

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY

PERMITS DIVISION

RESPONSE TO COMMENTS SUMMARY

LPDES PERMIT NO. LA0047546

**VANGUARD SYNFUELS, LLC
AGENCY INTEREST NO. 3133
VANGUARD BIODIESEL PLANT
POLLOCK, GRANT PARISH, LOUISIANA**

The Louisiana Department of Environmental Quality (LDEQ or DEQ), Office of Environmental Services, Water Permits Division, held a public hearing on Tuesday, January 15, 2008 at the Pollock Community Unity Center, 3814 Patterson Street, Pollock, Grant Parish, Louisiana. This hearing afforded the public an opportunity for technical comments on the issued Louisiana Pollutant Discharge Elimination System permit for Vanguard Synfuels, LLC – Vanguard Biodiesel Plant (Vanguard). This document responds to pertinent statements (questions and/or comments) received at the public hearing, regarding the impact of the discharge on water quality.

1. *Comment:* Who is actually going to operate this plant, Vanguard or Allegro?

Response: This facility submitted an application in the name of Vanguard SynFuels, LLC which has been confirmed in phone conversations. As of March 3, 2008, the facility is registered with the Louisiana Secretary of State Commercial Division as Vanguard SynFuels, LLC.

2. *Comment:* Recreation and Tourism are principal industries of our community and are dear to the citizens that live here and any change in water quality will “adversely” affect our community. Our community is known for 4-H Camp Grant Walker located downstream. Any change in water quality will have “adverse impact” on our primary use of Big Creek that is also designated as a Louisiana Natural and Scenic Stream.

Response: The public notice for this permit states, “During the preparation of this permit, it was determined that this discharge will have no adverse impact on the existing uses of the receiving waterbody. As with any discharge, however, some change in existing water quality may occur.” Please be aware that the standards and requirements imposed upon the facility through statutes, regulations, and permit conditions are designed to provide a sufficient level of protection to avoid adverse environmental impact. These permit conditions have been developed in accordance with the Clean Water Act (33 U.S.C. 1251 *et seq.*) and the Louisiana Environmental Quality Act (La. R.S. 30:2001, *et seq.*) as described in Title 33 Part IX of the Louisiana Administrative Code. This permit was submitted for review to the Scenic Rivers Coordinator of the Department of Wildlife and Fisheries prior to issuance.

3. *Comment:* Big Creek is used by many citizens for recreation and for water supply to thousands of citizens.

Response: The permit limitations for Outfalls discharging to Big Creek are protective of the primary contact recreation, secondary contact recreation, and drinking water designated uses. See Responses to Comments 2 and 13.

4. *Comment:* We request that Vanguard SynFuels LLC explore new and different alternatives that will not require any discharge into Big Creek, Little River, or any surface water body, including deep well injection or large oxidation ponds. The feasibility of devising a self-contained system for effluent certainly falls under the IT category of additional mitigation. We are concerned about the low flow in Little River during the dry season.

Response: LPDES permit limitations are designed to be protective at low flow conditions. The 7Q10 (low flow) of Little River was determined to be 18.9 cubic feet per second (CFS) or approx. 12.2 MGD at Outfall 001. This means that the lowest stream flow, for seven consecutive days that would be expected to occur once in ten years, is approximately 12.2 MGD. The facility has an effluent pumping station to pump treated process wastewater to Little River. The maximum effluent pumping capacity, as stated in the renewal application, is 0.76 MGD (approximately 6 % of the 7Q10).

Vanguard's treatment process currently consists of an oil/water separator, a 1 million gallon solids settling pond, and two 3.8 million gallon effluent ponds that can be operated in either series or parallel. In the application, the company estimates 63 days of retention time in the effluent ponds alone, with the plant discharging the projected maximum monthly average flow of 0.1207 MGD to the ponds and with the ponds operating in parallel. The facility has had only two discharge events in the previous two years.

The permit conditions of the original Farmland permit issued by the Stream Control Commission were designed to be protective at low-flow conditions as were the limitations in this renewal permit. There is no significant difference between oxygen demand of the original Farmland permit and the reissued permit. Discharges in compliance with permit limitations should not cause or contribute to an exceedance of the water quality standards at low flow conditions.

5. *Comment:* We request that the environmental community/organizations conduct a study on existing plants to determine long-term problems that could occur by the operation of this industrial process.

Response: This is a new industry class that has emerged in recent years with few existing permitted facilities. The LDEQ intends to monitor the facility and update the permit as necessary.

6. *Comment:* I am against anything going to Little River period. Anything going into Little River will affect the ecology.

Response: See Response to Comment 2 .

7. *Comment:* How does the discharge get into Little River, Big Creek, or into Mill Creek?

Response: Outfall 001, the process wastewater discharge, is piped directly to Little River at the coordinates listed in the permit documents. Outfalls 002-005, stormwater, utility wastewater, deminimus quantities of general maintenance wastewater, and hydrostatic test wastewater, discharge to either Big Creek or Mill Creek via local drainage.

8. *Comment:* Have the applicants obtained a point source discharge permit from the Scenic River System?

Response: The issuance of an LPDES permit is not contingent upon the issuance of a Scenic Rivers Permit. However, this LPDES permit was submitted for review to the Scenic Rivers Coordinator of LDWF prior to issuance. To date, Vanguard does not have a Scenic Rivers Discharge permit (e-mail dated March 3, 2008 from the Scenic Rivers Coordinator of LDWF). Farmland Industries, Inc. received a Louisiana Natural and Scenic Rivers Class “B” Use Permit (#26) in August 1975 prior to the construction of the facility.

9. *Comment:* Publishing the permit notice in the Colfax “Chronicle” and the “Advocate” may be all that is legally required, but it is of scant value to those of us in Rapides Parish who drink the water, but don’t read the “Chronicle”.

Response: This permit was public noticed in accordance with LAC 33:IX.6521. Additionally, permit public notices including electronic access to draft permits and statement of basis/factsheets can be viewed at the LDEQ permits public notice webpage at www.deq.louisiana.gov/apps/pubNotice/default.asp. General information related to the public participation in permitting activities can be viewed at www.deq.louisiana.gov/portal/tabid/2198/Default.aspx. Individuals may also elect to receive the permit public notices via email by subscribing to the LDEQ permits public notice List Server at http://www.doa.louisiana.gov/oes/listservpage/ldeq_pn_listserv.htm

10. *Comment:* If this operation is already functioning, why are you seeking a permit?

Response: Per LAC 33:IX.2501.D.2, all permittees with currently effective permits shall submit a new application 180 days before the existing permit expires. Permit LA0047546 was transferred from Farmland Nitrogen to Vanguard SynFuels, LLC on October 1, 2003 and was due to expire on December 31, 2005. Vanguard SynFuels, LLC submitted a permit renewal application on December 20, 2005 and the renewal permit was issued on December 13, 2006.

11. *Comment:* U.S. Law, federal law protects Big Creek and Little River as outstanding natural resource waters. What does that mean? What it means is that there's not supposed to be any new permits into Big Creek or into Little River.

Response: Per LAC 33:IX.1119.C.4, wastewater discharges to outstanding natural resource waterbodies are allowed if the activity will not cause degradation of these waters.

12. *Comment:* Catahoula Lake is protected under the RAMSAR Treaty.

Response: The RAMSAR Treaty is an international treaty for the conservation and sustainable utilization of wetlands aimed at stemming the progressive encroachment on and loss of wetlands now and in the future and recognizing the fundamental ecological functions of wetlands and their economic, cultural, scientific, and recreational value.

This permit was issued in compliance with the Clean Water Act. Catahoula Lake is part of Subsegment 081603. This facility discharges into Subsegments 081602 and 081608, not Subsegment 081603. Discharges in compliance with the conditions of this permit should not cause or contribute to adverse impacts on the existing uses of either the receiving subsegment or the adjacent subsegments. See Response to Comment 2.

13. *Comment:* Exhibit V-7 (enlargement of USGS survey map for the Pollock Area showing areas of interest) shows the stream head that comes out of the front of the Allegro Biodiesel plant below their rail yard and enters Big Creek about a half mile above the water intake for Rapides Parish Water District 3. The permit did not address Water District 3. How are the pollutants going to interact with that treatment system (see exhibit V-5)?

Response: Exhibit V-7 shows the flow path for permitted Outfall 002. (See LDEQ Map of facility Discharge Routes in Attachment B). This Outfall is described in the permit as, "stormwater from the administration building/parking, maintenance shop/parking, facility access road and the area south of the warehouse; potentially de minimus quantities of utility and general maintenance wastewater, hydrostatic test wastewater (monitored by Outfall 005), and runoff from firefighting activities." The discharge, expected to consist of primarily uncontaminated stormwater, travels approximately 1.8 miles through an unnamed tributary/local drainage prior to entering Big Creek. It then enters Big Creek an additional 1 mile (approx.) above the drinking water intake.

The permit limitations for Outfall 002 are standard LDEQ limitations for discharges composed primarily of stormwater and are based on LDEQ's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6). The permit limits are representative of allowable concentrations in uncontaminated stormwater. All regulations and requirements associated with the drinking water designated use were considered in the development of this permit. Therefore, discharges in compliance with these permit limitations are similar to discharges of uncontaminated stormwater and should not cause or contribute to an exceedance of any water quality standards nor should they

affect the drinking water intake. The permit also includes a requirement to develop a Stormwater Pollution Prevention Plan (SWPPP). Additionally, Vanguard now has the capability to contain and visually inspect this stormwater at Outfall 002 prior to discharge and their SPCC plan prohibits loaded trucks from parking in the parking lot of the administration building.

Note that the stormwater from the loading dock are discharged through Outfall 004 which joins Big Creek **below** the drinking water intake structure (see Attachment B). Process area stormwater is captured and discharged to the treatment system, thence to Little River via Outfall 001.

14. *Comment:* See Exhibit V-8 and V-9, pictures dated February 9, 2007. These pictures show some of the discharges coming out of the plant. These pictures are outfalls to Big Creek, from the rail yard and the warehouse. This all goes to the drinking water for the community.

Response: In response to these exhibits, a facility compliance inspection was conducted on January 26, 2008. The company identified the picture as a stormwater release of tannins from a wood chip pile stored outside of containment. For a short time, the facility was sending glycerin to a landfill because they did not have the ability to process and sell it. The landfill required the addition of wood chips to the glycerin prior to disposal. Once the problem was identified, the wood chip pile was moved to an area of the plant where stormwater is contained and sent to the treatment system. The facility is now processing and selling glycerin and does not currently store wood chips on-site. The inspector noted no residues at any locations and no violations at the time of inspection. Please note that only Outfall 002 discharges above the drinking water intake. See Response to Comment 13.

15. *Comment:* Rather than apply for a new permit to cover this entirely new operation, Vanguard and LDEQ wrote all new requirements into an existing permit.

Response: LDEQ issued a new permit (renewal of LA0047546) on December 13, 2006. This renewal permit included limitations, monitoring requirements, reporting requirements, and narrative conditions to address biodiesel production activities.

Furthermore, LAC 33:I.1907.A states, “the administrative authority may approve the transfer of a permit to a new owner or operator based on the presence of the following factors: (1) documentation clearly identifying the party who will be responsible for existing violations; and (2) evidence of managerial competence on the part of the new owner or operator in accordance with LAC 33:I.1701.” A permit transfer request for LA0047546 was submitted to LDEQ initially on May 6, 2003. On October 1, 2003, the permit was transferred to Vanguard.

Pursuant to LAC 33:IX.2701.L.1.b, facilities are required to report planned changes to LDEQ as soon as possible when the alterations could significantly change the nature or

increase the quantity of pollutants in the discharge. Under LAC 33:IX.2903.A.1.a, the LDEQ may modify or reissue a permit when it receives information indicating that material and substantial alterations to the permitted facility or activity has occurred, that justify the application of permit conditions that are different or absent in the existing permit. The permit that was transferred to Vanguard on October 1, 2003 contained this reporting requirement (Part III, Section D.1, page 8). LDEQ was notified of the changes in the renewal application received December 20, 2005. Because the effective permit was set to expire on December 31, 2005, the LDEQ elected to reissue the permit to reflect the changes at the facility. The facility must comply with the terms of the permit until those terms are modified.

16. *Comment:* None of the materials associated with the water discharge permit give any indication of when Vanguard began biodiesel production.

Response: Vanguard has indicated that biodiesel production began in April 2006 (see public hearing Exhibit V-1).

17. *Comment:* LDEQ must not allow Vanguard/Allegro to switch feedstocks without undergoing entirely new, publicly-noticed permit proceedings. The affected public has the right to know what is being used at this plant, and LDEQ has a duty to reassess the granting of this permit and its conditions in light of new feedstock.

Response: Written notification of changes is required in the permit, Standard Conditions, Section D.1 (p 8 of 18) and by LAC 33:IX.2701.L.1. To date, the facility is still using soybean oil as the feedstock for biodiesel production.

18. *Comment:* Vanguard Biodiesel Plant is a New Facility (LAC 33: IX.4707) and a New Discharger (LAC 33: IX.2313). Vanguard and LDEQ have incorrectly classified this permit as a renewal of a prior permit based on the permit issued to Farmland Industries. The Vanguard facility is fundamentally different from the Farmland plant it replaced. The Vanguard biodiesel facility fits the definition of a new discharger, which means that it is also a new facility.

Response: According to LAC 33:IX.2313, the Vanguard facility is **not** a new discharger.

The “new discharger” definition has four parts (*a-d*) that must all apply for a facility to be considered a new discharger. Part *b* of the “new discharger” definition states, facility “that did not commence the discharge of pollutants at a particular site prior to August 13, 1979”. The outfalls at this facility were first permitted in August 1975. Part *d* of the definition specifies a facility “which has never received a finally effective permit for discharges at that site”. Again, the discharges at this site were first permitted in August 1975. Because the definition states that a facility must meet parts *a*, *b*, *c*, **and** *d* to be considered a new discharger, and the facility does not meet the conditions *b* and *d*, this facility is not a new

discharger under LAC 33:IX.2313. EPA Region 6 agreed with this determination in an e-mail dated February 27, 2008.

The “new facility” definition at LAC 33:IX.4707 is applicable to regulation of Cooling Water Intake Structures only. The definition states that a “new facility” is “any building, structure, facility, or installation that meets the definition of new source or new discharger *and* is a greenfield or stand-alone facility; commences construction after January 17, 2002; *and* uses either a newly constructed cooling water intake structure or an existing cooling water intake structure **whose design capacity is increased to accommodate the intake of additional cooling water.** As established above, Vanguard does not meet the new discharger definition, or the stand alone definition. While it is defined as greenfield, the intake structure has not been modified. Therefore, this facility does not qualify as a “New Facility” as defined in LAC 33:IX.4707.

19. *Comment:* LDEQ has incorrectly exempted Vanguard from Compliance with the Cooling Water Intake Regulations. For a new facility to be subject to the regulations, it must use or propose to use a cooling water structure with a design intake flow greater than 2 MGD with at least 25% withdrawn for cooling purposes (LAC 33:IX:4701-4717). Vanguard’s application leaves its water usage unclear. The water balance diagram indicates that the water pumped from Little River is added to an integrated water use system whose purposes include boiler and cooling water blowdown, both of which could have cooling purposes. Vanguard’s deletion of the fire water diesel engine from its list of air emission points also raises doubts about Vanguard’s use of pumped water. LDEQ based its 316(b) exemption on the premise that its biodiesel production plant and Farmland’s ammonia manufacturing facility are the same facility which as discussed previously, they are not.

Response: As discussed above (See Response to Comment 18), Vanguard is not defined as a new facility. LAC 33: IX.4707 and 40 CFR 125.83 clearly indicate that a facility is considered a “new facility” for the purpose of 316b permitting if, and only if (1) a new intake is constructed or (2) an existing intake is modified to increase the capacity. This has not occurred at the Vanguard facility. Therefore, as stated in the Statement of Basis, p2, this facility is not subject to Phase I of the 316b regulations. Phase II of the regulations apply to power plants only. Phase III of the regulations do not address existing manufacturing facilities such as Vanguard. Therefore, as stated in the permit documents, Vanguard is not subject to 316b regulations.

20. *Comment:* These permit proceedings, as they’ve taken place so far, relies on Vanguard’s analysis entirely. There has been no independent analysis by the state agency to see what the effects of this plant are on the environment. DEQ rubber-stamped the SIC Code that Vanguard chose in its application. DEQ needs to independently decide what this manufacturing process is and not let Vanguard make that decision.

Response: In 2006, prior to drafting the permit, LDEQ pulled numerous, available documents on biodiesel production (See EDMS Document ID #35892098) including

documents on biodiesel production water quality issues. Additionally, a list of Commercial Biodiesel Production Plants (date January 13, 2006) was obtained from the National Biodiesel Board at www.biodiesel.org. Note that portions of this list (obtained from EDMS) were submitted by Tulane at the hearing as Exhibit V-3E. This list was then cross-referenced with the EPA's Permit Compliance System database in a search for active permits. Of the facilities listed, the majority held only Multi-Sector General Permits and were land applying process wastewater. At that time, only three held point source discharge permits. Copies of these permits were obtained from the Arkansas Department of Environmental Quality, the Mississippi Department of Environmental Quality, and the Iowa Department of Natural Resources respectively (again see EDMS Document ID #35892098). Of these three permits, the Mississippi and Arkansas operations were part of larger chemical production/terminal facilities. The only point source discharge permit issued to a strictly biodiesel production facility located at the time of permit issuance was IA9700105 issued in Iowa. This permit includes standard sanitary wastewater limits for the process/sanitary discharge and was referenced as part of the limitations basis for Outfall 001(biodiesel production wastewater) of LA0047546. In 2006, the few permitted facilities located by the LDEQ were classified primarily with SIC Codes of 20 (Food and Kindred Products). As stated above, LDEQ intends to monitor the industry and update the permit as necessary.

21. *Comment:* LDEQ must conduct an environmental impact assessment of the potential impacts of the Vanguard Biodiesel Facility (Section V). In its decision to issue the Vanguard biodiesel facility wastewater discharge permit, LDEQ performed no Save Ourselves analysis. It was required to do so by the LA Constitution. Now that LDEQ is being required to take a second look at this permit, it must consider the fact the Vanguard is reported to be considering use of animal fat as feedstock. LDEQ must now consider the potential and real adverse environmental impacts associated with this change in feedstock and must consider permit reissuance in light of this.

Response: LA. R.S. 30:2018.A states, "The applicant for a new permit or a major modification of an existing permit as defined in rules and regulations that would authorize the treatment, storage, or disposal of hazardous wastes, the disposal of solid wastes, or the discharge of water pollutants or air emissions in sufficient quantity or concentration to constitute a major source under the rules of the department shall submit an environmental assessment statement as a part of the permit application." This facility did not and does not constitute a major source. As such, LDEQ was not required to perform a Save Ourselves analysis. See also Response to Comment 17.

22. *Comment:* LDEQ cannot permit the Vanguard discharges into Outstanding Natural Resource Waters. LAC 33:IX.1119.C.4 provides that LDEQ shall not approve a wastewater discharge into an ONRW if it will cause degradation of those waters. LDEQ did not determine whether the Vanguard discharges would cause a statistically significant difference in the waters of Little River and Big Creek in violation of this provision.

Response: The discharge is not expected to cause or contribute to degradation of water quality in the receiving stream or in the designated water body, Big Creek. (See Basis for Decision Section IV.B.)

23. *Comment:* Because Little River and Big Creek are impaired and have TMDLs on them, LDEQ must determine that sufficient load allocations exist for the discharge. Neither LDEQ nor Vanguard has provided a demonstration that sufficient load allocations remain to allow for the discharge. Despite the acknowledgment that TSS and fecal coliform will be present in Vanguard's discharges, and in some instances mercury, and that the discharges will end up in impaired waterbodies, LDEQ has not determined whether Little River and Big Creek have assimilative capacity remaining to allow for any more discharges of these pollutants.

Response: While LAC 33:IX.2317.A.9.a states that there must be sufficient remaining pollutant load allocations to allow for new discharges, LAC 33:IX.2317.A.9 clarifies that determining the allowable load is applicable only to new sources and new dischargers if the discharges from its operation will cause or contribute to the violation of a water quality standard. As established above, Vanguard does not meet the new discharger definition (see Response to Comment 18). Vanguard is not a new source, as regulations have not been promulgated for this industry type. Additionally, as demonstrated below, the LDEQ has determined that compliance with the established permit limitations and conditions will not cause or contribute to the violation of a water quality standard in Little River.

The "TMDL for TSS, Turbidity, and Siltation for 13 Subsegments in the Ouachita River Basin" (May 2002) states that "point sources do not represent a significant source of TSS as defined by this TMDL" (Section 2.5.1, p12). Point sources discharge primarily organic TSS, which is a non-conservative constituent that would only be detected in near proximity to the discharge point and does not contribute to extensive habitat impairment resulting from sedimentation. The TMDL further states that because an enforceable mechanism is in place to protect from discharges of organic suspended solids through the LPDES permitting process, no TMDL is required for these materials. Because no TMDL was developed for organic TSS, there is no remaining allocation determination to be made in accordance with LAC 33:IX.2317.A.9.a. The discharge of organic TSS from this facility, if in compliance with the TSS limitations established in the permit, is not expected to cause or contribute to a violation of the water quality standards in the receiving stream.

The Little River TMDL for Fecal Coliform describes the preliminary land uses along Little River as forestry, pasture and cropland. The suspected sources to the fecal coliform impairment in Little River have been attributed to livestock grazing and sewage discharges from unsewered areas. Internal Outfall 101 discharges 1,400 gallons per day of treated sanitary wastewater into the one million gallon solids settling pond which gravity flows into the south effluent pond (3.8 million gallon capacity) prior to discharge to Little River. Because fecal coliform is a non-conservative pollutant (bacteria do die off) the LDEQ reasonably expects that 1,400 gallons of treated sanitary wastewater discharging into

several million gallons of the wastewater treatment system will allow assimilation all fecal coliform colonies contributed by the sanitary wastewater treatment system prior to discharge into Little River. Therefore, in accordance with LAC 33:IX.2317.A.9 the LDEQ has demonstrated that discharges from Internal Outfall 101 are not expected to cause or contribute to the fecal coliform impairment in the receiving stream. Further determination of remaining assimilative capacity is unnecessary.

The TMDL for Mercury in the Little River and the Catahoula Lake Watershed establishes that 99.5% of the mercury load in Little River and Catahoula Lake comes from atmospheric deposition. While the TMDL report does identify point source discharges to the watershed, the focus is on nonpoint sources from anthropogenic air emissions. Ongoing and future reductions in mercury emissions using a multimedia approach provides the most reasonable assurance that water quality standards will be attained in the future. Based on facility type and the presence of existing mercury requirements in LPDES permits EPA made the determination in this TMDL that facilities other than SIC 4952 that do not process mercury, do not utilize mercury in its processes, do not store mercury on-site and do not have existing LPDES mercury requirements are not expected to be sources of mercury to the environment. However, the TMDL does acknowledge that point source discharges of bioaccumulative chemicals like mercury may have particular local significance, apart from their contribution to the cumulative load. Point source discharges by their nature may create “hot spots” where observed elevated concentrations have potential impact on aquatic life, wildlife, and human health. Although this facility is not expected to be a source of mercury to Little River, the permit has incorporated net monitoring and reporting requirements for mercury. By collecting point source data the LDEQ can monitor the discharge to determine if it creates a localized “hot spot” in the future. The LDEQ reserves the right to reopen the permit (Other Conditions, Part H, of the Final Permit) if it is determined that permit limitations for mercury are necessary in the future, at which time the remaining assimilative capacity as built into the Margin of Safety of the TMDL would be evaluated to determine the allowable load.

24. *Comment:* LDEQ’s failure to set limits on Mercury and Total Organic Carbon (TOC) discharges (at 001) violates Water Quality Regulations. Because both Little River and Big Creek are impaired for mercury and Little River is impaired for TSS, LDEQ must ensure that any discharge will not cause or contribute to this impairment (LAC 33:IX.2707.D.1.a). The permit justification for not requiring mercury limits is insufficient. At a minimum, the decision not to include TOC limits is arbitrary and capricious. The failure to include TOC limits without explanation violates LDEQ’s constitutional duty.

Response: LAC 33:IX.2707.D.1.a states that, “limitations must control all pollutants or pollutant parameters ... which the state administrative authority determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard”. Based on the rationale described above in response to comment 23, it has been determined that this facility is not expected to discharge TSS or Mercury at levels which have the reasonable potential to cause or contribute to the TSS and Mercury impairments of Little River. As with any LPDES

permit, the Department reserves the right to reopen the permit (Other Conditions, Part H, of the Final Permit) if it is determined that additional permit limitations and requirements are necessary in the future.

Please be advised that TOC is not an indicator parameter for TSS, Turbidity, or Siltation identified in the TMDL. The statement of basis includes TOC and TSS limitation justifications where appropriate. Additionally, as explained by the TMDL, point sources do not represent a significant source of TSS and do not require reductions. Therefore, discharges in compliance with the limitations of the permit are not expected to cause, have the reasonable potential to cause, or contribute to the TSS impairment.

25. *Comment:* LDEQ sets inappropriate TSS limits in Vanguard's Permit. In the absence of proof that the Vanguard ponds cannot meet secondary treatment limits for TSS, the technology-based TSS limits in the permit must be set at 30 mg/l, 45 mg/l secondary treatment levels. According to 40 CFR 133.101(g), "treatment works shall be eligible for consideration for effluent limitations described for treatment equivalent to secondary treatment, if (1) The BOD₅ and SS [*sic*] effluent concentrations consistently achievable through proper operation and maintenance of the treatment works exceed the minimum level of effluent quality set forth in 133.102(a) and 133.102 (b)...(emphasis added). LAC 33:IX.711.D.2.a is applied incorrectly. A well-designed and properly operated lagoon system can meet secondary treatment limits, therefore an individual showing that the facility cannot meet these requirements through proper operation and maintenance is necessary to qualify for equivalent to secondary limits.

Response: In the complete citation, 40 CFR 133.101(g)(2) goes on to state that facilities shall be eligible for consideration for effluent limitations described for treatment equivalent to secondary treatment if **a trickling filter or waste stabilization pond is used as the principal process**. This is also defined at LAC 33:IX.5903.A. Therefore, LAC 33:IX.711.D.2 is applied correctly. Furthermore, it is standard LDEQ practice to apply these TSS limits to discharges from pond treatment systems in minor industrial permits.

26. *Comment:* LDEQ did not adequately analyze whether additional pollutant discharge limitations ought to have been included in Vanguard's permit. LDEQ arbitrarily limited its review of available information on likely pollutants.

Response: LDEQ gathered data on the proposed biodiesel reaction, expected wastewater characteristics, and operational facilities in other states (See Response to Comment 20). LDEQ evaluated this data and the projected data submitted in the application to determine appropriate indicator parameters for the expected wastewater types. Once appropriate indicator parameters were established, limitations were derived based on site specific water quality considerations and existing permits for similar discharges.

27. *Comment:* A review of the permit application materials reveals many additional pollutants which may be present in Vanguard's discharge. The data submitted by Vanguard on January 16, 2006 indicates that COD, TKN, Nitrate plus nitrite nitrogen, total phosphorus, ammonia nitrogen, and sulfate were present in one or more stormwater outfall discharges. The final permit should be modified for all outfalls to include each of the parameters reported by Vanguard, and appropriate daily maximum and monthly average limitations should be established.

Response: Section 502 of the Clean Water Act defines "effluent limitation" to mean any restriction on quantities, rates and concentrations of constituents discharged from point sources. The CWA does not say that effluent limitations need be numeric. As a result, EPA and States have flexibility in terms of how to express effluent limitations. EPA has, through regulation, interpreted the statute to allow for non-numeric limitations (e.g., "best management practices," see 40 CFR 122.2) to supplement or replace numeric limitations in specific instances that meet the criteria specified at 40 CFR 122.44(k). This permit requires monitoring in addition to SWPPP language in order to assess the effectiveness of the industrial storm water pollution prevention plan in reducing these contaminants. This monitoring is based on LDEQ's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6). The SWPPP language addresses other potential contaminants not covered in the permit limitations.

28. *Comment:* The permit did not include limitations or monitoring requirements for additional pollutants which will most likely appear in maintenance shop or wash waters – including phosphorus, methylene blue active substances (MBAS), Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), and other related industrial solvents. The permit should include limitations for these parameters at Outfalls 001 and 003.

Response: The LDEQ has determined that TOC is an appropriate indicator for the control of organic pollutants. TOC testing is capable of detecting biodegradable and aromatic organic compounds. Outfall 003 is expected to discharge *deminimus* quantities of general maintenance wastewater. In the case of Outfall 001, any general maintenance wastewater (estimated at 1400 GPD in the application) will experience a long retention time (see Response to Comment 4). VOCs and SVOCs are volatile compounds and are expected to dissipate prior to discharge. In regard to phosphorus, LDEQ's position on nutrients, as supported by the ruling in *Sierra Club v. Givens*, 710 So.2d 249 (La. App. 1st Cir. 1997), writ denied, 705 So.2d 1106 (La. 1998), is that when oxygen-demanding substances are controlled and limited in order to ensure that the dissolved oxygen criterion is supported, nutrients are also controlled and limited. According to Standard Methods for the Examination of Water and Wastewater, method 5540 C (2005), the methylene blue active substances (MBAS) method is used to measure anionic surfactants found in detergents. Historically, the LDEQ has not limited surfactants through the use of the MBAS method. Additionally, EPA chose not to limit MBAS in 40 CFR 442 (Transportation and Equipment Cleaning). Furthermore, all external outfalls in permit LA0047546 include the narrative

condition, “There shall be no discharge of floating or settleable solids or visible foam...nor of toxic materials in quantities such as to cause toxicity to aquatic organisms.”

29. *Comment:* The monitoring parameters required for Outfall 001 do not reflect expected contaminants for boiler blow-down such as anti-scaling compounds, corrosion inhibitors, or increase temperature. There is no indication that the settling ponds will treat boiler chemicals. Monitoring requirements and /or limitations must be included in the permit on these parameters.

Response: The LDEQ has determined that temperature limitations are not necessary at Outfall 001 because boiler blowdown is discharged to large retention ponds prior to discharge to waters of the State. Heat will be dissipated by the retention ponds. Therefore monitoring for temperature is not necessary. In regards to toxics from anti-scaling compounds and corrosion inhibitors, Vanguard certified in the application (EPA Form 2D, Section V.C, p 4 of 5) that “No Pollutant listed in Table 2D-3 is expected to be present”. For reference, Table 2D-3 is the list of Toxic Pollutants and Hazardous Substances required to be identified by applicants if they are expected to be present. Additionally, on EPA Form 2D, Section V.A and V.B, p 3 of 5, Vanguard did not identify any volatile compounds, acid compounds, base neutral compounds, or pesticides (commonly known as priority pollutants) as expected components of the discharge. Finally, as stated above, all external outfalls in permit LA0047546 include the condition, “There shall be no discharge of ... toxic materials in quantities such as to cause toxicity to aquatic organisms.”

30. *Comment:* The permit includes no temperature monitoring or other chemical limitations associated with cooling water blowdown. The permit application included MSDSs for cooling tower chemicals listed as phosphoric acid, sulfuric acid, aromatic, amine, and sodium hydroxide as being components of two trade name additives. The potentially large amount of cool down water may result in adverse thermal impacts on the receiving stream.

Response: The cooling tower blowdown discharged to the effluent ponds is estimated at 4300 GPD, again into a minimum of 3.8 million gallons in the effluent pond system. The pH limitation will address the potential for acids and bases in the wastewater. See Response to Comment 29.

31. *Comment:* According to the University of Idaho National Biodiesel Education Program, biodiesel wastewaters typically include Total Kjeldahl Nitrogen (TKN), Total Phosphorus (TP), and Sulfate. Outfalls where biodiesel is produced, stored, or transported should include these parameters. Wastewater discharges associated with biodiesel production typically have higher COD than BOD. The permit should include both BOD and COD.

Response: Due to the nature of the test, oxygen demand measured by COD analysis is **always** higher than that measured by BOD analysis. The data presented in Exhibit 4, Attachment 1, though only “an estimate based on various sources,” supports the idea that biodiesel production wastewater is similar to discharges of sanitary wastewater.

Historically, LDEQ has controlled oxygen-demanding substances from these types of wastewaters using the BOD₅ parameter. The permit includes BOD₅ limitations at Outfall 001 (process waste water and process stormwater outfall) and Outfall 004 (stormwater from the loading dock). Additionally, both outfalls have TOC requirements as well. Permitted outfalls 002, 003, and 005 are not expected to contain stormwater from areas where biodiesel is “produced, stored, or transported”. Therefore, these outfalls contain TOC limitations and monitoring requirements only.

32. *Comment:* LDEQ should look to the experience of other states as reason for heightened oversight. See exhibit V-3H. The article states that Iowa environmental regulators have found many more significant pollution issues associated with these plants than they expected. At minimum this information should require LDEQ to include many more pollutants in the permit. LDEQ should err on the side of caution by performing the complete analysis that Iowa has not done before it confirms its decision to issue this permit.

Response ideas: As this article, published in the Des Moines Register (a local newspaper), states, the industry is so new, scientists and regulators agree that it is hard to project its full impact. It also states that, “the (biofuels) industry’s most prevalent environmental issue is the water pollution and soil erosion that will accompany the increased corn production to meet **ethanol’s** soaring demand.” These are not issues associated with the Vanguard facility. The article goes on to clarify that many of the offenses were paperwork violations (p2) and that much of the trouble meeting sewage pollution limits came from too much iron in the water withdrawn from local aquifers (p2). The one biodiesel plant specifically mentioned in the article was cited for “improper spreading of liquid wastes”. Note that many of these facilities were land applying their process wastewater. The Vanguard permit does not allow land application of wastewater. Furthermore, LDEQ did research biodiesel facilities prior to permit issuance (see Response to Comment 20). In fact, an Iowa permit IA9700105 was cited as part of the basis for the permit limitations.

33. *Comment:* LDEQ has not sufficiently analyzed the environmental impacts of the Vanguard facility on groundwater and ultimately on surface water. The application lists a private well as a source of water to the facility. There is no evidence that Vanguard or LDEQ has evaluated what effects that pumping on a daily basis will have on other water wells in the area or recharge to receiving streams.

Response: The Ground Water Resources Division of the Louisiana Department of Natural Resources (LDNR) is responsible for the regulation and management of ground water resources. The Division evaluates the effect on an area prior to the installation of certain water well types. The Public Works and Water Resources Division of the Louisiana Department of Transportation and Development (DOTD) registers water wells as they are drilled. The Department of Health and Hospitals (DHH) regulates public supply water wells.

34. *Comment:* Vanguard's treatment ponds may leak contaminants. LDEQ concluded in the Statement of Basis that the surface impoundments were "structurally sound". LDEQ does not indicate that it has analyzed the integrity of the ponds. Considering the fact that Vanguard will be using ponds as its primary source of treatment, and that we know nothing of the makeup of the pond bottom, LDEQ's duty as public trustee of the environment mandates that it require Vanguard to conduct groundwater monitoring.

Response: Pond liner integrity and groundwater monitoring around impoundments both fall under solid waste regulations. A Solid Waste inspection report (EDMS Document ID # 36283967), dated 8/27/07, states that all surface impoundments have intact structural integrity and adequate freeboard. The inspector reviewed the semi-annual groundwater monitoring report, weekly, monthly, and after rainshower inspection logs, and DMRs. The facility was in the process of replacing some ground water monitoring wells to meet the 10 ft. screen requirements and conducting two 100' soil borings to delineate the clay level. No violations of the solid waste regulations or the solid waste permit (P-0105) were observed. Solid waste and ground water inspections conducted on November 8, 2006, December 16, 2004, January 26, 2004, and May 7, 2003 all noted no deficiencies. Vanguard's most recent groundwater sampling report, submitted on September 6, 2007, did not indicate any problems with liner integrity at the facility.

35. *Comment:* The permit application stated that the raw water intake structure that is capable of pumping up to 2500 gpm from Little River could be used for firefighting activities. This indicates that water can be pumped at any time without considering low-flow conditions. Pumping during low-flow conditions could adversely impact fish and aquatic life and negatively affect downstream water users. There is no evidence that such analysis was performed.

Response: As previously stated, the 7Q10 (low flow condition) for Little River has been determined to be 18.9 CFS at Outfall 001. This means that the lowest stream flow, for seven consecutive days that would be expected to occur once in ten years, is approximately 12.2 MGD. The maximum pumping capacity for the intake structure is 3.6 MGD which is less than 30% of the critical low flow. In the Proceedings of the Meeting of the Louisiana Stream Control Commission, June 30, 1975 (EDMS Document ID # 34655023, p80) where the initial permit was approved, the siting of the intake was discussed. The intake was moved downstream to the confluence of Little River and Big Creek in an effort to further reduce the impact at low flow conditions. At the time, the low flow conditions at the confluence were estimated to be 30 CFS (19.4 MGD). Additionally, the facility constructed an inlet reservoir (the feed water pond in Vanguard's application) to allow flexibility in the rate of water withdrawal during low flow conditions. See also Response to Comment 19.

36. *Comment:* The statement of basis does not discuss the details of an anticipated wet washing system and how such will alter the treatment needs and retention times in the effluent ponds or the impact to the receiving stream.

Response: The permit is written based on a dry system. The permittee is required to follow the notification requirements of the Standard Conditions of the permit prior to implementing significant changes at the facility. At the time of such notification, the permit would be re-evaluated and modified if necessary.

37. *Comment:* The quarterly report to the SEC for Allegro Biodiesel Corporation states that both pure (B100) and 20% blended (B20) are produced at the plant. The permit documents do not discuss storage of petroleum diesel on-site. If petroleum diesel is stored on site, stormwater runoff monitoring should include VOCs and Semi-VOCs.

Response: See Response to Comment 27.

38. *Comment:* A SPCC plan is required to be prepared in addition to the stormwater plan.

Response: LAC 33:IX.Chapter 9 establishes requirements for contingency planning and implementation of operating procedures and best management practices to prevent and control the discharge of pollutants resulting from spill events. LAC 33:IX.905.B states “operators of facilities meeting the criteria in LAC 33:IX.903 (SPC applicability) shall prepare a plan within 180 days after the facility begins operation and shall be fully implemented as soon as possible..” The permit references the SPCC plan in the facility specific requirements, p13 of 14, stating “Clean up and dispose of all spilled product and other spilled wastes immediately according to all applicable regulations, Spill Prevention and Control (SPC) plans, or Spill Prevention Control and Countermeasures (SPCC) plans.”

39. *Comment:* The permit references “Outfall 007” as the point where hydrostatic test water discharges are to be monitored (Permit p.4 of 14), but the permit did not include a section on monitoring for Outfall 007. Outfall 007 is not mentioned anywhere else.

Response: This reference to Outfall 007 is a typographical error that will be corrected. As stated in the permit, Statement of Basis, and related permit documents, all hydrostatic test wastewater is discharged through Outfall 005.

40. *Comment:* The permit requires completion of a SWPPP within 6 months of the effective date of the permit. This requirement is less stringent than the requirement established in the LPDES Multi-Sector General Permit. The Multisector requires the plan to be submitted with the notice of intent for permit coverage. The Multisector Sector U requires monitoring for BOD, COD, Nitrate plus nitrite nitrogen, TSS, TOC, and Oil and Grease. The final permit should include all of these parameters.

Response: The six (6) month implementation period is a standard condition for individual permits requiring an SWPPP. Because the biodiesel process was significantly different from the previous manufacturing process, LDEQ determined that the six (6) month period

was necessary to allow the facility sufficient time to develop a plan that is representative of actual facility operations and ensures protection of human health and the environment.

See Response to Comment 27.

41. *Comment:* The permit includes virtually no monthly average concentration limits. All outfalls should be required to include both Daily Maximum and Monthly Average reporting and effluent limitation requirements.

Response: Outfall 001, the process waste water outfall, contains both monthly average and daily maximum limitations. Outfall 005, hydrostatic test wastewater, has daily maximum limitations consistent with the LDEQ Hydrostatic Test General Permit, LAG670000. Outfalls 002, 003, and 004, composed primarily of stormwater, have effluent limitations consistent with LDEQ guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

42. *Comment:* The permit does not include measurements based on mass. Sample results not based on flow-weighting can underestimate the pollutant loading. This means that Vanguard can manipulate the pollutant concentration by discharging more water and thus emit as much of any pollutant that it desires. Since the permit limits are concentration based and Vanguard is only required to infrequently estimate flow, Vanguard's total pollutant load into Little River is a rough estimate. LDEQ could remove the loophole by limiting the mass of pollutants that can be discharged under the permit.

Response: Concentration limits are used in accordance with LAC 33:IX.2709.F.1.b that states "mass limitations are not necessary when applicable standards and limitations are expressed in other units of measurement". Discharges from Vanguard's treatment system are pumped to Little River at the facility's discretion which introduces the potential for flow regulation to comply with mass-based permit limits (i.e. by reducing flow rates, higher concentrations may be discharged that still comply with mass-based limits). Because of this and the highly variable, intermittent nature of the discharge, the control of concentration in the effluent is a more critical factor than mass to determine the effectiveness of the treatment system and has been determined to be appropriate for this discharge at Outfall 001. Concentration limitations at Outfalls 002-004 are standard LDEQ practice for discharges composed primarily of stormwater and are in line with LDEQ's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6). Concentration limitations for discharges of hydrostatic test wastewater (Outfall 005) are consistent with the LDEQ hydrostatic test general permit, LAG670000.

43. *Comment:* The permit requires flow monitoring from each outfall based on "estimate". Flow estimates are insufficient to monitor, analyze, and comply with standard of environmental laws and regulations. To comply with waste load allocations where TMDLs exist, an accurate measurement of discharge flow rate is required. Flow measurements

should be required to meet the standards established in Section C.6 (Part III) of the permit and be flow-weighted.

Response: As established in Response to Comment 23, this facility does not have the potential to cause or contribute to the existing impairments, therefore waste load allocations were not developed. As stated in Response to Comment 42, the control of concentration in this effluent is a more critical factor than mass. Thus, a precise determination of flow would not significantly aid in determining permit compliance. Additionally, the requirement for an estimate for these intermittent discharges is within the scope of the standard practices of the LDEQ.

44. *Comment:* The outfall to Little River is upstream of the intake allowing pollutants to concentrate in a part of the stream.

Response: LPDES permit limitations are designed to be protective of the receiving stream regardless of the location of the intake structure.

45. *Comment:* The final permit allows for a range of pH from 5 to 9 standard units (su) for Outfalls 002, 003, and 004, based on the premise that naturally-occurring low pH soils in the area might cause stormwater to have a lower pH. Stormwater runoff data submitted by Vanguard on January 16, 2006 indicated that on-site soils do not have this effect. A lower pH in stormwater runoff can be caused by biodiesel. The permit should therefore have a pH range of 6-9 su.

Response: The pH minimum of 5.0 su is based on the previously issued permit for this facility. The pH limitations for stormwater outfalls in that permit were set at 5.0 – 9.0 because it was demonstrated that naturally-occurring low pH soils in the area influenced stormwater runoff. DMR data submitted from 10/1/05 – 12/31/06 show a pH consistently near or below 6.0 su at all stormwater outfalls (range = 5.3 – 6.6 su). This facility is located near pine forests of Kisatchie National Forest. It is well established that pine forest soils are acidic in nature.

46. *Comment:* The permit only requires TOC reporting at Outfall 001. The TOC should be consistent with the other outfalls.

Response: TOC limitations at outfalls 002 – 005 are based on limitations established in either LDEQ Stormwater Guidance or the hydrostatic test general permit. Outfall 001 discharges process wastewater. Oxygen-demanding pollutants expected to be discharged at Outfall 001 are limited by the BOD₅ limitation. See Response to Comment 31. LDEQ has placed additional TOC reporting requirements at Outfall 001 to monitor for refractory carbon compounds to provide additional data on this discharge for future permitting considerations.

47. *Comment:* The permit includes discrete sampling of sanitary wastewater prior to mixing with other waters. These requirements are not even as stringent as the minimum reporting requirements for the LAG530000. Further, the limitations established by the LAG530000 cannot be used for receiving streams with sanitary wastewater TMDL allocations. More stringent fecal coliform, suspended solids, turbidity limitations are required to demonstrate that these parameters do not result in increased WLAs.

Response: BOD₅, TSS, and pH parameters are not included on the internal outfall 101 because the regulations require compliance at the point of discharge into the receiving waterbody. The inclusion of these parameters at the final outfall 001 satisfies the regulatory requirements. To require monitoring at the internal outfall would prove duplicative and unnecessary. LAC 33:IX.2709.H allows the monitoring of effluent limitations at internal outfalls when it is infeasible or impractical to sample the parameters at the final outfall. Vanguard is required to sample for fecal coliforms at the point of discharge from the septic tank (Outfall 101) prior to discharging to the retention ponds. See Response to Comment 23.

48. *Comment:* On page 5 of 18 of the permit, Section C, Monitoring and Records, 2. Representative Sampling, the permit requires that samples and measurements collected to be “representative of the monitored activity”. The permit does not fulfill that requirement because the sampling parameters are not entirely representative of the contaminants that can reasonably be expected in the process and stormwater runoff.

Response: This reference is taken out of context. The permit condition refers, not to the permit limitations, but rather to the sample pulled for analysis by the facility. The complete condition states, “Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. All samples shall be taken at the outfall location(s) indicated in the permit. The state administrative authority shall be notified prior to any changes...”. Furthermore, as stated previously, the parameters included in this permit are sufficient to control pollutants reasonably expected to be characteristic of the discharges. See Comments 28, 29, 30, and 31.

49. *Comment:* Firefighting activities should be included as possible flow components in all outfalls.

Response: Both the NPDES and LPDES Multi-Sector General Permit for Stormwater discharges include firefighting activities as allowable non-stormwater discharges. These discharges are covered by the facility-wide SWPPP requirement of the permit and do not need to be listed at every outfall. The SWPPP plan requirements of permit LA0047546 include, “.a prediction of the direction, rate of flow, and total quantity of pollutants which could be discharged from the facility as a result of potential equipment failure, natural conditions, or other circumstances which could result in significant amounts of pollutants reaching surface waters..”.

50. *Comment:* The permit did not specify that testing was required for sanitary discharges that are disinfected with chlorine – rather stating that total residual chlorine (TRC) may be required if chlorination is used. Chlorine testing should be required if the effluent is disinfected with chlorine.

Response: The facility has a septic tank and is not chlorinating prior to discharge to the solids settling pond. The statement of basis, p 3 identifies the treatment as a septic tank only. Therefore, a TRC limit was not included. It is standard LDEQ practice to alert facilities that future TRC testing may be required if chlorine is used as a method of disinfection.

51. *Comment:* Diesel from soybeans as the next American fuel is a myth. It doesn't result in lower diesel prices for farmers. Is Vanguard buying soybeans from Louisiana farmers?

Response: Commodity source and end use are not factors in the establishment of LPDES permit issuance or permit conditions.

ATTACHMENT B:

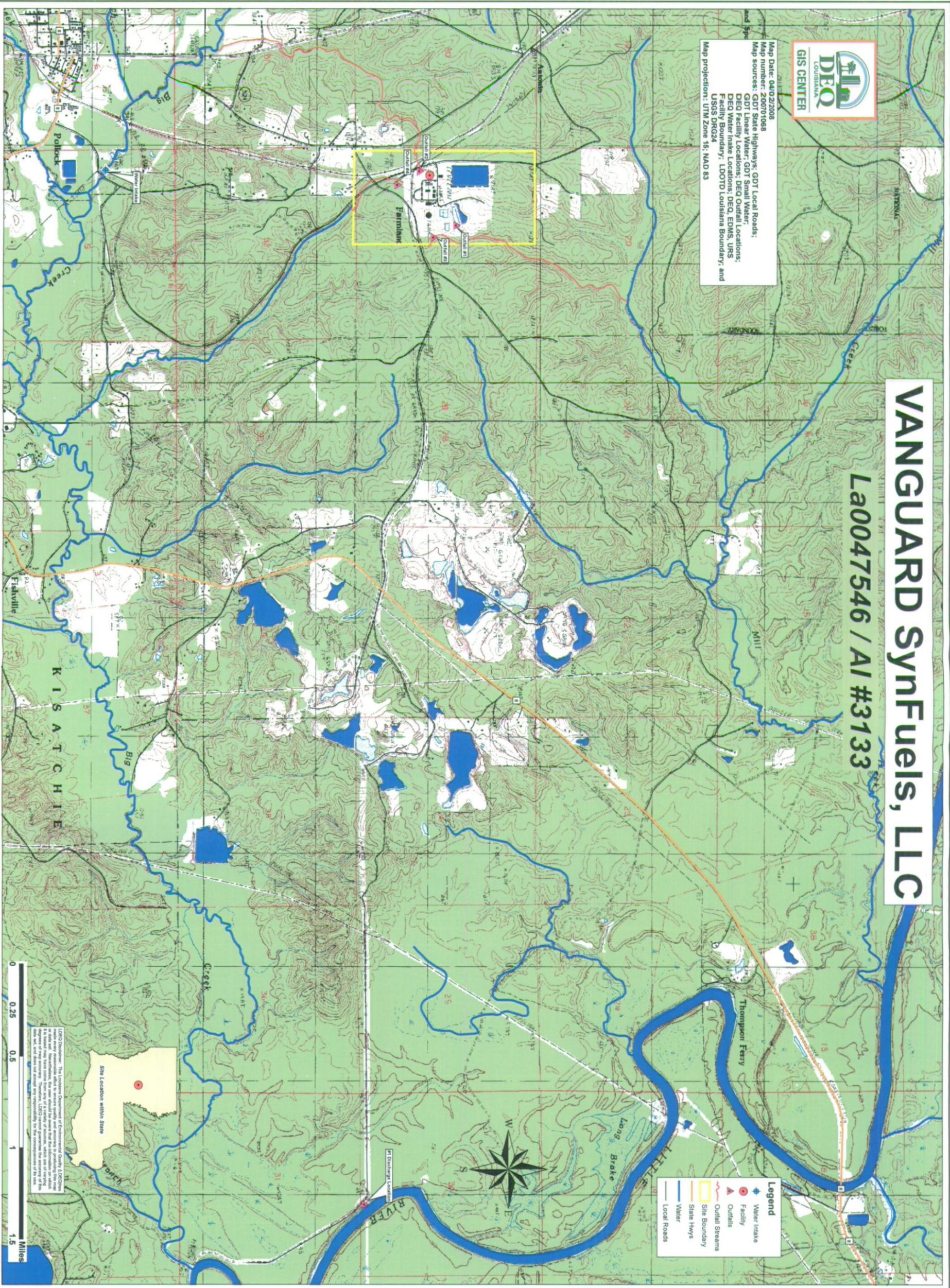
Outfall Map with Expected Discharge Routes

VANGUARD SynFuels, LLC

La0047546 / AI #3133



Map Date: 04/02/2008
 Map number: 200701068
 Map sources: GDT State Highways; GDT Local Roads;
 GDT Linear Water; GDT Small Water;
 DEQ Facility Locations; DEQ Outfall Locations;
 DEQ Water Intake Locations; DEQ, EDMS, UFS;
 Facility Boundary; LDOITD Louisiana Boundary; and
 USGS DRG24
 Map projection: UTM Zone 16; NAD 83



Legend

- ◆ Water Intake
- Facility
- ▲ Outfalls
- Outfall Streams
- Site Boundary
- State Hwys
- Water
- Local Roads

Scale

0 0.25 0.5 1 1.5 Miles

Site Location within State

DEQ Disclaimer: The Louisiana Department of Environmental Quality (DEQ) provides this map as a service to the public. The map is not intended to be used as a legal document. The map is not a warranty, and DEQ does not assume any responsibility for the consequences of its use.