar structures and shall be maintained so as to retain the volume of rainfall generated by a 25-year, 24-hour storm event.

(B) Adequate solid waste storage capacity shall be provided and be based upon waste production.

(C) All management of solid waste shall be conducted so as not to create a nuisance condition.

(2) Practices to protect ground-water.

(A) Waste management units must be located a minimum horizontal distance from water wells, in accordance with Chapter 290 of this title (relating to Water Hygiene) and Chapter

238 of this title (relating to Well Drillers and Water Well Pump Installers), or where those regulations do not apply, the distance to a water well shall be a minimum of 500 feet.

(B) When applying waste or wastewater to land, a buffer area must be utilized around water wells to prevent the possibility of waste transport to ground-water via the well or well casing. Wastewater may not be applied closer than 500 feet from any drinking water well.

(3) Utilization and disposal methods.

(A) When applying liquid and solid waste on agricultural lands, distribution shall be such that neither the waste nor rainfall runoff will adversely affect the quality of waters in the state.

(B) When irrigation disposal of wastewater is used, tailwater controls shall be provided as necessary to prevent the release of applied wastewater to waters in the state. Irrigation practices shall be managed so as to reduce or minimize ponding or puddling of wastewater on the site and to prevent contamination of waters in the state and the occurrence of nuisance conditions.

(C) Disposal of waste and wastewater shall be done in such a manner as to prevent nuisance conditions.

(D) Irrigation shall not be conducted when the ground is frozen or saturated or during rainfall events.

(4) Application rates. Liquid and solid waste or wastewater shall be applied in such concentrations, and application shall be made at such intervals, as to not inhibit the growth of crops or forage or result in wastewater runoff.

(b) The registrant shall comply with the following conditions if other solid waste management occurs on-site, or if solid waste is disposed of off-site.

(1) The registrant shall keep management records for all sludge (or other waste) removed for disposal. Records must include the following, at a minimum:

(A) volume of waste disposed of off-site;

(B) origin and general composition of waste;

(C) date(s) of disposal;

(D) identity of hauler or transporter;

(E) location of disposal site; and

(F) method of final disposal.

(2) The records provided by paragraph (1) of this subsection shall be maintained on a monthly basis at the facility or shall be readily available for inspection by authorized representatives of the executive director for at least three years.

(c) Removal of pond bottom sludges (or other solids) from production ponds or wastewater management ponds shall be conducted during favorable wind conditions that carry odors away from nearby receptors such as residences, businesses, and public buildings. At no time shall emissions from any activity create a nuisance.

§321.276. Edwards Aquifer.

New aquaculture production facilities located within the Edwards Aquifer Recharge Zone or within ten miles upstream from that recharge zone must meet all applicable requirements of and operate in accordance with Chapter 213 of this title (relating to Edwards Aquifer).

§321.277. Required Best Management Practices and Specific Requirements for Discharge.

(a) The following Best Management Practices (BMPs) are required and shall be utilized to abate the discharge of suspended solids and other pollutants.

(1) Harvest operations which utilize seining techniques may dewater the pond without detention of the effluent to a maximum of three-fourths the total volume of the pond or until seining operations commence, whichever occurs first. The remaining volume of water shall be detained (either within the same pond or transferred to a separate detainment structure) a minimum of 48 hours prior to discharge to allow settling of solids and associated pollutants.

(2) Harvest operations which require complete dewatering shall transfer the final one-fourth volume of the pond to a separate detainment structure. This volume shall be detained a minimum of 48 hours prior to final discharge to allow settling of solids and associated pollutants.

(3) Exemption from the requirements of paragraphs (1) and (2) of this subsection is allowed if the volumes of water defined by paragraphs (1) and (2) of this subsection as requiring detention do not exceed a total suspended solids concentration of 30 mg/l. Compliance shall be demonstrated by analysis of a composite sample of the discharge. If harvest operations are conducted upon multiple ponds within a single day, a single sample may be obtained for laboratory analysis. Such a sample shall be obtained by combining (in flow-weighted proportions) composite samples of discharges described in paragraphs (1) and (2) of this subsection which originate from separate ponds.

(4) All discharges shall be controlled such that flow rates minimize any increase in turbidity of the receiving stream due to erosion or suspension of sediments. Discharges shall not cause substantial and persistent changes from ambient conditions of turbidity and color.

(5) Earthen levees and dikes shall be vegetated or stabilized in a manner to control erosion. Vegetation, when utilized, shall be maintained at all times through mowing, watering, or other suitable maintenance practices.

(b) The following BMPs are required and shall be utilized to abate the discharge of toxic substances from maintenance of equipment and treatment of aquatic species.

(1) When chlorine is used for disinfection of equipment, raceways, tanks, or other similar structures, the effluent shall not exceed 4 mg/l total residual chlorine as measured by grab sample. The discharge of these wastewaters shall be sampled and analyzed in accordance with requirements of subsection (c) of this section. Test procedures shall comply with those specified in §§319.11-319.12 of this title (relating to Sampling and Laboratory Testing Methods and Alternate Sampling and Laboratory Testing Methods). Large-scale disinfection (such as disinfection of production ponds, water distribution canals or lakes) which results in discharge is not authorized under provisions of this subchapter.

(2) When lime is used for disinfection of production pond bottoms, water distribution canals, and other similar facilities, there shall be no discharge allowed until pH levels of the wastewater are adjusted to within a range of 6.0 to 9.0 standard units.

(3) Only drugs, medications and chemicals approved by the United States Environmental Protection Agency (EPA) or the United States Food and Drug Administration (FDA) for aquaculture use may be used in water which will be discharged. Treatment shall be limited to those aquatic species and to those purposes for which approval was granted. Treatment shall be used only as necessary, and only as directed on the product label. The water shall be diluted, held for a specific time, or neutralized prior to discharge as directed on the product label or as necessary to comply with Chapter 307 of this title (relating to Texas Surface Water Quality Standards) or as needed to be below the concentration level used for a long-term static treatment, whichever is the lowest concentration.

(4) Exemption from the requirements of paragraph (3) of this subsection may be approved on a case-by-case basis by the executive director to allow for Investigational New Animal Drug permits from the FDA.

(c) Facilities regulated under this rule are authorized to discharge wastewater in accordance with the following limitations and monitoring requirements. **(Figure 1: 30 TAC §321.277(c).)**

Figure 1: 30 TAC §321.277(c)

Parameter	Limitation	Sample Type	Monitoring Frequency
Flow (MGD)	N/A	Estimate	1/day*
Total Suspended Solids	N/A	Grab	1/month*
Volatile Suspended Solids	N/A	Grab	1/month*
Total Residual Chlorine	4 mg/l	Grab	1/day**
pH	6.0 - 9.0 S.U.	Grab	1/day***
Dissolved Oxygen	2 mg/l	Grab or in-situ	1/2weeks*

* When discharge occurs. Daily average and daily maximum flow shall be reported. Total suspended solids and volatile suspended solids shall each be reported as a daily maximum concentration. Oxygen monitoring may be conducted on a grab sample or of the effluent directly (in-situ) and reported as the daily minimum.

** When discharge occurs. Monitoring for total residual chlorine is required only following the use of chlorine.

*** When discharge occurs. Monitoring is required only following the use of lime. The effluent quality shall be adjusted prior to discharge to be within the allowable limitation. Units are standard units (S.U.).

(1) Unless otherwise specified in this rule, sampling and laboratory test methods shall comply with procedures specified in §319.11 of this title (relating to Sampling and Laboratory Testing Methods).

(2) Results of monitoring of each constituent specified in §321.277 of this title (relating to Required Best Management Practices and Specific Requirements for Discharge) shall be reported by the registrant to the commission's Agriculture and Watershed Management Division, on the Aquaculture Production Facilities Report form approved by the executive director. Monitoring results shall be reported to the executive director in accordance with the following schedule. **(Figure 2: 30 TAC §321.277(c)(2).)**

Figure 2: 30 TAC §321.277(c)(2)

Monitoring Period	Report Due Date
January, February, March	April 30th
April, May, June	July 31st
July, August, September	October 31st
October, November, December	January 31st

(3) Annual production for the period of January - December shall be reported by the registrant to the commission's Agriculture and Watershed Management Division, on the Aquaculture

Production Facilities Report form which is due each January 31st, in accordance with paragraph (2) of this subsection.

(4) The registrant shall maintain results of monitoring of each constituent specified in §321.277 of this title or the equivalent information shall be maintained for a minimum of three years and shall make these results readily available for review upon request.

§321.278. General Requirements.

(a) There shall be no discharge of floating solids, no discharge of visible oil, nor shall the discharge cause any nuisance conditions affecting the public along the discharge route.

(b) The discharge shall not exhibit foaming of a persistent nature.

(c) Sweeping or intentional flushing of accumulated solids from raceways and fabricated tanks with discharge to waters in the state is prohibited unless this volume is routed to and contained within a separate detainment structure a minimum 48 hours prior to discharge to allow settling of solids and associated pollutants.

(d) Dewatering of ponds should be accomplished by discharge of the uppermost portion of the water column to avoid discharge of disturbed bottom sediments.

(e) Chlorine disinfection wastewater and other cleaning wastewaters should be discharged to a POTW when possible.

(f) Records of all drugs, medications, and chemicals utilized for treatment shall be maintained on a monthly basis at the facility or shall be readily available for inspection by authorized representatives of the executive director for at least three years. Records shall include treatment concentrations, discharge concentrations, discharge volumes and dates, and a product label, or Material Safety Data Sheet (MSDS) for each drug, medication, or chemical utilized.

(g) Any registrant engaged in the propagation and/or rearing of shrimp which suffer mortalities due to apparent disease shall have the cause of mortality diagnosed by a pathologist as soon as is practicable. The TNRCC shall be immediately notified of the diagnosis. Any actions which are deemed as necessary by the registrant to prevent transmission of the disease to aquatic life endemic to waters in the state shall be implemented as soon as is possible. The executive director may additionally require cessation of the discharge of effluent from infected portions of the facility as is necessary to protect aquatic life in the receiving stream from potential adverse effects.

(h) The reuse of pond wastewater should occur to the maximum extent possible. Pond wastewater shall be recirculated or reused wherever appropriate and cost effective.

(i) The discharge of domestic sewage into or adjacent to waters in the state is not authorized by this subchapter. All domestic sewage shall be either discharged pursuant to an individual permit issued

by the commission; routed to an authorized and adequately designed on-site sewage facility, POTW; or transported to an approved off-site disposal facility.

(j) Aquaculture production facilities shall be operated in such a manner as to prevent the creation of a nuisance or a condition of air pollution as mandated by Chapters 341 and 382 of the Texas Health and Safety Code.

(k) Dead aquatic species shall be routinely removed from ponds and properly disposed of as is required to prevent contamination of waters in the state and to prevent a nuisance or public health hazard.

(l) All discharges from aquaculture production facilities shall comply with §319.22 of this title (relating to Quality Levels-Inland Waters) or shall comply with §319.23 of this title (relating to Quality Levels-Tidal Waters).

(m) The facility shall take all steps necessary to prevent any adverse effects upon human health or safety, or to the environment. The registrant of any facility authorized under this subchapter shall report any noncompliance with the requirements of this subchapter (including any unauthorized discharges or overflows) which may endanger human health or safety or the environment. Report of such information shall be provided orally to the commission's regional office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided to the commission's regional office and to the commission's Austin office, Water Enforcement

Section, P.O. Box 13087, (MC-149), Austin, Texas 78711-3087, within five working days of becoming aware of the noncompliance. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.

§321.279. Enforcement and Revocation, Suspension, or Annulment

(a) Enforcement action. If any registrant or facility regulated by this subchapter fails to comply with the terms of this subchapter, the executive director may take enforcement action as provided by Texas Water Code, §26.136 and in accordance with commission rules relating to enforcement actions.

(b) Revocation or suspension of a registration. A registration of the commission does not become a vested right and may be suspended or revoked at any time by order of the commission after opportunity for a public hearing is given. Any person who has obtained a registration under this subchapter is subject to the revocation and suspension procedures set forth in §§305.66, 305.67 and 305.68 of this title (relating to Permit Denial, Suspension, and Revocation; Revocation & Suspension Upon Request or Consent; and Action and Notice on Petition for Revocation or Suspension).

(c) Annulment of registration. The executive director may annul any registration for those facilities that did not meet, at the time the application was filed, the conditions necessary to invoke the executive director's authority to grant them a registration. The executive director shall give notice by personal service or by registered or certified mail to the registration holder of facts or conduct alleged to warrant the intended action. The registration holder shall have an opportunity to show compliance with all requirements of law for the retention of the registration by providing such showing within 30 days of the date the executive director's letter was mailed. Within 30 days of receiving the registrant's response, the executive director shall send a letter containing the decision on the annulment delivered by personal service or by registered or certified mail to the registrant. The registrant is required to

cease activities under the registration within 10 days of the date that the executive director's decision letter was mailed. If the registrant wishes to appeal the decision, the procedures regarding appeals set forth in §321.272 of this title (relating to Purpose and Applicability) apply.

§321.280. Annual Waste Treatment Fee.

(a) In accordance with §§305.501-305.507 of this title (relating to Waste Treatment Inspection Fee Program), registrants authorized to discharge wastes to surface waters from aquaculture production facilities under the requirements of this subchapter shall remit to the commission an annual waste treatment fee.

(b) The fee, assessed annually, shall be in accordance with the following fee rate schedule:

(1) for any active facility, the fee shall be $500, as determined by either the information specified on the application for registration or on the Aquaculture Production Facilities Report forms submitted during the calendar year;

(2) for any inactive facility, the fee shall be $250; and

(3) any increased assessment above the amounts in paragraphs (1) or (2) of this subsection shall be in accordance with regulations adopted by the commission.

This agency hereby certifies that the adoption has been reviewed by legal counsel and found to be a valid exercise of the agency's legal authority.

Issued in Austin, Texas, on