



Minnesota Pollution Control Agency

STATE OF MINNESOTA

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INDUSTRIAL DIVISION
PUBLIC NOTICE OF INTENT TO REISSUE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)/
STATE DISPOSAL SYSTEM (SDS) PERMIT MN0068357

Public Comment Period Begins: September 24, 2012
Public Comment Period Ends: October 24, 2012

Current Permit Issued: October 19, 2006
Current Permit Expiration Date: September 30, 2011

Name and Address of Permittee:

Green Plains Renewable Energy Inc.; Green Plains Otter Tail, LLC
450 Regency Pkwy Ste 400
Omaha, NE 68114

Facility Name and Location:

Green Plains Otter Tail
24096 170th Ave
T133N, R43W, Section 20,
Fergus Falls, Otter Tail County, Minnesota

Receiving Waters: Kunz Waterfowl Production Area Lake Tributary to the Pelican River; Otter Tail River to Dayton Hollow Reservoir and Orwell Lake

Description of Permitted Facility

The Facility is authorized to produce 65 million gallons per year of undenatured ethanol that is blended with denaturant (unleaded gasoline) for fuel use. Approximately 24 million bushels (approximately 0.68 million tons) per year of corn feedstock is processed through a dry milling process. In addition to ethanol, the Facility coproduces dried distiller's grain with solubles (DDGS), modified wet cake or wet cake, in any combination thereof, for animal feed, as well as syrup and extracted corn oil. The fuel for the Facility is supplied by natural gas.

The makeup water for the Facility is supplied, at a design rate of 364 million gallons per year, by two production wells (no. 1 and no. 2) in a confined glacial aquifer. The water supply is treated with multi-media filtration. The water treated by the multi-media filtration supplies the Facility cooling tower and the makeup for the production processes, as well as water for additional treatment by reverse osmosis and ion exchange softening. The reverse osmosis and ion exchange softening supply additional treated water for the production processes, boiler and cooling tower.

The backwash from the multi-media filtration is collected in a detention tank for settling. The clear water decant from this tank discharges through outfall SD001 while the sludge is filtered (with the sludge filtrate discharged through SD001 or routed to the ethanol process); the solids are removed and disposed of in a landfill (as monitored by station WS002).

The following individual utility waste streams combine into pipe outfall SD001, designed to discharge at average and maximum design daily rates of 0.30 and 0.36 million gallons/day (MGD), via an underground gravity-flow pipeline to the Otter Tail River (class 1C, 2Bd, 3C, 4A, 4B, 5 and 6 waters) to Dayton Hollow Reservoir and Orwell Lake (both class 2B, 3C, 4A, 4B, 5 and 6 waters).

Waste Stream Type	Gallons per day average	Gallons per day maximum	Frequency of discharge
Multi-media filter backwash	38,000	45,000	Continuous
Reject wastewater from reverse osmosis water supply treatment	144,000	172,800	12 times per day, for approximately 90 minutes
Ion exchange water softener regenerate	500	670	Monthly, over a 100-minute period
Cooling towers blowdown	118,610	142,330	Four times per day, for approximately five hours per cycle: five hours on, one hour off

The following two different, mutually exclusive, sets of chemicals used at the Facility at the indicated maximum rates may enter the waste streams discharging through outfall SD001:

Fremont Additives Set		
Chemical Type or Name	Purpose	Maximum Addition Rate (continuous unless otherwise noted)
Sodium hypochlorite (diaphragm or membrane process manufactured)	Influent water supply oxidant Cooling tower biocide	44 lb/day 110 gallons/week
Sodium chloride	Ion exchange softener resin regeneration	375 gallons/6.25 hours, approximately once monthly
Fremont 8898	Reverse osmosis antiscalant	26 lbs/day
Sulfuric acid (low-level mercury, as measured by station WS003)	Cooling tower pH adjustment	110 gallons/week
Biodispersant 2	Cooling tower biocide	2 lbs/1 hour, weekly
Antimicrobial 7287	Cooling tower biocide	0.6 gal/1 hour, weekly

Sodium bisulfite	Reverse osmosis dechlorination Combined effluent dechlorination	22 lbs/day 55 gallons/week
Fremont 9575	Cooling tower scale/corrosion inhibitor (these two chemicals not used at the same time)	27 lbs/day
Fremont 9199		164 lbs/day

Nalco Additives Set		
Chemical Type or Name	Purpose	Maximum Addition Rate (continuous unless otherwise noted)
Sodium hypochlorite (diaphragm or membrane process manufactured)	Influent water supply oxidant Cooling tower biocide	44 lb/day 110 gallons/week
Sodium chloride	Ion exchange softener resin regeneration	375 gallons/6.25 hours, approximately once monthly
Nalco PC-191T	Reverse osmosis antiscalant	1.4 gal/day
Sulfuric acid (low-level mercury, as measured by station WS003)	Cooling tower pH adjustment	110 gallons/week
Nalco 3DTBR06	Cooling tower tracer	0.63 gal/day
Nalco 3DT191	Cooling tower biocide	1.8 gal/day
Nalco 73551	Cooling tower biocide	0.54 gal/day
Nalco 3DT198	Cooling tower biocide	0.23 gal/day
Sodium bisulfite	Reverse osmosis dechlorination Combined effluent dechlorination	22 lbs/day 55 gallons/week
Nalco 3DT184	Cooling tower scale/corrosion inhibitor	0.68 gal/day

Boiler blowdown is recycled into the ethanol manufacturing process. Boiler cleaning residuals have no blowdown or other release to the wastewater streams that ultimately discharge from the Facility. Other flows (such as tank bottoms, hydroblasting and washdown waters, floor drainage and wet air emission control waters) generated by the ethanol and coproduct production processes are recycled and contained within the boiler and production process systems, and have no blowdown or other release to the wastewater streams that ultimately discharge from the Facility. Internal clean-in-place (CIP) activities are conducted periodically for the Facility. Rinse waters, sediments and the residuals from the other non-utility waste streams noted above are returned to the ethanol manufacturing process, which leads to the ultimate generation of ethanol and other final coproducts. None of the Facility stillage, wet cake, modified wet cake, DDGS or other byproducts are land-applied.

The only outdoor storage of materials at the Facility is for containerized totes, packaged containers, wet cake and modified wet cake. The outdoor management of wetcake and modified wetcake consists of storage on, and transport out from, a walled and fully roofed outdoor concrete pad. During normal operations, drainage does not accumulate at this storage site; however, if drainage accumulates it is collected and returned to the plant process.

Outdoor handling occurs at designated truck and rail fuel loading sites.

No dust control chemicals are applied at the Facility. No field or other drainage tiles underlie the Facility site. A stormwater detention pond on the north side of the Facility receives the Facility stormwater drainage. Discharges from this pond are controlled by manual gate valves. Outfall SD002 is designed to discharge at average and maximum daily rates of 0.01 and 11.6 MGD to a drain tile to the Kunz Waterfowl Production Area Lake, which drains through an outlet structure to a tile to the Pelican River (class 2B, 3C, 4A, 4B, 5 and 6 waters); excess stormwater above 0.05 MGD is pumped into the ethanol process or spray-irrigated through station WS001 (using wheel row and/or traveling gun irrigators) onto spray irrigation sites LA301 (9 acres), LA302 (16 acres) and LA303 (21 acres). A rotation of alfalfa and grasses is grown and harvested on the spray irrigation sites.

Aboveground storage tanks are covered under Aboveground Storage Tank (AST) Major Facility Permit No. 124283; this AST permit covers the tank secondary containment drainage, which includes the flows from the Facility truck and rail fuel loading sites. The drainage that accumulates in the tank secondary containment area is inspected and tested for the absence of fuel-related contaminants before being routed to the Facility stormwater detention pond.

Domestic wastewater is treated by an individual, on-site, septic tank/drainfield system not covered under this permit.

The water balance flow diagram and location of the Facility and designated outfall locations are shown below. Station SW001 is located in the Otter Tail River upstream of and outside of the influence of discharge outfall SD001.

Preliminary Determination on the Draft Permit

The MPCA Commissioner has made a preliminary determination to reissue this NPDES/SDS permit for a term of approximately five years.

A draft permit is available for review at the MPCA office at the St. Paul address listed below, at the Detroit Lakes regional office and on-line at <http://www.pca.state.mn.us/news/data/index.cfm?PN=1>.

A copy of the draft permit will be mailed to you if the MPCA receives your written or oral request at this office. If you have questions about this draft permit or the Commissioner's preliminary determination, please contact Jim Strudell at 651-757-2764.

Written Comments

You may submit written comments on the conditions of the draft permit or on the Commissioner's preliminary determination.

Written comments must include the following:

1. A statement of your interest in the permit application or the draft permit.
2. A statement of the action you wish the MPCA to take, including specific references to sections of the draft permit that you believe should be changed.
3. The reasons supporting your position, stated with sufficient specificity as to allow the Commissioner to investigate the merits of your position.

Petition for Public Informational Meeting

You also may request that the MPCA Commissioner hold a public informational meeting. A public informational meeting is an informal meeting that the MPCA may hold to solicit public comment and statements on matters before the MPCA, and to help clarify and resolve issues.

A petition requesting a public informational meeting must include the following information:

1. A statement identifying the matter of concern.
2. The information required under items 1 through 3 of "Written Comments," identified above.
3. A statement of the reasons the MPCA should hold a public informational meeting.
4. The issues that you would like the MPCA to address at the public informational meeting.

Petition for Contested Case Hearing

You also may submit a petition for a contested case hearing. A contested case hearing is a formal evidentiary hearing before an administrative law judge. In accordance with Minn. R. 7000.1900, the MPCA will grant a petition to hold a contested case hearing if it finds that: (1) there is a material issue of fact in dispute concerning the application or draft permit; (2) the MPCA has the jurisdiction to make a determination on the disputed material issue of fact; and (3) there is a reasonable basis underlying the disputed material issue of fact or facts such that the holding of the contested case hearing would allow the introduction of information that would aid the MPCA in resolving the disputed facts in making a final decision on the draft permit. A material issue of fact means a fact question, as distinguished from a policy question, whose resolution could have a direct bearing on a final MPCA decision.

A petition for a contested case hearing must include the following information:

1. A statement of reasons or proposed findings supporting the MPCA decision to hold a contested case hearing according to the criteria in Minn. R. 7000.1900, as discussed above.
2. A statement of the issues proposed to be addressed by a contested case hearing and the specific relief requested or resolution of the matter.

In addition and to the extent known, a petition for a contested case hearing should also include the following information:

1. A proposed list of prospective witnesses to be called, including experts, with a brief description of proposed testimony or summary of evidence to be presented at a contested case hearing.
2. A proposed list of publications, references, or studies to be introduced and relied upon at a contested case hearing.
3. An estimate of time required for you to present the matter at a contested case hearing.

MPCA Decision

You may submit a petition to the Commissioner requesting that the MPCA Citizens' Board (Board) consider the permit issuance. To be considered timely, the petition must be received by the MPCA by 4:30 p.m. on the date the public comment period ends, identified on page 1 of this notice. Under the provisions of Minn. Stat. § 116.02, subd. 6(4), the decision whether to issue the permit and, if so, under what terms will be presented to the Board for decision if: (1) the Commissioner grants the petition requesting the matter be presented to the Board; (2) one or more Board members request to hear the matter before the time the Commissioner makes a final decision on the permit; or (3) a timely request for a contested case hearing is pending. You may participate in the activities of the Board as provided in Minn. R. 7000.0650.

The written comments, requests, and petitions submitted on or before the last day of the public comment period will be considered in the final decision on this permit. If the MPCA does not receive written comments, requests, or petitions during the public comment period, MPCA staff as authorized by the Board, will make the final decision on the draft permit.

Comments, petitions, and/or requests must be submitted in writing on or before the end date of the public comment period identified on page 1 of this notice to:

Jim Strudell, 5th Floor
Industrial Division
MPCA, 520 Lafayette Road
St. Paul, MN 55155



Topographic Map of Permitted Facility

