TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

February 11, 2008

TO: Persons on the attached mailing list.

RE: Broumley Dairy
TPDES Permit No. WQ0003395000

Decision of the Executive Director.

The executive director has made a decision that the above-referenced permit application meets the requirements of applicable law. **This decision does not authorize construction or operation of any proposed facilities.** Unless a timely request for contested case hearing or reconsideration is received (see below), the TCEQ executive director will act on the application and issue the permit.

Enclosed with this letter is a copy of the Executive Director's Response to Comments. A copy of the complete application, draft permit and related documents, including public comments, is available for review at the TCEQ Central office. A copy of the complete application, the draft permit, and executive director's preliminary decision are available for viewing and copying at the Texas Cooperative Extension Office, 102 North Rice, Suite E, Hamilton, Texas 76531-1859.

If you disagree with the executive director's decision, and you believe you are an "affected person" as defined below, you may request a contested case hearing. In addition, anyone may request reconsideration of the executive director's decision. A brief description of the procedures for these two requests follows.

How To Request a Contested Case Hearing.

It is important that your request include all the information that supports your right to a contested case hearing. You must demonstrate that you meet the applicable legal requirements to have your hearing request granted. The commission's consideration of your request will be based on the information you provide.

The request must include the following:

(1) Your name, address, daytime telephone number, and, if possible, a fax number.

(2) If the request is made by a group or association, the request must identify:
   (A) one person by name, address, daytime telephone number, and, if possible, the fax number, of the person who will be responsible for receiving all communications and documents for the group; and
   (B) one or more members of the group that would otherwise have standing to request a hearing in their own right. The interests the group seeks to protect must relate to the organization's purpose. Neither the claim asserted nor the relief requested must require the participation of the individual members in the case.

(3) The name of the applicant, the permit number and other numbers listed above so that your request may be processed properly.

(4) A statement clearly expressing that you are requesting a contested case hearing. For example, the following statement would be sufficient: "I request a contested case hearing."

Your request must demonstrate that you are an **"affected person."** An affected person is one who has a personal justiciable interest related to a legal right, duty, privilege, power, or economic interest affected by the application. Your request must describe how and why you would be adversely affected by the proposed facility or activity in a manner not common to the general public. For example, to the extent your request is based on these concerns, you should describe the likely impact on your health, safety, or uses of your property which may be adversely affected by the proposed facility or activities. To demonstrate that you have a personal justiciable interest, you must state, as specifically as you are able, your location and the distance between your location and the proposed facility or activities.

Your request must raise disputed issues of fact that are relevant and material to the commission's decision on this application. The request must be based on issues that were raised during the comment period. The request cannot be based solely on issues raised in comments that have been withdrawn. The enclosed Response to Comments will allow you to determine the issues that were raised during the comment period and whether all comments raising an issue have been withdrawn. The public comments filed for this application are available for review and copying at the Chief Clerk's office at the address below.

To facilitate the commission's determination of the number and scope of issues to be referred to hearing, you should: 1) specify any of the executive director's responses to comments that you dispute; and 2) the factual basis of the dispute. In addition, you should list, to the extent possible, any disputed issues of law or policy.

How To Request Reconsideration of the Executive Director's Decision.

Unlike a request for a contested case hearing, anyone may request reconsideration of the executive director's decision. A request for reconsideration should contain your name, address, daytime phone number, and, if possible, your fax number. The request must state that you are requesting reconsideration of the executive director's decision, and must explain why you believe the decision should be reconsidered.

Deadline for Submitting Requests.

A request for a contested case hearing or reconsideration of the executive director's decision must be in writing and must be **received by** the Chief Clerk's office no later than **30 calendar days** after the date of this letter: You should submit your request to the following address:

LaDonna Castañuela, Chief Clerk
TCEQ, MC-105
P.O. Box 13087
Austin, Texas 78711-3087

Processing of Requests.

Timely requests for a contested case hearing or for reconsideration of the executive director's decision will be referred to the alternative dispute resolution director and set on the agenda of one of the commission's regularly scheduled meetings. Additional instructions explaining these procedures will be sent to the attached mailing list when this meeting has been scheduled.

How to Obtain Additional Information.

If you have any questions or need additional information about the procedures described in this letter, please call the Office of Public Assistance, Toll Free, at 1-800-687-4040.

Sincerely,

LaDonna Castañuela
Chief Clerk

LDC/mr

Enclosures

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for
Broumley Dairy
TPDES Permit No. WQ0003395000

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TPDES PERMIT NO. WQ0003395000

APPLICATION BY JIM BROUMLEY AND KEITH BROUMLEY, DBA BROUMLEY DAIRY	§ § § §	**BEFORE THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

EXECUTIVE DIRECTOR'S RESPONSE TO PUBLIC COMMENT

The Executive Director (ED) of the Texas Commission on Environmental Quality (TCEQ or Commission) files this Response to Public Comment on the preliminary decision by the ED to approve the application of Jim Broumley and Keith Broumley, dba Broumley Dairy (Applicant) for a major amendment of its existing Concentrated Animal Feeding Operation (CAFO) Texas Pollutant Discharge Elimination System (TPDES) permit no. WQ0003395000. As required by Title 30 of the Texas Administrative Code (30 TAC) Section (§) 55.156, before a permit is issued, the ED prepares a response to all timely, relevant and material, or significant public comments. The Office of the Chief Clerk received timely public comments from the City of Waco, represented by Brown McCarroll L.L.P. (Waco), and Doug and Linda Anderson. The Office of the Chief Clerk also received timely public comment in support of the issuing the major amendment to this permit from John Cowan, the Texas Association of Dairies, the Dairy Farmers of America, and Mac Rickels.

This response addresses all such timely public comments received, whether or not withdrawn. If you need more information about this permit application or the wastewater permitting process, please call the TCEQ Office of Public Assistance at 1-800-687-4040. General information about the TCEQ can be found at our website at www.tceq.state.tx.us.

BACKGROUND

Description of Facility

The Applicant has applied for a major amendment to their CAFO individual permit that would allow it to expand its dairy head capacity from 990 head (Holstein cows) to 1499 total head (Jersey cows) of which 1,100 head are milking cows, with no increase in waste production from the previous permit due to the smaller milking breed. The major amendment also requests a decrease in Land Management Units (LMUs) from 434 acres to 229.5 acres. The facility consists of three retention control structures (RCSs) working in conjunction with an anaerobic digester system and LMUs. The facility is located on the west side of county Road 240, approximately one mile south of the intersection of County Road 240 and State Highway 6, east of the city of Hico in Hamilton County, Texas. The facility is located in the drainage area of the North Bosque River in Segment No. 1226 of the Brazos River Basin.

Procedural Background

The permit application was received on January 27, 2004 and declared administratively complete on July 7, 2006. The Notice of Receipt and Intent to Obtain a Water Quality Permit was published in the *Hico News Review* on November 9, 2006. TCEQ staff completed a technical review of the application and prepared a draft permit. The Notice of Application and Preliminary Decision for a Water Quality Permit was published in the *Hico News Review* on August 9, 2007. The public comment period ended on September 10, 2007. This application is subject to House Bill 801, 76th Legislature, 1999.

COMMENTS AND RESPONSES

Comment 1:

Waco comments that the dairy is a "new source" as defined by Title 40 of the Code of Federal Regulations (40 CFR) § 122.2 and as required by 30 TAC § 305.2(23). Therefore, the dairy should be classified as a "new source" subjecting it to the review required by 40 CFR § 122.2(i). Waco comments that because dairy is a "new source" it requires TCEQ to do a load allocation to determine if there is sufficient load allocations remain for discharges from this dairy. Waco comments that this has not been done and that most significantly Footnote 2 in Table 1 of Mr. Cooke's EPA letter of 12/31/01 to TCEQ ED Jeff Saitas states the TMDLs "did not include any allocation whatsoever for discharges from the CAFO lagoons."

Response 1:

40 CFR §§ 122.4(a) and (d) prohibit issuing a permit if the conditions of the permit do not provide for compliance with the Clean Water Act (CWA) and when the imposition of conditions cannot insure compliance with the applicable water quality requirements. 40 CFR § 122.4(i) also prohibits issuance of a permit to a "new source" if the discharge from its construction or operation will cause or contribute to the violation of water quality standards. The ED does not find that the draft permit violates these provisions.

"New source" is defined in the federal rules at 40 CFR § 122.2. The definition states that a "new source" is:

> Any building structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced: (A) after promulgation of standards of performance under CWA, § 306, or (B) after proposal of standards of performance in accordance with CWA, § 306, which are applicable to such source, but only if the standards are promulgated in accordance with § 306 within 120 days of their proposal.

According to 40 CFR § 122.29(b), an applicant is a "new source" if it meets the above definition and meets the following criteria:

(i) It is constructed at a site where no other source is located;
(ii) It totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or
(iii) Its processes are substantially independent of an existing source at the same site (In making this determination, factors to consider include to the extent the new facility is integrated with the existing facility and to the extent the new facility is engaged in the same general activity as the existing source).

The Applicant is seeking an expansion of an existing dairy along with the expansion of RCS capacity. The Applicant is not proposing to replace the existing process. The expansion of the RCSs to meet the new 2004 CAFO rule requirements does not meet any of the criteria outlined in 40 CFR § 122.29(b), but simply expands an existing part of the facility. The dairy expansion would be integrated with the existing facility. Therefore, the facility is not a new source.

Comment 2:

Waco comments that there has not been a demonstration that there is sufficient remaining TMDL pollutant load allocations of phosphorus discharged from the CAFO or that existing dischargers are subject to compliance schedules. Waco states that the general load allocation for phosphorus discharges performed by TCEQ in the two Total Maximum Daily Loads (TMDLs) did not include any allocation whatsoever for discharges from CAFO wastewater lagoons.

Response 2:

The ED disagrees that load allocations for discharges from CAFO wastewater lagoons were excluded. Page 7 of the TMDL I-Plan specifically addressed this issue as follows: "All loadings that emanated from any aspect of a dairy operation during the monitored period were addressed in the analyses as WAFs, although it is probable that some amount of loading actually originated from authorized or unauthorized 'point source' discharges from retention structures."[1] Furthermore, CAFO loads are not amenable to simple total daily allocations of the type that are often applied to continuous point source discharges.

TCEQ established rules to implement the TMDL I-Plan and the draft permit is consistent with those rules. TCEQ rules and permit requirements are consistent with or more stringent than the federal rules and national guidance. TCEQ has performed TMDL evaluations sufficient to satisfy federal requirements and to justify implementing the new CAFO regulations. The draft permit is consistent with the Bosque TMDL, TMDL I-Plan, and CAFO rules in 30 TAC, Chapter 321. The draft permit for the Applicant was approved by EPA on September 25, 2007.

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1 WAFs stand for waste application fields.

Comment 3:

Waco comments that issuing the draft permit undercuts the following key modeling assumptions for the TMDLs for phosphorus on Segments 1226 and 1255 of the North Bosque River.

A) 40,450 dairy cows in the watershed;
B) 50% of solid manure from 40,450 dairy cows would be removed from the watershed;
C) Phosphorus in the diet of permitted cows would be limited to 0.4%;
D) Waste application on existing fields would be limited so that phosphorus never exceeds 200 parts per million (ppm);
E) Waste application rates would be limited to the phosphorus needs of the crop; and
F) Initial phosphorus on new fields would be 60 ppm and could not exceed that level.

Response 3A – Cows in the Watershed:

The North Bosque River TMDL for phosphorus is based on narrative water quality criteria and uses BMPs to protect water quality. The TMDL does not limit the number of dairy cows in the watershed. However, permits that are issued must be consistent with the TMDL.

The Applicant will be required to construct RCSs that are designed to hold a 25-year, 10-day rainfall event. This will increase the RCS capacity by approximately 60% over the previous standard in earlier versions of the CAFO rules. It is also anticipated the loading will be reduced due to the emphasis the new CAFO rules place on phosphorus levels in soil application areas.

An adaptive management approach is an appropriate means to manage phosphorus loading in the Bosque. The TMDL Implementation Plan (TMDL I-Plan) emphasized this approach to achieve the phosphorus reductions targeted in the TMDL. The CAFO rules in 30 TAC Chapter 321 reflect the necessary adjustments to management practices necessary to, over time, reach the TMDL target. Accordingly, the TMDL is not directly tied to the number of animals permitted in the watershed. It is instead tied to BMPs, including the land application of the nutrients, consistent with management practices that ensure appropriate utilization by the crops.

The model used in the TMDL demonstrated that water quality conditions would improve significantly even with many more dairy cattle in the watershed if management practices were improved. The new CAFO rules incorporated more stringent management practices in the watershed in order to address phosphorus loading. Regardless of the number of dairy cattle, the in-stream water quality goals remain as they were established in the TMDL.

The TMDL I-Plan recognizes that new dairies may begin operating or existing dairies may expand in the watershed.[2] New or expanding operations are required to meet all the new management

2 See "An Implementation Plan for Soluble Reactive Phosphorus in the North Bosque Watershed," December, 2002, page 26: "New or expanding dairy CAFOs will be required to demonstrate through the application process that they will operate under the nutrient management practices as stipulated in Chapter 321 rules pertinent to a major sole source impairment zone." (Emphasis added.)

practices found in the Chapter 321, Subchapter B CAFO rules, which were approved by EPA as meeting all federal requirements for the protection of water quality. The focus of the rules was to reduce nutrient loading by requiring BMPs designed to significantly decrease the potential for discharges. Special provisions applicable to the North Bosque watershed that were not in the previous version of the CAFO rules were designed and adopted to specifically address the TMDL requirements to reduce phosphorus loadings. The operational and management strategies in the rules and draft permit are designed to reduce nutrient loading and be consistent with the North Bosque River TMDL.

Response 3B – 50% Removal of Solid Manure from the Watershed:

The North Bosque TMDL has a goal of a 50% reduction in instream loading. The TMDL and TMDL I-Plan address growth of CAFOs through BMPs designed to decrease loading, not by capping the number of head or acres of land. Neither the TCEQ rules nor the TMDL I-Plan requires a 50% haul-out of collectible manure. New or existing CAFOs who seek to add head in the watershed are given five options for dealing with 100% of the collectible manure. The options are found in TWC § 26.503(b)(2) and are:

- (A) Disposed of or used outside of the watershed;
- (B) Delivered to a composting facility approved by the ED;
- (C) Applied as directed by the commission to a waste application field owned or controlled by the owner of the CAFO if the field is not a historical waste application field;
- (D) Put to another beneficial use approved by the ED; or
- (E) Applied to a historical waste application field that is owned or operated by the owner or operator of the CAFO only if:
  - (i) Results of representative composite soil sampling conducted at the waste application field and filed with the commission show that the waste application field contains 200 or fewer ppm of extractable phosphorus; or
  - (ii) The manure is applied with commission approval, in accordance with a detailed nutrient utilization plan approved by the commission that is developed by:
    - (a) An employee of the United States Department of Agriculture's Natural Resources Conservation Service;
    - (b) A nutrient management specialist certified by the United States Department of Agriculture's Natural Resources Conservation Service;
    - (c) The State Soil and Water Conversation Board;
    - (d) The Texas Agricultural Extension Service;
    - (e) An agronomist or soil scientist on the full-time staff of an accredited university located in the state; or
    - (f) A professional agronomist or soil scientist certified by the American Society of Agronomy.

The nutrient management plan (NMP) submitted with the application reflects that the present intent of the Applicant is to route manure off-site. However, the other disposal methods allowed by TWC § 26.503(b)(2) remain available to the Applicant, subject to modification of their NMP.

Response 3C – Phosphorus Limit in Diet to 0.4%:

The TMDL I-Plan states that dairy operators will receive training related to diet control but does not mandate lower phosphorus content in feed. There is no TCEQ rule related to requiring reduced phosphorus content in feed rations. The nutrient content in the annual wastewater and manure samples should reflect the Applicant's efforts to lower phosphorus content in feed rations if the Applicant pursues this BMP in an effort to manage nutrients.

The Applicant is required to implement a comprehensive nutrient management plan (CNMP) and one aspect of that planning process is the consideration for reduced phosphorus in the feed. The Applicant may consider the nutritional needs of his herd in implementing a CNMP.

Response 3D – Limiting Application so that Phosphorus Never Exceeds 200 ppm:

TCEQ established rules to implement the TMDL I-Plan and the draft permit is consistent with those rules. Neither the rules nor the TMDL I-Plan cap phosphorus at 200 ppm on LMUs. The model used in development of the TMDL did not provide that soil test phosphorous levels on application fields remain at or below 200 ppm. Predicted soil concentrations after the 39 years of application that were simulated by the TMDL model were not specifically considered in discussions or in development of the TMDL. The draft permit requires implementation of an NMP. When LMUs test in excess of 200 ppm of phosphorus, the Applicant must also implement a nutrient utilization plan (NUP) specific to those LMUs that takes into consideration the phosphorus crop removal rate.

Response 3E – Application Limited to the Phosphorus Needs of the Crop:

The model used for the TMDL simulated land application rates at the "phosphorus agronomic rate" recommended by U.S. Department of Agriculture and others. Recommended agronomic rates account for some soil storage of phosphorus and may not be identical to the crop phosphorus "need only" application rate. The NMP provided by the Applicant addresses application limitations based on the agronomic needs of the crop. If phosphorus levels rise beyond 200 ppm on LMUs, a NUP must be implemented that will require phosphorus application based on crop removal levels, rather than on the agronomic needs of the crop. This is consistent with the TCEQ CAFO rules.

Response 3F – Phosphorus on New Fields Would Not Exceed 60 ppm:

The TMDL model assumed that new waste application fields began at soil concentrations of 60 ppm for phosphorus as an estimate of typical conditions across the North Bosque watershed. The model did not limit application to the new waste application fields to keep soil phosphorus at or below 60 ppm and was not able to do so because of model code limitations. Soil concentrations in the simulated new waste application fields would have been something different than 60 ppm after the

39 years of application simulated by the TMDL model, but that was not specifically considered during development of the TMDL. The TMDL is based on meeting in-stream water quality criteria, not soil concentrations.

Comment 4:

Waco comments that contrary to the TMDL, the draft permit discourages the composting or exporting of dairy waste outside the watershed and notes that the basic goal of the TMDL strategy is to remove from the North Bosque watershed approximately 50% of the manure produced by the dairies. Waco also comments that the expanded use of third party fields with little control of nutrient application encourages dairies to avoid exporting of waste.

Response 4:

The permit is consistent with the TCEQ rule requirements for allowing the Applicant to use third party fields. Composting is one of the options available to the Applicant for handling its waste. Sludge may be beneficially utilized by land application to third party fields in accordance with Section VII.A.8.(e)(5) of the permit. Alternatively, Section VII.A.5.(a)(7) of the permit allows manure and sludge to be disposed by the following methods:

1) Delivery to a composting facility authorized by the ED;
2) Delivery to a permitted landfill located outside of the major sole source impairment zone, subject to the requirements of commission rules relating to industrial solid waste;
3) Beneficial use outside of the major sole source impairment zone; or
4) Put to another beneficial use approved by the executive director.

Also, the rules and the draft permit cap land application on third party fields when they reach 200 ppm of phosphorus, which is consistent with the rule. The draft permit also sets a tiered application rate based on soil test results consistent with the NRCS Practice Standard Code 590.

Comment 5:

Waco comments that the ED has provided no technical justification for asserting that the measures recited in the draft permit will attain the water quality standards for phosphorus and implement the TMDLs.

Response 5:

The ED disagrees with this comment. TCEQ rules and provisions in the draft permit contain control actions and management measures to address the goals of the TMDL. TCEQ conducts in-stream monitoring to monitor loading in the North Bosque and the issuance of CAFO dairy permits under the new rules will provide for additional protection in order to meet the goals of the TMDL.

The TMDL I-Plan recognizes that an adaptive management approach is an appropriate means to manage phosphorus load to the stream. The TMDL I-Plan emphasizes this approach to achieve the phosphorus reductions targeted in the TMDL. Adaptive management envisions adjustment of BMPs over time as necessary to reach this target. The TMDL anticipated that, to control loading to the stream, dairy CAFO permittees would implement those BMPs that best addressed site-specific conditions. Accordingly, the TMDL is not directly tied to the number of animals permitted in the watershed; it is instead tied to the amount of nutrients that may be land applied consistent with BMPs that ensure appropriate agricultural utilization of nutrients.

The TMDL I-Plan also included a recommendation that the CAFO rulemaking consider more stringent requirements for RCSs, in order to reduce overflows from RCSs. In response, the CAFO rules adopted in July, 2004 included the following requirements consistent with the TMDL I-Plan to help manage the phosphorus load in the stream:

1. RCSs must be designed to contain the volume associated with a 25 year/10 day rainfall event;
2. A permanent marker, graduated in one foot increments from the maximum sludge accumulation volume to the top of the spillway must be installed;
3. A RCS management plan detailing procedures for proper operation and management of wastewater levels based on design and assumptions of monthly expected operating levels must be developed;
4. Daily monitoring records of wastewater levels must be conducted;
5. Notification of TCEQ of discharges within one hour of discovery;
6. Discharge sample analyses must be submitted to the TCEQ; and
7. A report of discharges must be submitted to the TCEQ regional office, documenting that overflows from cumulative rainfall events were beyond the Applicant's control.

Comment 6:

Waco comments that the ED has failed to make any best professional judgment (BPJ) determination that the best conventional control technology (BCT) standards for the control of pathogens have been met by the limitations imposed on the Applicant as required by the *Waterkeeper*[3] case.

Response 6:

The requirements in the draft permit satisfy this requirement because the North Bosque River TMDLs are intended to achieve significant reductions in the annual average concentrations and total annual loading of soluble phosphorus in the river. The TMDLs are designed to do this by focusing on controlling soluble phosphorus loading and stream concentrations to obtain and protect designated uses. The management measures for controlling phosphorus loading will also have some corollary effect on reducing pathogen and bacteria loading, since non-point source nutrient and pathogen loads largely originate from the same sites and materials and are transported via the same

3 *Waterkeeper Alliance, Inc. v. Environmental Protection Agency*, 399 F.3d 486 (2nd Cir. 2005).

processes and pathways. Other provisions in the rules and draft permit directed at reducing and minimizing all pollutants, including pathogens and bacteria, that are potential constituents of animal wastes include:

1. Requiring a larger RCS with capacity to contain a designed 25-year, 10-day rainfall event (approximately 60% larger than required to contain the 25-year, 24-hour rainfall event);
2. Establishing an RCS management plan;
3. Controlling runoff from manure piles by covering, berming, or requiring that they drain into an RCS;
4. Setting additional minimum buffer distances between land application units and surface water in the state;
5. Prohibiting nighttime land application between 12 a.m. and 4 a.m.; and
6. Requiring a NMP that uses phosphorus transport considerations to determine allowable applications of nutrients. The P-Index approach reduces allowable application of nutrients to levels that are appropriate for reducing and minimizing all pollutants that are constituents of animal wastes.

Additionally, 40 CFR § 122.43(k)(3) allows states to use BMPs to control or abate discharges "when numeric effluent limitations are infeasible." In the case of North Bosque dairies, they are only authorized to discharge in the event of a chronic or catastrophic rainfall event that exceeds the 25-year, 10-day storm event. If a discharge event occurs, the amount of rainfall involved and any resulting discharge will be highly variable both in volume and concentration of waste. Discharges from chronic or catastrophic rainfall events are not comparable to the continuous discharges from municipal wastewater treatment plants or industrial facilities.

In the regulation of CAFOs, it is infeasible to develop and apply numeric limitations to infrequent, highly variable potential discharges that may occur at CAFOs. The *Waterkeeper* case found that the NMPs developed by applicants were the equivalent of effluent limitations. However, the *Waterkeeper* court did not find that BMPs could not substitute for numeric effluent limitations in the regulation of CAFOs.

Comment 7:

Waco comments that third party fields planned by use of the Applicant are not identified and should be regulated as LMUs.

Response 7:

TWC § 26.503 provides for disposal practices for dairy CAFOs, which include allowing manure to be put to other beneficial uses, such as land application on third party fields. 30 TAC § 321.42(j)(3) was specifically worded to reflect that "LMUs are not associated with third party fields."[4] The

4 29 TexReg 6652, 6658 (July 9, 2004).

CAFO operator does not control the third party fields under contract with the CAFO. Application on third party fields is optional and represents "excess capacity to provide for more sound waste management by existing dairy CAFOs."[5] Even though an applicant does not control third party fields, the rules provide that an applicant is responsible for any non-compliance with the permit or TCEQ rules on such fields. Additionally, third party fields have a 200 ppm cap on phosphorus. Once a third party field contains phosphorus at 200 ppm or greater, land application must cease. Rates of application are set based on annual soil test levels as long as they are below 200 ppm.

Comment 8:

Waco states that the federal court in the *Waterkeeper* case determined that NMPs are the equivalent of effluent limitations. Therefore, NMPs should be reviewed by the permitting authority, included in the permit, and made available to the public before the permit is issued. Waco comments that this reasoning should extend to other site specific technical plans and documented demonstrations of the methods by which the discharge of pollutants will be controlled at CAFOs permitted by TCEQ, including: CNMPs, NUPs, RCS management plans, and pollution prevention plans (PPPs).

Response 8:

Waterkeeper states that if the NMP is not included in permits the public is deprived of the right to assist in development, revision, and enforcement of an effluent limitation. EPA has established nine critical elements to be considered as part of the NMP. Included with the permit application is a table that lists the nine elements and the location of those elements in the file reviewed by the ED and made available to the public. The ED requires North Bosque dairies to submit their NMP with their permit applications and the NMP was technically reviewed and available to the public.

A CNMP is not required by the CWA and is not addressed in the *Waterkeeper* case. TCEQ rules at 30 TAC § 321.42(s) require all dairy CAFOs in a major sole-source impairment zone to operate under a CNMP approved by the Texas State Soil and Water Conservation Board. Bosque dairy permits required implementation of the CNMP by December 31, 2006, and the Applicant is required to maintain a copy of the CNMP as part of their PPP. However, the rules do not require the submission of the CNMP to TCEQ and the review of that document is not part of the CAFO permitting process. Furthermore, the CNMPs are confidential under state law as part of the local soil and water conservation district's files unless the Applicant chooses to make the information available to the public. However, most of the information contained in the CNMP is part of the permit technical information packet and available in that form to the public.

NUPs are NMPs that utilizes a crop removal application rate. However, NUPs are not required until annual testing of LMUs indicates phosphorus in excess of 200 ppm. Based on the statute and rule, the NUP is not considered part of the permit, but may be changed to address changing conditions. TWC § 26.504 requires testing every 12 months to determine whether phosphorus levels exceed 200 ppm. Reaching the 200 ppm level triggers the requirement to develop and implement a NUP. TWC

5 *Id.* at 6692.

§ 26.504(c) states "the operator shall file with the commission a new or amended nutrient utilization plan with a phosphorus reduction component. . . . ." The statute does not require the NUP to be a part of the permit or permit application. 30 TAC § 321.40 tracks the statute, but also states that land application can begin under a NUP 30 days after the NUP is filed with the ED, unless the ED has returned the NUP for not meeting rule requirements. This requirement is also an indication that the NUP is not intended to be part of the permit.

The draft permit and CAFO rules at 30 TAC § 321.42(g) require that the Applicant implement an RCS management plan and maintain a copy in the PPP. TCEQ rules do not require review of RCS management plans prior to issuing the permit. The RCS management plan must establish expected end of the month water storage volumes for each RCS. These maximum levels are based on the design assumptions used to determine the required size of the RCSs. This plan assures that the Applicant will maintain wastewater volumes within the design capacity of the structures. The Applicant must document and provide an explanation for all occasions when the water level exceeds the expected end of the month storage volumes. By maintaining the wastewater level at or below the expected monthly volume, the RCS will be less likely to encroach into the volume reserved for the design rainfall event and/or discharge during smaller rainfall events. This has resulted in an increased operating volume in the RCSs. The operating volume in RCS #1 is 49.24 acre-feet. The operating volume for RCS #2 is 18.14 acre-feet and 9.40 acre-feet for RCS #3. Until the actual expansion of the RCS system is completed and volumes certified, the RCS management plan cannot be completed and implemented; and that expansion cannot take place until after the permit is issued.

The draft permit lists the requirements for what to include in the PPP. The Applicant is required to have documentation for all of the following as part of their PPP: Copy of the CNMP, NMP, NUP (if required), RCS liner certifications, the RCS operation and management plan; and the capacity of each RCS, as certified by a licensed Texas professional engineer. The draft permit specifically allows the Applicant to amend the PPP and lists specific instances when it must be amended. One of those instances being within 90 days of receiving written notification from the ED that the plan does not meet permit requirements.

The PPP is not part of the permit review process, but the information contained in the application, technical information packet, and the NMP make up the core content of the PPP. The other items contained in the PPP are not subject to TCEQ review except during site investigations.

Comment 9:

Waco comments that the application fails to account for management of all phosphorus production.

Response 9:

It is projected that 1,499 cows will generate 246 lbs. of phosphorus per day. The calculation is based on a book value for phosphorus production by dairy cows developed by the American Society of Agricultural and Biological Engineers. It is part of a set of data intended for use in designing facilities to accommodate actual waste production. As long as the phosphorus being land applied or

hauled-out is accounted for as required under TCEQ rules, an accounting to reflect what remains in the CAFO production area is not necessary.

The NRCS 590 Standard does not require that all LMUs be limited to the phosphorus removal rate of application. If the soil test levels for phosphorus are below 200 ppm, the crop nitrogen recommendation or some multiple of the crop phosphorus recommendation is the allowable rate. Only when the soil test levels exceed 200 ppm is the crop phosphorus removal rate of application a requirement.

Comment 10:

Waco comments that the Applicant has failed to use the correct CN values to calculate runoff in pen areas and notes discrepancies in the CN values in different parts of the application.

Response 10:

Pen areas, as referred to in Section 5.3 of the permit application, are the typical denuded and trampled areas seen as open lots on many CAFOs. A runoff curve number (CN) of 90 is typically used to estimate the runoff from such areas. The calf pen area shown on the runoff control map is not typical, but is a grassed area where calves are kept. It is typical of areas refereed to as "Adjacent Areas" in runoff calculations. A CN of 85 is used in the calculation of runoff from this area. This value is on the high range of CN numbers used for adjacent areas. It is on the high range because it is reflective of the calf hutches present in the area. A CN of 85 is acceptable for the area and results in a conservative estimate of runoff from the area.

Comment 11:

Waco comments that the design of the facility allows uncontaminated storm water to enter the RCSs. Waco notes that 30 TAC § 321.38(e)(1) states that the design of a control facility must include measures to minimize the entry of uncontaminated runoff into the RCSs.

Response 11:

30 TAC § 321.38(e)(1) states that: "The design of a control facility shall include measures that will be used to minimize entry of uncontaminated runoff into RCSs." It does not prohibit the entry of uncontaminated runoff. It is appropriate to minimize the amount of runoff entering the system, but not a requirement to eliminate it completely.

Comment 12:

Waco questions the calculation of runoff amounts in the water balance. Waco contends that assumptions in the water balance are flawed and that the entire water balance concept needs to be re-examined and a more realistic approach developed.

Response 12:

30 TAC § 321.38(e)(3) requires that RCS designs be based on certain technical standards developed by NRCS or others. The 30-day runoff curve number was originally utilized by NRCS as part of reservoir operation studies (described in Texas Engineering Technical Note No. 210-18-TX3, dated March, 1983).

Since the early 1990s, the 30-day runoff curve number has been applied by NRCS engineers at the state and national levels to predict average monthly runoff for use in the design of animal waste RCSs. Currently, the 30-day runoff curve number is applied in software developed and used for that purpose by NRCS in Texas and across the nation. The application of the 30-day runoff curve number is an accepted engineering practice for predicting average monthly runoff from the average monthly precipitation.

The application of the 30-day runoff curve number to this permit is appropriate for the purpose of predicting the average monthly runoff from the RCS drainage area and the average monthly runoff from the application fields in the water balance calculations. Use of a one-day curve number for runoff from the application fields could result in a smaller volume requirement for RCSs.

The 25-year, 10-day storm runoff amount used in the application to calculate runoff is based on a 1-day runoff curve number, not using the 30-day runoff curve amount.

Comment 13:

Waco comments that conflicts between the water balance and the recharge feature certification (RFC) have not been resolved. Waco notes that the water balance estimates only 58.5% of rainfall on the pens and 18.0% of the rainfall on the adjacent areas run into the RCS leaving 41.5% and 82.0%, respectively, to migrate to the subsurface. According to Waco, this contradicts the RFC, which states there is limited infiltration. Waco contends that both of these positions cannot be true.

Response 13:

The runoff curve numbers used to compute runoff into the RCS from the pens and adjacent areas in the water balance are conservative numbers and represent runoff from soils with low infiltration rates and low rates of water transmission. These numbers accurately reflect the characteristics of the soils above the RCS. The rainfall/runoff process involves more than the runoff limited absorption by soil and percolation to groundwater. Processes such as retention by the drainage area and evaporation play major roles in the process. These factors are all accounted for in the runoff curve number approach to estimating runoff.

A certain minimal amount of rainfall must fall in each rainfall event for any runoff to occur. This minimal amount, normally termed the "initial abstraction," is absorbed by the ground surface until the surface becomes saturated enough for runoff to begin. The initial abstraction rate is affected by the characteristics of the surface (vegetation or lack thereof, soil type, etc.). After runoff begins, only

a portion of the rainfall will become runoff. The portion of rainfall that becomes runoff is affected by the same conditions that affect the initial abstraction (vegetative conditions and soil type). The runoff curve number is reflective of these conditions. Some rainfall events will produce no runoff because the rainfall amount is less than the initial abstraction.

For a CN of 90, the initial abstraction rate of a rainfall event that will produce runoff was calculated to be 0.6 inches or greater. The calculations in the water balance for this facility are based on the average monthly rainfall in the area of the facility. For example, the January monthly average is 1.9 inches of rainfall. Based on the average rainfall and the selected runoff curve numbers, the monthly amount of rainfall runoff is computed to be 0.4 inches or approximately 20% of the monthly rainfall. For May, the average monthly rainfall amount is 4.2 inches. However, the initial abstraction rate remains 0.6 inches. Therefore, the calculated runoff for May is 2.0 inches or 48% of the monthly rainfall.

Also, there is no contradiction between the water balance and RFC as noted by Waco because rainfall that does not runoff does not necessarily reach groundwater. For example, a 0.25 inch rainfall event in July is unlikely to produce either runoff or the recharge of groundwater. Based on the ED's review, there is no evidence that the water balance and the RFC do not accurately reflect conditions at the facility.

Comment 14:

Waco states that the RFC is not properly sealed by a professional engineer. Waco notes that the certification page of the RFC has a sealed date of April 28, 2006, but there appear to be unsealed pages that were revised after that date, so that there is no way to determine if the pages were reviewed by a professional engineer.

Response 14:

Changes were made to pages 34, 35, and 37 of the RFC on September 7, 2006 that were initially unsealed by the professional engineer. Revisions to those same pages (pp. 34, 35, and 37) were sealed, signed, and dated on December 8, 2006 and were included in the permit file. Because the revised pages were sealed by a professional engineer, TCEQ accepts that a professional engineer has reviewed and certified all pages in the RFC. Therefore, all RFC pages in the permit file are now considered to be properly sealed.

Comment 15:

Waco comments that the Applicant has not properly calculated the RCS sludge accumulation volume. Waco comments that the Applicant's calculation used 25% of the runoff from the 25-year, 10-day rainfall event and that there is no technical or historical basis to justify this value.

Response 15:

Sludge accumulation volume requirements for sludge accumulation from runoff were estimated as 25% of the 25-year, 24-hour runoff volume from open lot areas. The draft permit uses the calculated 10-year sludge volume as a 5-year design volume. It also uses the 25-year, 10-day storm event, which further increases the design volume of the RCSs.

Comment 16:

Waco comments that the liner certifications for RCS #1 and #2 show sample locations only in the sides of the embankment and not on the bottom, which is inappropriate.

Response 16:

The new RCS #1 will be a combination of the existing RCS #1 and RCS #2. The draft permit requires a new liner certification for the new RCS #1, which will be made up of the existing RCS #1 and RCS #2. While new liner certifications will be required by the draft permit, TCEQ rules do not specify the location(s) where the liner samples are to be taken, as long as the sample is representative of the liner.

Comment 17:

Waco comments that the labeling of the certification data is inadequate. Waco states that from the data sheets it is impossible to know if the data is actually from the RCS that it claims to represent.

Response 17:

Based on information submitted by the Applicant, the ED determined that the liner certification dated September 2, 1997 and labeled Sediment Pond and the certification sealed on July 13, 2005 and labeled as settling basin both apply to the settling basin as represented on the runoff control map submitted with the application. The certification sealed on July 13, 2005 and labeled polishing pond represents what is now part of the new RCS #1; the certification dated September 25, 1997 and labeled Pond No. 2 represents what is part of the new RCS #1; the certification dated October 22, 1999 and labeled Pond #3 represents the new RCS #3; and the certification dated May 28, 2001 labeled Irrigation Storage Pond represents the new RCS #2. The draft permit was modified to require new liner certifications for all RCSs and Section VII.A.3.(a)(2) now reads:

> (2) Documentation of liner and capacity certifications must be completed for each RCS prior to use and kept on-site in the PPP. Once construction is complete, new capacity and liner certifications for RCSs 1 and 3 will be provided. Upon issuance of this permit, a new liner certification will be provided for the re-named RCS 2. RCS volume requirements in the existing authorization should be

maintained until the design and construction of the modified RCSs have been completed and certified.

RCS	Construction date	Liner certification date	Volume
1	1997	1997	3.18
2	1997	1997	15.04
3	1999	1999	7.60
4	2001	2001	19.81

Comment 18:

Waco comments that the basic methodology for calculating agronomic rates is flawed because the NMP fails to take into account the nutrients available to plants in the root zone to satisfy the crop requirement. Waco notes that for application of biosolids, the ED requires agronomic rate calculations to take into account the nutrients in the soil by taking the crop requirement and subtracting the nutrients available in both the 0-6 inch and 6-24 inch soil depths for the most recent year. This allows only the amount of nutrients needed to satisfy the overall crop requirement for that year to be applied. Waco notes that nutrients in biosolids are not fundamentally different from dairy waste, so there is no reason the ED should calculate the agronomic rate differently.

Response 18:

The methodology used by the Applicant for the calculation of waste application for beneficial use follows the requirements of the NRCS 590 Standard as required by the CAFO rules in 30 TAC § 321.42(i). The NMP based on the NRCS 590 Standard does account for nutrients available to plants. The phosphorus index makes current soil test levels for phosphorus a component of that index value that affects the rate of application.

Comment 19:

Waco comments that the NMP does not utilize the most current soil test data. Waco notes that the NMP uses soil test data collected in August, 2005 and not more recent data collected in August, 2006. The more recent data show increases in soil phosphorus in the 0-6 inch soil depth in several of the LMUs, which should trigger a NUP. Additionally, LMU #3T was sampled in 2006, but is not found in the application as required for a historical application field and LMU #7, which is a historical field (in the existing permit) was not sampled and is not included in the application as required.

Response 19:

The updated Technical Information Packet is dated May 2006 and contains soil analysis results with a report date of August 25, 2005. The soil analysis results used in the NMP submitted with the initial application are within one year of the updated Technical Information Packet dated May, 2006 and are valid for use in the NMP contained in the application. The use of the August, 2005 soil

analysis results in the NMP contained in the application does not by itself make this NMP incorrect. If the draft permit is issued, the NMP will be kept current based on annual monitoring requirements. LMU #3 and LMU #7 are not proposed to be used as LMUs in the application. Therefore, soil test results are not needed for the NMP submitted with the application. This permit, when issued will require annual sampling of historic waste application fields (See Response #46).

Comment 20:

Waco comments that the NMP is improperly dated and that it impossible to properly review without being assured that all representations are based on the most current information.

Response 20:

The file in the Chief Clerk's Office contains a complete NMP dated July 18, 2007. Section VII.A.8.(a) of the draft permit specifies that the NMP dated July 18, 2007 will be implemented upon issuance of this permit.

Comment 21:

Waco comments that the Applicant has re-numbered the LMUs and RCSs. Waco states that this creates a nightmare when trying to track what has happened historically at the facility. Waco states there is no reason to re-number and that doing so can lead to confusion in the future and is nothing more than an attempt to disguise the history of these units at the facility.

Response 21:

There is no requirement that applicants maintain consistent numbering of LMUs and RCSs throughout the life of a facility. Reconfiguration of LMUs for the application consists of boundary changes for most LMUs, elimination of application on the existing LMU #3 and existing LMU #7, and renumbering the northern portion of existing LMU #2 as LMU #3. The Regional Field Investigators use the historical permit to make a proper assessment of the site and should therefore be able to recognize historic waste application fields.

Comment 22:

Waco comments that the Applicant has failed to provide certification of equivalent technology for odor control. Waco notes that 30 TAC § 321.43(j)(3)(B)(iii) requires that when equivalent technology is being used to satisfy the requirements of 30 TAC § 321.43(j)(3) it must be certified as being equivalent by a professional engineer. Waco states that Section 9.2 of the application states that the anaerobic digester is designed to meet these requirements, but is not certified as required.

Response 22:

30 TAC § 321.43(j)(3)(B)(iii) requires that the information be included in the PPP, but not in the permit application. 30 TAC § 321.43(j)(3)(B)(iii) states:

> (iii) equivalent technology or design standards shall indicate how the design of the AFO minimizes odors equivalent to an aerobic or anaerobic lagoon. These designs shall be developed and certified by a licensed Texas professional engineer. An "as-built" certification in letter form shall be completed by licensed Texas professional engineer before operation of the AFO. These documents shall be maintained on site and made available within the time period specified by the executive director.

Comment 23:

Waco comments that the RCS management plan is not reviewed by the ED before the permit is issued and that this does not allow for any public comment and notes that the plan will only be seen is when inspectors see it on annual inspections. Waco notes that as a practical matter, there is not adequate time for inspectors in the field to properly evaluate the validity of such a plan.

Response 23:

This permit requires that the Applicant implement an RCS management plan and maintain a copy in the PPP as required by 30 TAC § 321.42(g). TCEQ rules do not require review of RCS management plans prior to issuing the permit. Until the actual expansion and modification of the RCS system is completed and volumes certified, which takes place after the permit is issued, the RCS management plan cannot be completed and implemented.

Comment 24:

Waco comments that the water balance must be prepared in conjunction with an associated RCS management plan or it is meaningless. Waco states that the water balance must consider not only monthly rainfall runoff, but the storage requirements necessary to enable supplying sufficient water to the crops during the high water demand months of summer.

Response 24:

The water balance accurately reflects average climatic conditions and demonstrates there is adequate storage for operating volumes during critical high rainfall months. It is reasonable that during low rainfall months minimal withdrawals are needed to maintain adequate volumes for normal operations and the design storm event. Withdrawals might be more or less depending on the actual climatic conditions. The RCS management plan is developed when construction of the RCS system is complete and will provide additional information on how the operating volume will be managed. As long as the actual RCS capacity can contain the 25-year, 10-day storm event volume, the monthly

inflows can be stored from month-to-month instead of being pumped out each month as indicated in the water balance.

Additionally, as noted in the previous response, the RCS management plan cannot be developed until expansion and modification of the RCS system is complete.

Comment 25:

Waco comments that the Applicant is not required to certify the existing RCS capacity and sludge volume capacity based on the current accumulation in the RCSs. Waco comments that many dairies over the years have allowed sludge accumulation beyond the sludge design capacity. Waco states that the only way to verify that the dairy is in compliance is to require formal certification that the design sludge volume is currently not being exceeded. Waco notes that RCS #1 and #3 will be re-certified after the expansion, but that RCS #2 (formerly RCS #4), which is being converted into a surge basin, will not require re-certification. Waco states that TCEQ cannot issue this permit, unless there is a provision requiring certification of the existing volume in RCS #2 and a demonstration made that there is no sludge accumulation in RCS #2. Waco comments that a claim has been made that no sludge accumulates in RCS #2. Waco does not believe that is the case because solids can carry over during the transfer process. Waco comments that the Applicant has not given any design information or sampling data to indicate this transfer process would not result in solids being transferred with the water from RCS #1 to RCS #2. Finally, Waco notes that Section VII.A.3.(a)(2) of the draft permit only addresses total capacity of the RCS; and states all capacity certifications should require total as-built capacity and the volume of sludge accumulation.

Response 25:

The ED agrees that RCS #2 should have a sludge volume allocation and modifies Section IV of the draft permit as follows:

> IV. General Description and Location of Waste Disposal System:
>
> Maximum Capacity: 1,499 total head of which 1,100 are milking (Jersey cows)
> Site Plan: See Attachment A.
> Retention Control Structures (RCS) total required capacities without freeboard (acre-feet): RCS #1-49.24, RCS #2-19.81, RCS #3-9.40; RCS #1 acts in-series with the anaerobic digester system.
> Land Management Units (LMUs) (acres): LMU#1-8, LMU#1a-51, LMU#2-27.5, LMU#3-12, LMU#4-70, LMU#5-32, LMU#6-29; See Attachment B for locations.
> Location: The facility is located on the west side of County Road 240, approximately one mile south of the intersection of County Road 240 and State Highway 6, east of the City of Hico. Latitude: 31° 58' 11"N Longitude: 98° 00' 03"W. See Attachment C.
> Drainage Basin: The facility is located in the drainage area of the North Bosque River in Segment No. 1226 of the Brazos River Basin.

Section VII.A.5.(a)(5) was modified to read as follows:

(5) Permanent Pond Marker. The permittee shall install and maintain a permanent pond marker (measuring device) in each RCS, visible from the top of the levee to show the following:
   (i) the volume for the design rainfall event;
   (ii) one-foot increments beginning from the bottom of the RCS to the top of the embankment or spillway; and
   (iii) design volume levels for maximum sludge accumulation and operating volume (calculated process generated wastewater plus rainfall runoff minus evaporation) must be identifiable on the maker.

Additionally, Section X.A.1. was modified to read as follows:

A. RCS Modifications.

1. The permittee shall increase the size of existing RCS #2 and combine current RCS #1 and RCS #2, forming new RCS #1. Existing RCS #4 will be renamed RCS #2 and will function as an irrigation pond. A settling basin will be constructed to remove solids in the drainage area above RCS #3. Other components of the waste management system are a covered anaerobic digester, high-rate oxidation raceway, recirculation basin, and a methane generation system. All components are necessary to meet the total required capacity as listed on page 1 of this permit. Modifications shall comply with Section VII.A.3. of this permit. The table below indicates the minimum volume allocations for the RCSs.

RCS#	Design Rainfall Event Runoff	Process Generated Wastewater	Minimum Treatment Volume	Sludge Accumulation	Water Balance	Required Capacity without Freeboard	Actual Capacity without Freeboard
1	23.72	4.52	0	12.88	8.13	49.24	TBD
2	1.86	8.13	0	1.67	8.14	19.81	19.81
3	7.72	0	0	0.51	1.18	9.40	TBD

Additionally, Section X.I. was modified to read as follows:

I. The sludge volume in all RCSs will be measured and recorded in the PPP as necessary, but at least annually beginning in year three (3) of the permit. Sludge will be removed when it exceeds the volume allocated.

Comment 26:

Waco questions how the sludge volume will be monitored in the RCSs. Waco comments that because sludge accumulation problems can take over a year to fix, the draft permit should require sludge measurement in the RCSs annually rather than three years after the permit is issued.

Additionally, Waco comments that Section VII.A.5.(a)(7) of the draft permit does not require the Applicant to monitor the sludge volume in RCS #2.

Response 26:

30 TAC § 321.39(c) prohibits the Applicant from allowing sludge accumulation to exceed the design volume. This is achieved by removing the sludge according to the design schedule. The design criterion for this dairy is five years of accumulation. The RCS management plan will establish accumulation rates in the RCSs, which will identify the current sludge volume in each RCS. Taking volume measurements starting in year three will help reevaluate the accumulation rates prior to reaching the five-year design volume.

By starting measurements in year three, the operator will have time to complete modification and expansion of RCSs; and to develop and implement an RCS management plan to appropriately manage the sludge volume in the ponds. Furthermore, taking daily pond marker readings should assist in determining excessive sludge accumulation in any RCS.

The ED agrees that sludge should be monitored in RCS #2 and modifies Section VII.A.5.(a)(7) of the draft permit as follows:

> (7) Sludge Removal. The permittee shall monitor sludge accumulation and depth, based upon the design sludge storage volume in the RCSs. Monitoring should be performed as necessary, but not less than annually for all RCSs beginning in year three (3) from the date of the permit issuance. Sludge shall be removed from the RCS in accordance with the design schedule for cleanout in the RCS management plan to prevent the accumulation of sludge from exceeding the designed sludge volume of the structure. Removal of sludge shall be conducted during favorable wind conditions that carry odors away from nearby receptors. Alternatively, sludge may be disposed by any of the following method(s):
>
> (i) delivery to a composting facility authorized by the executive director;
> (ii) delivery to a permitted landfill located outside the major sole source impairment zone;
> (iii) beneficially utilized by land application to land located outside of the major sole source impairment zone;
> (iv) composted onsite but not land applied to LMUs;
> (v) applied to 3rd party fields; or
> (vi) put to another beneficial use approved by the executive director.

Comment 27:

Waco comments that the permit does not identify all liner design specifications required by 30 TAC § 321.38(g). Waco states that while some of this information is provided in Section VII.A.3.(f) of the permit, it is inadequate. Waco comments that the permit should include or refer to information similar what is found in 30 TAC § 330.339(c), particularly with respect to guidelines concerning testing frequencies.

Response 27:

30 TAC § 321.38(g)(1) states that the design specifications must describe standards "for the quality of soils used, lift thickness and density at optimum moisture content, procedures and minimum requirements for liner and embankment compaction testing, and spillway construction." Compaction testing relative to liner certifications is included in Section VII.3.(f)(4) of the draft permit. More specific liner requirements are included in 30 TAC § 321.38(g)(3). The draft permit covers these additional requirements in Section VII.3.(g). There are many ways to satisfactorily provide for a liner that meets these requirements. The compaction testing requirements are in Section VII.A.3.(f)(4) and are as follows:

> Compaction Testing. Embankment construction must be accompanied by certified compaction tests including in place density and moisture in accordance with the American Society of Testing Materials (ASTM D 1556, D 2167, D 2922 or D 2937; and D 2216, D 3017, D 4643, D 4944 or D 4959) or equivalent testing standards. Compaction tests will provide support for the liner certification performed by a licensed Texas professional engineer as meeting a permeability equal to, or less than, 1×10^{-7} cm/sec over a thickness of 18 inches or its equivalency in other materials.

The soil requirements and other construction related requirements are inherent to achieving the hydraulic conductivity requirements that must be certified by a licensed Texas professional engineer.

Comment 28:

Waco comments that the Applicant has not addressed the process it will use to enlarge RCS #1 and RCS #3 to meet the requirements of the 25-year, 10-day design rainfall event or its operational plan while doing so. Waco states the permit should specifically indicate TCEQ is not granting approval of any construction activity that would allow process wastewater or contaminated runoff to flow into an RCS that partially unlined, even temporarily.

Response 28:

TCEQ rules do not require ED review or approval of the process an applicant will use to enlarge RCSs or their operational practices while doing so. However, Section X.A.1. to 3. of the draft permit requires the Applicant to increase the capacity of the RCS within 180 days of the issuance of the permit. SectionVII.A.3 requires that the design and completed construction of the RCS be certified by a licensed Texas professional engineer prior to use, and that documentation of liner and capacity certifications be completed for the RCS prior to use and kept on site in the PPP.

Comment 29:

Waco is concerned that the NMP is allowed to be based on a single annual sample of wastewater and manure. Waco is concerned that single samples are not representative for evaluating the

characteristics of the wastewater and is likely to underestimate the concentrations of phosphorus. Waco recommends that samples of wastewater being land applied should be taken at least once during every irrigation event and should also be obtained from the irrigation pipeline following the pump rather than from the surface of the RCS.

Response 29:

The permit provisions for sampling and monitoring are consistent with 30 TAC § 321.36(e) and (g), and with the requirements of the NRCS Practice Standard Code 590. The draft permit requires annual sampling and the NMP must be updated to modify application amounts based on soil testing and wastewater/manure/slurry testing. Sampling and updating of the NMP after every irrigation event would not be practical and is not required under the current version of the CAFO rules.

Comment 30:

Waco comments that the permit fails to remove 50% of collectible manure from the watershed as recommended by the North Bosque TMDL. Waco notes that while removal is listed as one of the possible options, there is no indication that any of the manure transferred to other persons will be sent to composting or out of the watershed.

Response 30:

New or existing CAFOs who seek to add head in the North Bosque watershed are given five options for dealing with 100% of the collectible manure. Those options are found at TWC § 26.503(b)(2). *See* Response #3B for those options. The NMP submitted with the application reflects the Applicant's present intent to dispose of manure off-site. However, the other disposal methods allowed by TWC § 26.503(b)(2) remain available to the Applicant. As noted in the comment, the TMDL for the North Bosque "recommends" removal of 50% of the collectible manure, it does not require it.

Comment 31:

Waco comments that Section VII.A.8.(c)(2) of the draft permit allows land application on land exceeding 200 ppm of phosphorus as long as a NUP has been prepared and approved by TCEQ. Waco notes that even when the phosphorus concentrations exceed 500 ppm, application may continue as long as the NUP contains a phosphorus reduction component. Waco states that land application on fields that exceed 200 ppm of phosphorus should be prohibited in order to be consistent with the TMDL; and if not prohibited, be subject to a NUP with a phosphorus reduction component. Waco notes that on page 16 of the North Bosque I-Plan it states that formal enforcement will result if CAFOs apply waste or wastewater to a waste allocation field that has been documented to have exceeded 200 ppm of phosphorus in zone 1 of the soil horizon.

Response 31:

The draft permit requirements are consistent with the rules relative to phosphorus reduction in waste application fields. The use of phosphorus based assessments requires action on fields exceeding 200 ppm. All waste application is limited under the permit provisions to avoid significantly increasing phosphorus runoff into the North Bosque River. An LMU that reaches 200 ppm of phosphorus triggers the NUP requirement. See 30 TAC § 321.40(k)(3). A NUP must be approved by the ED prior to land application of any additional manure, sludge, or wastewater to the LMU addressed by the NUP. For third party fields, there is no NUP requirement, but land application of all manure, sludge, or wastewater must cease when a field reaches a phosphorus level of 200 ppm or higher.

The table below illustrates numbers from the Applicant's NMP to compare the crop requirement for phosphorus versus the actual pounds applied. The plan is based on a goal of maintaining soil test phosphorus levels below 200 ppm, which results in a planned application amount that is less than the maximum allowed under the East Texas Phosphorus Index (application on all LMUs, collectively). NMPs are routinely updated and the values shown below are subject to change. In every LMU the Applicant is planning to land apply effluent at significantly less amounts than the maximum allowable.

Nutrient Application

LMU #	Soil Test P (ppm)	Max Annual P2O5 (pounds/ac.)	Pounds Applied P2O5 (pounds/ac.)	Percentage of Maximum Allowable
1	178	207	66	32
1a	178	207	66	32
2	48	207	170	82
3	48	207	170	82
4	142	83	61	73
5	96	83	62	75
6	58	108	70	65

Page 16 of the TMDL I-Plan for the North Bosque does read as indicated by Waco. However, immediately following this statement the document states that more information is available in the section entitled "Enforcement Program." In that section of the TMDL I-Plan, it states that owners of facilities would be subject to enforcement if they performed land application on fields where soil phosphorus exceeded 200 ppm, unless land application was done according to an approved NUP.[6] This is consistent with TCEQ rules that require an approved NUP prior to any additional land application on LMUs that exceed 200 ppm of phosphorus and prohibit land application on third party fields that exceed that amount.

6 See "An Implementation Plan for Soluble Reactive Phosphorus in the North Bosque Watershed," December, 2002, page 39:

Comment 32:

Waco notes that Section 9 in the TMDL Assessment portion of the permit application, the Applicant states that he will implement a NUP that incorporates a phosphorus reduction component on fields over 200 ppm. However, Section VII.A.8.(c)(1)(ii) of the draft permit allows a NUP to be prepared that does not contain a phosphorus reduction component between 200 and 500 ppm. To be consistent with the Applicant's representations, the paragraph in Section VII.A.8.(c)(1)(ii) should be deleted.

Response 32:

It is permissible for a permitted facility to establish goals more restrictive than permit or rule requirements. The goal presented by the Applicant in the application is not a requirement of Chapter 321, Subchapter B CAFO rules. However, Section VII.A.8.(c)(1)(ii) in the draft permit is consistent with requirements in Chapter 321, Subchapter B relative to the implementation of NUPs.

Comment 33:

Waco states that Section VII.A.8.(e)(5)(i)(F) of the draft permit requires soil tests on third party fields after waste is applied. However, it does not require initial sampling prior to applying waste. Therefore, one-time application of wastes can occur on third party fields with no way to determine if the application rates are within the required limits.

Response 33:

This issue was identified in previous CAFO draft permits and the draft permit was modified in Section VII.A.9.(b)(1) to require initial testing prior to any land application on any third party fields.

Comment 34:

Waco states the meaning of the phrase "not exceed the nitrogen application rate" at paragraph VII.A.8(e)(5)(i)(C) of the draft permit is ambiguous at best. To impose the appropriate limitation and to make the permit consistent with the remainder of the permit, Waco recommends this phrase be replaced with "not to exceed the nitrogen crop removal rate."

Response 34:

The ED declines to make this change. Unless otherwise limited, the nitrogen application rate will be limited to the crop nitrogen requirement expressed in the NRCS guidelines found in the S-Table.

Comment 35:

Waco requests revision to the provisions applicable to third party fields at paragraphs VII.A.8(e)(5)(i)(D) and (E) to ensure protections apply when the measured soil phosphorus levels

equals values of 50, 51, 150, and 151 ppm. Waco comments that the ED should include language that makes it clear that requirements apply when a value is less than or equal to each of these values.

Response 35:

The ED partially agrees with the comment. Section VII.A.8(e)(5)(i)(C) in the draft permit currently contains the requested language. Sections VII.A.8(e)(5)(i)(D) and (E) have been modified to clarify which sections apply to 150 and 200 ppm. See Response #36.

Comment 36:

Waco requests the language in Sections VII.A.8.(e)(5)(i)(D-E) of the draft permit include a statement that the application rate is not to exceed the annual nitrogen crop removal rate if it its more restrictive.

Response 36:

The ED partially agrees with the comment and modifies the following sections to better define the nitrogen application rate. Section VII.A.8.(e)(5)(i)(D) of the draft permit now reads:

> Land application rates shall not exceed two times the phosphorus crop removal rate, not to exceed the crop nitrogen requirement, when soil phosphorus concentration in Zone 1 (zero (0) to six (6) inch incorporated; zero (0) to two (2) or two (2) to six (6) inch if not incorporated) depth is greater than 50 ppm phosphorus and less than or equal to 150 ppm phosphorus.

Section VII.A.8.(e)(5)(i)(E) of the draft permit now reads:

> Land application rates shall not exceed one times the phosphorus crop removal rate, not to exceed the crop nitrogen requirement, when soil phosphorus concentration in Zone 1 (zero (0) to six (6) inch incorporated; zero (0) to two (2) or two (2) to six (6) inch if not incorporated) depth is greater than 150 ppm and less than 200 ppm phosphorus.

Comment 37:

Waco requests revision to the provisions applicable to third party fields at paragraphs VII.A.8(e)(5)(i)(C)-(E) to make it clear that the application rate cannot exceed the requirements of NRCS Code 590. Waco comments that adherence to NRCS Code 590 should be required if it is more restrictive than the permit.

Response 37:

The ED declines to make the requested change because the CAFO rules do not require that land application on third party fields be consistent with the NRCS Practice Code 590. The limitations

placed in the draft permit assure that application on third party fields will take into account the potential for phosphorus build-up to occur. When a third party field tests 200 ppm or higher for phosphorus, all land application on that field must cease.

Comment 38:

Waco comments that according to Section VII.A.8.(e)(5)(i)(A) of the draft permit, no NMP is required for third party fields and that the requirements of Section VII.A.8(e)(5)(i)(C)-(E) cannot be met since the NMP is the planning tool necessary to determine the appropriate application rates. Waco states that an NMP should be required for third party fields. Waco comments that NUPs (when soil phosphorus exceeds 200 ppm) and NMPs should be required for each third party fields and submitted and reviewed during the permit application process.

Response 38:

The draft permit limits application on third party fields based on soil test phosphorus levels. A NUP would not be required for a third party field that reaches or exceeds 200 ppm or more of phosphorus because at that level land application must cease. The application limitations on third party fields are based on soil test phosphorus levels instead of the Phosphorus Risk Index. The restrictions are more conservative than the rules require. Similar to an NMP, as soil phosphorus levels increase on third party fields, the Applicant will have to reduce waste application rates in order to continue land applying on those fields and to prevent those fields from exceeding 200 ppm of phosphorus.

Comment 39:

Waco requests that Section VII.8.(e)(5) of the draft permit be revised to include a requirement that records of crops and crop yields be submitted to TCEQ. Otherwise, the phosphorus crop removal rates cannot be calculated and compliance with the phosphorus application rate limitations cannot be determined.

Response 39:

Record keeping requirements at 30 TAC § 321.46(d)(8)(f) state the actual yield of each harvested crop must be recorded on a monthly basis. The information is available to the ED during field investigations and in the annual report submitted to the ED. Crop removal rates are based on yields when the NMP software is used.

Comment 40:

Waco comments that the NMP only addresses the first year of the permit term and states that the NMP should be prepared so that it shows the impact of all nutrient management issues over the five-year term and whether the operation is sustainable.

Response 40:

30 TAC § 321.36(d)(2) requires the operator to create and maintain a site-specific NMP along with documentation regarding implementation of the plan. 30 TAC §§ 321.36(e) and (g) requires annual sampling and the NMP must be updated to modify application amounts based on soil testing and wastewater/manure/slurry testing. A five-year NMP would be impracticable because the NMP is likely to change yearly due to changing climatic and operational conditions; and soil sampling results. It is important that NMPs remain flexible. When the NMP updated, the new version should be kept with their PPP documentation and available to TCEQ personnel during field investigations. Long term sustainability of a field may be a planning consideration, but there are no rule requirements regarding sustainability.

Comment 41:

Waco notes that Section X.G. of the draft permit requires the Applicant to install and maintain buffers according to NRCS standards. Waco notes that NRCS has practice standards for "filter strips," but not for "vegetative buffers." Therefore, TCEQ should include a definition for "vegetative buffers" in the permit or require that they meet the same standard as "filter strips" in NRCS Code 393.

Response 41:

Although not defined by TCEQ rules, vegetative buffers are commonly understood to mean vegetation that reduces shock due to contact. NRCS Practice Code 393 refers to Practice Code 391, *Riparian Forest Buffer*. Riparian forest buffers are areas predominantly in trees and/or shrubs located adjacent to an up-gradient from watercourses or water bodies. One of the purposes of a riparian forest buffer is to reduce excess amounts of sediments, organic material, nutrients, and pesticides in surface runoff. This purpose is the same as that performed by vegetative filter strips according to NRCS Practice Code 393. Citing the practice code is adequate for permit requirements. The practice standard has an adequate definition.

Comment 42:

Waco comments that it is not clear where the measurement of the vegetative buffers and filter strips begin in relation to the stream bed. Waco states that the language should specify that measurement is from the banks of the stream, not the centerline; and the Applicant should be required to mark the boundary between the application area and the buffer in order to allow adequate enforcement.

Response 42:

The ED agrees that the measurement of the vegetative buffers and filer strips should be done from the banks of a stream, not from the center of the stream. Filter strips,[7] vegetative buffers, and

7 Filter strips are an area of herbaceous vegetation.

riparian forest buffers are, by definition, vegetated strip flow lengths. These vegetated strips can only exist as close as the normal water line or at the top of the bank.[8] Because the Applicant has to maintain the distance from where the vegetation can be established, no definition is needed. Field marking of land application areas is not required by the regulations. The ED does not believe this definition needs to be added to the permit. It is logical that the appropriate set back distance can only be measured from the land surface.

Comment 43:

Waco states that Section VIII.B.4. of the draft permit modifies the requirement to orally notify TCEQ within one hour of a discharge under certain conditions. Waco states that 30 TAC § 321.42(t) does not provide for this exception and neither should the draft permit.

Response 43:

The ED agrees with the comment and modifies Section VIII.B.4. of the draft permit to conform to 30 TAC § 321.42(t):

> In the event of a discharge from the RCS or an LMU during a chronic or catastrophic rainfall event or resulting from catastrophic conditions, the permittee shall orally notify the appropriate TCEQ regional office within one hour of the discovery of the discharge. The permittee shall send written notification to the appropriate regional office within 14 working days.

Comment 44:

Waco comments that Section VIII.B.2. requires the Applicant to notify TCEQ prior to taking soil samples only when sampling LMUs. Waco states that 30 TAC § 321.42(l) does not provide for this limitation and that the soil sample notification requirement should also apply to third party fields.

Response 44:

The ED agrees with the comment and modifies Section VIII.B.2. of the draft permit as follows:

> The permittee shall notify the appropriate TCEQ regional office in writing or by electronic mail with the date, time, and location at least ten working days before collecting soil samples from current and historical LMUs; and third party fields.

Comment 45:

Waco comments that the Applicant has at least one and maybe more historical waste fields on the site. Waco states that previous LMU #6 has been removed from the permit and it unclear what

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8 Per Practice Standard Code 391.

happened to LMU #4 or where it might have been located. Waco notes that 30 TAC § 321.42(k) requires that historical waste fields continue to be sampled. Therefore, those fields should remain in the permit for monitoring purposes even though no waste is being applied to them. Otherwise, it is unlikely that TCEQ inspectors will be aware of their status and the requirement that they must be sampled

Response 45:

The ED believes Waco's comment refers to LMU #3 and LMU #7 in the Broumley application rather than LMU #4 and LMU #6. Reconfiguration of LMUs for the Broumley application consists of boundary changes for most LMUs, elimination of application on the existing LMU #3, and existing LMU #7; and renumbering of the northern portion of existing LMU #2 as LMU #3. The Regional Field Investigators use the historical permit and the existing permit to make a proper assessment of the site and should therefore be able to recognize historic waste application fields.

Comment 46:

Waco comments that Section VII.A.9.(b)(1) and (2) of the draft permit does not require the Applicant to collect soil samples on all current and historical LMUs every year. In some cases it allows exceptions, which are generally allowed under 30 TAC § 321.36(g), but are not allowed in major sole-source impairment zones. See 30 TAC § 321.42(k).

Response 46:

The ED agrees with the comment and modifies Section VII.A.9.(b)(1) and (2) of the draft permit as follows:

> (1) Initial Sampling. Before commencing manure, sludge, or wastewater application to LMUs or third-party fields, the permittee shall have at least one representative soil sample from each of the LMUs or third-party fields collected and analyzed according to the following procedures.
>
> (2) Annual Sampling. The permittee shall have soil samples collected annually for each current and historical LMU.

Comment 47:

Waco comments that Section VII.A.3.(a)(2) of the draft permit cites certified volumes for the RCSs. Waco notes that two of the RCSs have volumes listed as "TBD" and that this is unacceptable. At minimum, the facility should be required to meet the volume requirements in the existing permit. If there are plans for increased capacity, there should be interim and final requirements. The volume in the permit should indicate the minimum volume required. Certification of this minimum volume should be submitted to TCEQ, but minimum volume should be in the permit even if it has not been constructed.

Response 47:

Existing RCS volume requirements are contained in the existing authorization, and are enforced under that authorization by TCEQ Field Investigators. When this permit is issued, the new volume allocation requirements will take effect and construction will be required to meet those allocations within 180 days; and must be completed before exceeding 990 head. The required minimum volume allocations are shown in X.A.1. Section VII.A.3.(a) of the draft permit requires that after completion, liner and capacity certifications for new construction be maintained in the PPP.

The ED does agree that the volume requirements in the existing permit should be maintained until the modifications required by this draft permit have been completed and certified. Section VII.A.3.(a)(2) of the draft permit was changed to show the RCS volumes certified in the existing permit and now states that the volume requirements in the existing permit should be maintained until the design and construction of the modified RCSs is completed and certified. Also, see Response #17.

Comment 48:

Waco comments that Section X.A.3. implies that RCS #2 has not been completed and that there is no indication in the draft permit that anything is being done to this RCS, other than renumbering it from #4 to #2. Waco states that this provision does not mention RCS #3, which the draft permit seems to indicate will be enlarged.

Response 48:

The ED agrees with the comment and modified Section X.A.3. of the draft permit as follows:

3. Once modifications of new RCS 1 and new RCS 3 are completed, and the new settling basin is constructed, a RCS management plan will be developed to reflect the new volumes and implemented within thirty (30) days.

Comment 49:

Waco comments that Section X.E. of the draft permit provides requirements for slurry storage areas/basins. However, the locations of these areas/basins were not on any application maps or discussed in the narrative. Waco comments that Section X.E. should state that no slurry storage areas/basins may be constructed without amending the permit and certification of the liners.

Response 49:

TCEQ CAFO rules do not require a permit amendment to construct slurry storage areas. Section X.E. requires that any storage of slurry be in the drainage area of the RCSs. If slurry storage areas are constructed, liner certifications will be required and will have to be kept in the PPP.

Comment 50:

Waco comments that Section X.K. of the draft permit requires the Applicant to analyze certain parameters in any accumulated water detected in the underdrain leak detection system. Waco notes that phosphorus is not one of the parameters; and since phosphorus is a major concern in the watershed, it should be included as one of the parameters sampled.

Response 50:

TCEQ agrees with Waco's comment to include phosphorus in the sampling for the underdrain leak detection system for the pond and modifies Section X.K. as follows:

K. The permittee shall install an underdrain leak detection system for the synthetically-lined oxidation pond and monitor on a monthly basis. Any accumulated water noted in the underdrain leak detection system shall be sampled and analyzed, at a minimum, for fecal coliform, nitrate (as nitrogen), ammonia nitrogen (as nitrogen), total phosphorus, and total dissolved solids. The observation of the water in the leak detection system, the estimated volume of the water, as well as data related to sampling and analysis, shall be recorded in the PPP and notification shall be provided to the regional office within 30 days. The recirculation basin and anaerobic digester shall be certified in accordance with 30 TAC §321.38(g)(3).

Comment 51:

Waco comments that Section X.L. requires a major amendment to the permit before the Applicant can change the breed of the milking herd. Waco comments that the last sentence of this provision should apply to all cows, not just the milking head, since waste production calculations are based on the dry cows and calves being Jersey cows. Additionally, since the waste production was based on a mature Jersey cow with average weight of 950 pounds, the phrase "or if the actual average weight of the mature Jersey cows exceed 950 pounds" should be appended to the last sentence of this provision.

Response 51:

The ED agrees with the comment and modifies Section X.L. of the draft permit as follows:

L. The waste calculations for the facility are based on mature Jersey cows with an average weight of 950 pounds. The permittee shall obtain a major amendment before changing the breed of any confined cattle.

Comment 52:

Waco comments that the required RCS capacity certification under Section VII.A.3.(a)(2) is ambiguous. Waco states it is not clear whether it refers to total as-built capacity, sludge accumulation, or available capacity above the sludge and the permit should clearly reflect that all capacity certifications require both as-built capacity and the volume of sludge accumulation.

Response 52:

RCS capacity certifications may or may not include sludge accumulations. However, all RCSs have a volume allocated to sludge. 30 TAC § 321.39(c) prohibits the Applicant from allowing sludge accumulation to exceed the design volume. This is achieved by removing the sludge according to the design schedule. The design criterion for this dairy is five years of accumulation. The RCS management plan will establish accumulation rates in the RCSs, which will identify the current sludge volume in each RCS. Taking volume measurements starting in year three will help reevaluate the accumulation rates prior to reaching the five year design volume. By starting in year three with the measurements, the operator has time to complete new construction and develop and implement an RCS management plan to appropriately manage the sludge volume in the ponds. Furthermore, daily pond marker readings should assist in determining excessive sludge accumulation in any RCS.

Comment 53:

Waco comments that a stage/storage table was not provided in the permit application and that it is required to perform a water balance since the monthly evaporation from the RCS is based on the surface area of the RCS. Waco calculates that the evaporation is over-estimated and notes that it is difficult to know by how much without a stage/storage table.

Response 53:

The stage storage table is not a requirement since TCEQ is evaluating proposed construction. Once construction is complete an actual stage storage curve will be part of the RCS management plan. The construction will need to ensure that the volume requirements are met or exceeded.

The surface area used in the RCS design and water balance inflow for the RCSs was calculated from the top of the berm of the existing structures, plus the expected surface area of the proposed expansion. The expected evaporation surface area used in the water balance was taken as a percentage of the total top of the berm surface area. Actual stage-storage data will not be available until the RCS expansion is complete.

Comment 54:

Doug and Linda Anderson comment that they are concerned about odor and state that increasing the dairy size will only increase the odor.

Response 54:

There are a number of requirements in 30 TAC Chapter 321, Subchapter B rules and the proposed permit for this facility designed to address the potential for nuisance odors or a condition of air pollution. 30 TAC § 321.43(j)(1)(A) requires that CAFO facilities "shall be operated in such a manner as to prevent the creation of a nuisance or a condition of air pollution as defined by Texas Health and Safety Code, § 341.011 and § 321.32(32) of this title (relating to Definitions), and as prohibited by § 101.4 of this title (relating to nuisance). The rule also requires facilities to operate in such a manner as to prevent a condition of air pollution as defined by Texas Health and Safety Code, 30 TAC § 382.003(3).. Additionally, the rule requires an operator to take necessary action to identify any nuisance condition that occurs and take action to abate such condition as soon as practicable or as specified by the ED.

30 TAC § 321.32(32) defines "nuisance" as:

> Any discharge of air contaminant(s), including but not limited to odors, of sufficient concentration and duration that are or may tend to be injurious to or that adversely affects human health or welfare, animal life, vegetation or property, or that interferes with the normal use and enjoyment of animal life, vegetation, or property.

The draft permit requires the Applicant to design and operate RCSs to minimize odors in accordance with accepted engineering practices. This permit authorizes the use of a covered anaerobic digester system. Each system must be operated in accordance with its design requirements and a RCS management plan that minimizes odors. Additionally, storage and land application of wastewater may not cause nuisance conditions. The solids must be cleaned out of the RCSs to prevent the accumulation of solids from exceeding the sludge volume designed for the structure. Removal should be conducted during favorable wind conditions that carry odors away from nearby receptors. Dead animals must be properly disposed of within three days unless otherwise provided by the ED and the animals must be disposed of to prevent nuisance conditions. Earthen pen areas must be maintained by scraping un-compacted manure and shaping pen surfaces, as necessary, to minimize odors and ponding.

Additionally, the facility must meet the requirements of 30 TAC § 321.43 in order to obtain an air standard authorization. The facility will implement an odor control plan under option #2 in 30 TAC § 321.43(j)(2) for expansion of existing facilities.

If concerned about potential violations, the public may contact TCEQ's Dallas/Fort Worth Region Office at 817-588-5800, TCEQ's Stephenville Special Project Office at 800-687-7078, or the statewide toll-free number at 1-888-777-3186. Additionally, you may file a complaint on line at http://www2.tnrcc.state.tx.us/complaints/index.cfm. TCEQ's regional staff investigates public complaints and the agency takes appropriate enforcement action if the investigator documents a violation.

Finally, the draft permit does not limit the ability to use common law remedies for trespass, nuisance, or other causes of action in response to activities that may or actually do result in injury or adverse effects on human health or welfare, animal life, vegetation, or property, or that may or actually do interfere with the normal use and enjoyment of animal life, vegetation, or property.

Comment 55:

Doug and Linda Anderson comment that they are concerned about the impact the enlarged facility will have on the quality of there drinking water and impact on the Bosque River.

Response 55:

Although the proposed permit authorizes an expansion from 990 head to 1499 head, the conditions being proposed in this permit are anticipated to significantly reduce pollutants entering receiving waters. These reductions are from a combination of:

1) Changing the milk cow herd from Holstein to Jersey cows, a smaller breed that produces less waste;

2) Operating the anaerobic digester system, which is expected to reduce the overall P concentration of the wastewater to be land applied; and

3) Implementing on-site composting of manure, sludge and digester solids, which reduces the overall waste volume to be exported from the facility.

These voluntary changes, along with the regulatory requirements limiting the potential for RCS overflows and better managing land application of nutrient to LMUs make it feasible to allow the increase in headcount. This permit requires all exported manure, sludge, and wastewater that cannot be land applied in accordance with the NMP or to be exported from the facility (i.e. composting, landfill, outside of the watershed, or third-party fields).

The wastewater generated by the facility is retained and managed in RCSs that must be designed to exceed the federal sizing requirement. The RCSs are required to be designed with a margin of safety, which requires a larger portion of the RCS to remain dry (i.e. the distance between the normal wastewater operating level and the spillway). The draft permit would require the RCSs to accommodate rainfall and runoff from a 25-year, 10-day rainfall event rather than the 25-year, 24-hour rainfall event specified in Federal regulations. This results in approximately a 60% increase in the required storage capacity and is intended to reduce the potential for discharges from the RCSs. The normal wastewater operating level is required to be closely monitored and maintained by implementation of the RCS management plan and increased recordkeeping by the permittee. The dry storage area is available to capture rainfall from extended periods of wet weather without overflow. However, in the event of an overflow, the Applicant must provide records to TCEQ to show that the overflow was unavoidable and show that the RCSs were being operated properly or be subject to enforcement action.

TCEQ implements and enforces standards that are established to protect human health, safety, and the environment. TCEQ rules allow wastewater to be beneficially used by land application at agronomic rates. The Applicant must maintain information on the cover crop planted and harvested and information on the application rate for the LMUs in the PPP. As crops are removed by harvesting or grazing, the nutrients in them are removed from the soil.

Herbicides, pesticides, and other toxic chemicals that may be linked to cancer or other health problems are required to be stored, used, and disposed of in a manner that prevents significant pollutants from entering water in the state or creating a nuisance condition.

Comment 56:

Doug and Linda Anderson comment that they are concerned with an increase in traffic from the operation, which would increase the amount of dust from the unpaved county road. They are also concerned that the operation will negatively affect their quality of life and their property values.

Response 56:

The Texas Legislature has not authorized the TCEQ to address these issues when considering a CAFO permit application. The ED's review is limited to the issues set out in TWC, Chapter 26 of TCEQ is authorized to consider issues that directly affect water quality, but not to consider issues such as the traffic congestion, quality of life issues, or property values. However, the permit does not limit the ability to seek legal remedies against an applicant regarding any potential trespass, nuisance, or other causes of action in response to activities that may result in injury to human health or property or that interfere with the normal use and enjoyment of property.

Additionally, if nearby residents suspect incidents of noncompliance with the permit or TCEQ rules they may be reported to TCEQ by calling toll-free, (800) 777-3186 or calling the TCEQ Region 4 Office in Fort Worth at (817) 588-5800 or the Stephenville Special Project Office at (254) 965-9200 or toll-free at (800) 687-7078. Citizen complaints may also be filed on-line at http://www.tnrcc.state.tx.us/cgi-bin/enforcement/complaints. If the Applicant fails to comply with all requirements of the permit, it is subject to administrative enforcement action, fines, and penalties.

Summary of changes to the draft permit as a result of public comment:

Part IV of the draft permit now reads:

IV. General Description and Location of Waste Disposal System:

Maximum Capacity: 1,499 total head of which 1,100 are milking (Jersey cows)
Site Plan: See Attachment A.
Retention Control Structures (RCS) total required capacities without freeboard (acre-feet): RCS #1-49.24, RCS #2-19.81, RCS #3-9.40; RCS #1 acts in-series with the anaerobic

digester system.
Land Management Units (LMUs) (acres): LMU#1-8, LMU#1a-51, LMU#2-27.5, LMU#3-12, LMU#4-70, LMU#5-32, LMU#6-29; See Attachment B for locations.
Location: The facility is located on the west side of County Road 240, approximately one mile south of the intersection of County Road 240 and State Highway 6, east of the City of Hico. Latitude: 31° 58' 11"N Longitude: 98° 00' 03"W. See Attachment C.
Drainage Basin: The facility is located in the drainage area of the North Bosque River in Segment No. 1226 of the Brazos River Basin.

Part VII.A.3.(a)(2) of the draft permit now reads:

(2) Documentation of liner and capacity certifications must be completed for each RCS prior to use and kept on-site in the PPP. Once construction is complete, new capacity and liner certifications for RCSs 1 and 3 will be provided. Upon issuance of this permit, a new liner certification will be provided for the re-named RCS 2. RCS volume requirements in the existing authorization should be maintained until the design and construction of the modified RCSs has been completed and certified.

RCS	Construction date	Liner certification date	Volume
1	1997	1997	3.18
2	1997	1997	15.04
3	1999	1999	7.60
4	2001	2001	19.81

Part VII.A.5.(a)(5) of the draft permit now reads:

(5) Permanent Pond Marker. The permittee shall install and maintain a permanent pond marker (measuring device) in each RCS, visible from the top of the levee to show the following:
(i) the volume for the design rainfall event;
(ii) one-foot increments beginning from the bottom of the RCS to the top of the embankment or spillway; and
(iii) design volume levels for maximum sludge accumulation and operating volume (calculated process generated wastewater plus rainfall runoff minus evaporation) must be identifiable on the maker.

Part VII.A.5(a)(7) of the draft permit now reads:

(7) Sludge Removal. The permittee shall monitor sludge accumulation

and depth, based upon the design sludge storage volume in the RCSs. Monitoring should be performed as necessary, but not less than annually for all RCSs beginning in year three (3) from the date of the permit issuance. Sludge shall be removed from the RCS in accordance with the design schedule for cleanout in the RCS management plan to prevent the accumulation of sludge from exceeding the designed sludge volume of the structure. Removal of sludge shall be conducted during favorable wind conditions that carry odors away from nearby receptors. Alternatively, sludge may be disposed by any of the following method(s):

(i) delivery to a composting facility authorized by the executive director;
(ii) delivery to a permitted landfill located outside the major sole source impairment zone;
(iii) beneficially utilized by land application to land located outside of the major sole source impairment zone;
(iv) composted onsite but not land applied to LMUs;
(v) applied to 3rd party fields; or
(vi) put to another beneficial use approved by the executive director.

Part VII.A.8(e)(i)(5)(D) of the draft permit now reads:

> Land application rates shall not exceed two times the phosphorus crop removal rate, not to exceed the crop nitrogen requirement, when soil phosphorus concentration in Zone 1 (zero (0) to six (6) inch incorporated; zero (0) to two (2) or two (2) to six (6) inch if not incorporated) depth is greater than 50 ppm phosphorus and less than or equal to 150 ppm phosphorus.

Part VII.A.8(e)(i)(5)(E) of the draft permit now reads:

> Land application rates shall not exceed one times the phosphorus crop removal rate, not to exceed the crop nitrogen requirement, when soil phosphorus concentration in Zone 1 (zero (0) to six (6) inch incorporated; zero (0) to two (2) or two (2) to six (6) inch if not incorporated) depth is greater than 150 ppm and less than 200 ppm phosphorus.

Part VII.A.9(b)(1) and (2) of the draft permit now reads:

(1) Initial Sampling. Before commencing manure, sludge, or wastewater application to LMUs or third-party fields, the permittee shall have at least one representative soil sample from each of the LMUs or third-party fields collected and analyzed according to the following procedures.

(2) Annual Sampling. The permittee shall have soil samples collected annually for each current and historical LMU.

Part VIII.B.2. of the draft permit now reads:

The permittee shall notify the appropriate TCEQ regional office in writing or by electronic mail with the date, time, and location at least ten working days before collecting soil samples from current and historical LMUs; and third party fields.

Part VIII.B.4. of the draft permit now reads:

In the event of a discharge from the RCS or a LMU during a chronic or catastrophic rainfall event or resulting from catastrophic conditions, the permittee shall orally notify the appropriate TCEQ regional office within one hour of the discovery of the discharge. The permittee shall send written notification to the appropriate regional office within 14 working days.

Part X.A.1. of the draft permit now reads:

A. RCS Modifications.

1. The permittee shall increase the size of existing RCS #2 and combine current RCS #1 and RCS #2, forming new RCS #1. Existing RCS #4 will be renamed RCS #2 and will function as an irrigation pond. A settling basin will be constructed to remove solids in the drainage area above RCS #3. Other components of the waste management system are a covered anaerobic digester, high-rate oxidation raceway, recirculation basin, and a methane generation system. All components are necessary to meet the total required capacity as listed on page 1 of this permit. Modifications shall comply with Section VII.A.3. of this permit. The table below indicates the minimum volume allocations for the RCSs.

RCS#	Design Rainfall Event Runoff	Process Generated Wastewater	Minimum Treatment Volume	Sludge Accumulation	Water Balance	Required Capacity without Freeboard	Actual Capacity without Freeboard
1	23.72	4.52	0	12.88	8.13	49.24	TBD
2	1.86	8.13	0	1.67	8.14	19.81	19.81
3	7.72	0	0	0.51	1.18	9.40	TBD

Part X.A.3. of the draft permit now reads:

3. Once modifications of new RCS 1 and new RCS 3 are completed, and the new settling basin is constructed, a RCS management plan will be developed to reflect the new volumes and implemented within thirty (30) days.

Part X.K. of the draft permit now reads:

K. The permittee shall install an underdrain leak detection system for the synthetically-lined oxidation pond and monitor on a monthly basis. Any accumulated water noted in the underdrain leak detection system shall be sampled and analyzed, at a minimum, for fecal coliform, nitrate (as nitrogen), ammonia nitrogen (as nitrogen), total phosphorus, and total dissolved solids. The observation of the water in the leak detection system, the estimated volume of the water, as well as data related to sampling and analysis, shall be recorded in the PPP and notification shall be provided to the regional office within 30 days. The recirculation basin and anaerobic digester shall be certified in accordance with 30 TAC §321.38(g)(3).

Part X.L. of the draft permit now reads:

L. The waste calculations for the facility are based on mature Jersey cows with an average weight of 950 pounds. The permittee shall obtain a major amendment before changing the breed of any confined cattle.

Respectfully submitted,

Texas Commission on Environmental Quality

Glenn Shankle
Executive Director

Robert Martinez, Director
Environmental Law Division

By _____
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REPRESENTING THE
EXECUTIVE DIRECTOR OF THE
TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

CERTIFICATE OF SERVICE

I certify that on February 4, 2008 the "Executive Director's Response to Public Comments" for Permit No.WQ0003395000 was filed with the Texas Commission on Environmental Quality's Office of Chief Clerk.

Robert D. Brush, Staff Attorney
Environmental Law Division
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