



# **Minnesota Pollution Control Agency**

## **STATE OF MINNESOTA**

### **Minnesota Pollution Control Agency**

**INDUSTRIAL DIVISION  
PUBLIC NOTICE OF INTENT TO REISSUE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)/  
STATE DISPOSAL SYSTEM (SDS) PERMIT MN0067211**

Public Comment Period Begins: June 4, 2012  
Public Comment Period Ends: July 5, 2012  
  
Current Permit Issued: October 1, 2004  
Current Permit Expiration Date: September 30, 2009

**Name and Address of Permittee:**  
Bushmills Ethanol  
PO Box 628  
Atwater, MN 56209-0628

**Facility Name and Location:**  
Bushmills Ethanol  
17025 Highway 12 NE  
T119N, R33W, Section 10,  
Genessee, Kandiyohi County, Minnesota

**Receiving Water:** Judicial Ditch No. 17

#### **Description of Permitted Facility**

The Bushmills Ethanol Facility (Facility) is located at NW ¼ of NE ¼ of Section 10, Township 119 North, Range 33 West, Genessee Township, Kandiyohi County, Minnesota. The principal activity at the Facility is the manufacturing of ethanol (SIC 2869), and related co-products. The Facility operates a 65 million gallon per year ethanol manufacturing plant. The site is underlain by approximately 400 feet of glacial till. Gneisses and pre-cambrian/Cambrian metamorphic and igneous rocks occur beneath the overlying soils. Four wells are present on site, however only one provides the source water for the facility. The well in use draws water from a Quaternary deposit of mixed sands and gravels that is a part of the thick glacial till covering the area. The hardness of the incoming well water indicates the aquifer contains a great deal of limestone or weathered feldspars that are rich in calcium, magnesium and sodium. The maximum permitted draw from this well is 500 gallons per minute. Approximately 176 million gallons of water are used annually to facilitate the ethanol production process. This Facility is a dry-mill operation and no process waters from the ethanol or by-product manufacturing processes are discharged directly to any waters of the state.

The discharge stream for the facility is cooling tower blowdown at an average rate of 129,600 gallons per day (gpd) and a maximum rate of 154,080 gpd. The process uses dry milling of corn and natural fermentation to produce ethanol. Twenty-one million bushels of corn are used annually in support of ethanol manufacturing. Wet cake, modified wet cake, and dried distillers grains with solubles (DDGS) are produced as byproducts and are sold as animal feed. Bushmills can produce a maximum of 365,000 tons of wet cake or modified wet cake annually; actual production is dependent on market conditions. The amount of DDGS produced has an inverse ratio to the amount of wet cake produced. DDGS is stored within the DDGS building. Wet cake is stored on a concrete pad partially covered by a roof. The maximum amount of wetcake stored on the concrete pad at any one time is 700 tons. Contact with stormwater is reduced by decreasing the surface area of the stored material during precipitation and frequent scraping of unused sections of the pad.

Operations at the site can be generally divided into several areas based on primary function. The areas include: scale, corn receiving, product load out, corn storage, milling, water treatment, cooling, steam generation, fermentation, distillation, product storage, roadways and railways, and wet cake/DDGS storage.

Corn is regularly delivered by truck at the facility, but can also be received via rail. DDGS and wet cake are transported off site by truck and rail. All roadways at the facility are paved and regularly swept to keep roadways free of material; sweepings are disposed of in one of the onsite dumpsters. All of the roadways drain to the first or second stormwater pond. The rail line drains to the surrounding ditches, which join the discharge stream to the city of Atwater's storm sewer.

Wastewater is generated and treated internally via a recycling process. The water supply is treated with a series of treatments which begins with a pellet reactor followed by berm pressure filters. The facility also utilizes cold lime softening (CLS), in which the lime solids are removed from the process and directed to the modified wetcake. The water treatment plant prepares water for use in the heating, cooling, and process streams. Due to the hardness of incoming water, several systems are used to prepare the water for use in the manufacturing process. These systems include softeners, Reverse Osmosis (RO) systems, a clarifier, pH adjustment, and multi-media filters. RO pre-filters, RO membranes, sludge and lime resulting from the cleaning of the systems are disposed of as municipal solid waste. RO reject is recycled in the process.

A steam generation system is used to provide heat in support of ethanol manufacturing. Cooling is integral to the process as well and is accomplished with an industrial cooling tower. Cooling tower blowdown is continuous and constitutes the total Facility discharge to SD001. Sludge resulting from the cleaning of the cooling system is disposed of as municipal solid waste.

Cooling tower blowdown and stormwater associated with industrial activity are authorized for discharge to Judicial Ditch No. 17. These discharges travel via an underground storm sewer to Judicial Ditch No. 17. The ditch eventually discharges to the Middle Fork of the Crow River, part of the Upper Mississippi River Basin. SD 001 will go to surface waters that are unlisted waters, and are therefore assigned the beneficial use classes for aquatic life, cool or warm water sport fishery and recreation in and on the water (2B), industrial consumption (3C), agricultural and wildlife (4A and 4B), aesthetic enjoyment (5) and other uses (6).

The facility does not land apply any materials, including wetcake, DDGS, water treatment residuals or other byproducts.

All stormwater is directed to three on-site stormwater ponds. The North pond drains the administration building/scale house area and has very limited exposure to any significant materials. The South stormwater pond (south of administrative building/scale house) drains the industrial activities portion of the site and is generally

considered to control all the stormwater that may be exposed to significant materials. These two ponds have previously been monitored by a single discharge point, (SD002). For this permit, SD002 will monitor the discharge from the North pond only. The North pond discharges travel via an underground pipe that meets up with a local farmers drain tile which eventually discharges to Diamond Lake. A new station, SD003, has been defined to monitor the discharge from the South pond only. The South pond discharges via an underground pipe to an underground storm sewer which discharges to Judicial Ditch No. 17. A third pond on-site is formed by a small depression on the extreme southwest corner of the property and does not have a surface water discharge. This pond was designed with a manual drain valve for maintenance and drains to the South pond via an underground pipe. This third drainage area does not include any significant materials or industrial exposure. As a measure to re-use stormwater within the ethanol-making process, the North pond has been connected to the South pond via an underground pipe with a manual valve allowing the North pond to flow into the South pond. A drain tile running alongside and underneath the South stormwater pond allows the use of stormwater in the process. All stormwater used to off-set source water will be used only in the ethanol-making process and will not be utilized in any other parts system. As such, the stormwater recycled in the plant will not be used or comingled with any streams that would be discharged to Judicial Ditch 17. There is one additional drain tile onsite that discharges to the above mentioned storm sewer and eventually to Judicial Ditch No. 17, however the site has been designed so that there is no potential for industrial stormwater to be discharged off-site via this drain tile. Any remaining underground piping located on-site and not described above was installed strictly for the purpose of directing industrial stormwater to an on-site stormwater pond.

Outdoor handling and storage of raw materials, intermediate and finished products, byproducts and solid wastes at the facility is primarily for containerized totes, wet cake, and modified wet cake, and truck and rail fuel loading sites. Wet cake, modified wet cake, and dried distiller's grains with solubles (DDGS) are produced as byproducts and are sold as animal feed. The outdoor management of wetcake and modified wetcake consists of storage on, and transport out to, an outdoor concrete pad and managed in accordance with a Wetcake Best Management Plan (as submitted to MPCA). During normal operations, drainage does not accumulate at this storage site; however, if drainage accumulates it is collected and returned to the plant process. No dust control chemicals are applied at the facility.

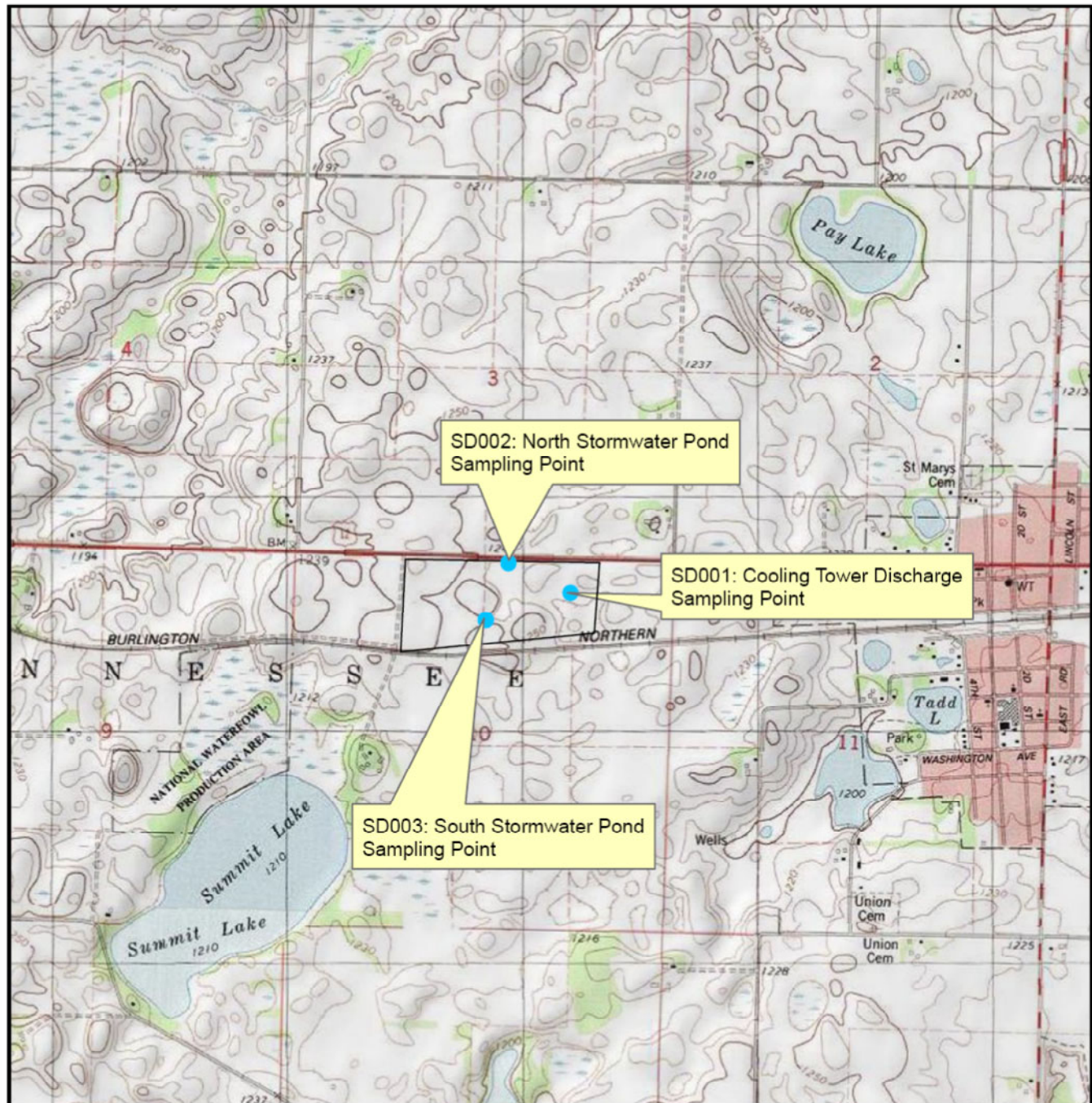
The drainage that accumulates in the tank secondary containment area is inspected and analyzed for fuel-related contaminants before being routed to the facility stormwater detention basins. The secondary containment for the tank farm, following testing, is pumped to the South stormwater pond. Any result of this testing above zero (any detection) is directed back to the process. This flow is controlled by a pump in the tank farm. Aboveground Storage Tank (AST) Permit #123524 authorizes specific process tanks, as required. Some of the onsite tanks are exempt from the Minnesota AST Permit program due to capacity or the provision of a closed drainage system.

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

The location of the Facility is shown on the attached map.

## **Topographic Map of Permitted Facility**

MN0067211: Bushmills Ethanol, Inc  
T119N, R33W, Section 10  
Atwater, Kandiyohi County, Minnesota



Map produced by: MPCA Staff, 5/30/2012  
Source: USGS Quad  
Scale: 1:24,000

### **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 Willmar 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 Kate Frantz at 651-757-2370.

### **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:

Kate Frantz  
Industrial Division  
Minnesota Pollution Control Agency  
520 Lafayette Road N  
Saint Paul, MN 55155