TO INTERESTED PARTIES:

RE:  Al-Corn Clean Fuels Plant Expansion

The Minnesota Pollution Control Agency (MPCA) has approved the Findings of Fact for the Environmental Assessment Worksheet (EAW) on the proposed Al-Corn Clean Fuels Plant Expansion, Dodge County. The Findings of Fact document concludes that this project does not have the potential for significant environmental effects. The decision for a Negative Declaration completes the state environmental review process under the revised Environmental Quality Board rules, Minn. R. 4410.1700, subp. 7. This project can now proceed to permitting.

Sincerely,

Beth G. Lockwood
District Planning Supervisor
Operations and Planning Section
North, South, and Metro Districts

BGL:gs

Enclosure
In the Matter of the Decision
on the Need for an Environmental
Impact Statement for the Proposed
Al-Corn Clean Fuels Plant Expansion
Claremont, Minnesota

FINDINGS OF FACT

Al-Corn Clean Fuels is proposing to expand their existing ethanol production facility in Dodge County, Minnesota. Pursuant to Minn. R. 4410.1000 - 4410.1600, the Minnesota Pollution Control Agency (MPCA) staff has prepared an Environmental Assessment Worksheet (EAW) for the project. Based on the EAW and comments or information received during the EAW comment period, the MPCA hereby makes the following Findings of Fact and Conclusions.

FINDINGS OF FACT

PROJECT HISTORY

1. Al-Corn's existing dry mill corn ethanol plant (the Facility) is located in Claremont, Minnesota on a 40-acre site, one-half mile west of town. The Facility produces fuel-grade ethanol for use in automotive fuel. The proposed expansion would occur at this site, located in the NW 1/4 of Section 29, Township 107N, Range 18W. The expansion would result in an increase in ethanol production from a maximum of 19.25 million gallons per year (MGY) to 30.0 MGY. The Facility would also increase its production of Distiller's Dry Grains and Solubles (DDGS) from 67,452 tons per year (TPY) to 104,857 TPY.

   An EAW was prepared in 1995 for the initial construction. The Facility has been operating since 1996.

PROJECT DESCRIPTION

2. The primary feedstock for the dry mill ethanol production process is corn, received by truck and rail. Currently, the plant processes approximately 7.4 million bushels of corn per year. After the expansion, the facility would process approximately 11.5 million bushels of corn per year.

3. The dry mill ethanol production process consists of four basic steps: starch conversion, batch fermentation, distillation/dehydration, and by-product processing.

   Starch Conversion - This process breaks down all starch available in the corn, converting it to sugar.

   Batch Fermentation - Fermentation involves the conversion of sugars (dextrins) in the mash to ethanol.
Dilation - In this process, the ethanol is separated from the beer and purified to 200 proof (anhydrous ethanol).

By-product Processing - Stillage, a by-product of distillation, consists of the remaining solids and water coming off the bottom of the stripper column. The stillage is dried for storage and shipping.

The Facility expansion would necessitate the addition of new and a modification of some existing equipment.

4. The Facility currently uses four fermentation vessels, each 270,000 gallons in capacity, and one 350,000-gallon beerwell. Three additional 270,000-gallon fermenters would be added as part of the proposed project. The fermentation scrubber would be expanded, operating at twice the water flow rate and twice the gas flow rate of the existing unit. The facility would add a Carbon Dioxide (CO2) recovery plant that would eliminate venting of CO2 during normal operations.

5. The expansion would involve the addition of one new beer stripper and one new rectifier column. The existing beer stripper would remain in service as a side stripper. The existing side stripper would be abandoned.

6. Stillage, a product of distillation, consists of solids and water. The stillage is dried for storage and shipping. A new dryer would be added to the facility and would exhaust into a new common exhaust stack, measuring 60 inches in diameter and 175 feet in height. The height of the exhaust stack is expected to reduce the potential for odors in the vicinity of the Facility.

7. The Facility would add an additional 60 million BTU/hour natural gas-fired boiler in place of the 30 million BTU/hour boiler they are permitted for.

8. Discharge of reverse osmosis reject (RO) water would increase from 55,000 gallons per day (GPD) to 110,000 GPD. Cooling tower bleedoff and boiler blowdown would increase from 20,400 GPD to 40,000 GPD. RO water, cooling tower blowdown and boiler blowdown would be discharged to Judicial Ditch No. 7 under an NPDES permit. Process waters would continue to be recycled within the Facility. A biodigester flare would be added to combust methane gas generated in the wastewater treatment process.

9. The Facility would add a second 62,000-bushel per day corn dump bin and two 125,000-bushel corn bins. A second hammermill would also be added as part of the proposed project. The new hammermill would tie into the existing baghouse.

10. A 500,000-gallon denatured ethanol storage tank would be added and would have floating covers to control emissions. The Facility would also add an 18,000-gallon anhydrous ammonia tank and a 2,000-gallon corrosion inhibitor tank. An internal floating roof will be installed in the existing shift tank to convert it into a second denaturant tank. Both of the existing 120,000-gallon denatured ethanol storage tanks would be converted into shift tanks as part of the proposed project.
11. The Facility would add four diesel-fired emergency generators and one natural gas fired emergency generator.

JURISDICTION AND PROCESS

12. The proposed project involves the expansion of an ethanol facility, from a maximum production of 19.25 MGY to 30.0 MGY. Minn. R. ch. 4410.4300, subp. 5B, requires preparation of an EAW for the expansion of a facility for the production of alcohol fuels which would increase its capacity by five MGY or more. Minn. R. ch. 4410.4300, subp. 5B, provides that the MPCA is the Responsible Governmental Unit for EAW preparation for projects to which the subpart applies.

13. An EAW was prepared on the proposed project and distributed to the Environmental Quality Board (EQB) mailing list and other interested parties on April 27, 2001.

14. A press release containing the notice of availability of the EAW for public review was provided to media serving the project area on April 30, 2001.

15. The public comment period for the EAW began on April 30, 2001, and ended on May 30, 2001. No comment letters were received during the 30-day comment period.

CRITERIA FOR DETERMINING THE POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL EFFECTS

16. In deciding whether a project has the potential for significant environmental effects, the MPCA must consider the four factors set out in Minn. R. 4410.1700, subp. 7. These criteria are:

A) the type, extent, and reversibility of environmental effects;
B) cumulative potential effects of related or anticipated future projects;
C) the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority; and
D) the extent to which environmental effects can be anticipated and controlled as a result of other available environmental studies undertaken by public agencies or the project proposer, including other Environmental Impact Statements (EISs).

The MPCA findings with respect to each of these issues are set forth below.

TYPE, EXTENT, AND REVERSIBILITY OF ENVIRONMENTAL EFFECTS

The first factor that the MPCA must consider is the “type, extent, and reversibility of environmental effects,” Minn. R. 4410.1700, subp. 7.A. The MPCA findings with respect to each of these issues are set forth below.

17. Expected environmental effects with respect to air quality are:

A. Odor. Ethanol production typically results in a noticeable odor. The MPCA does not regulate odors. Nuisance odor is typically resolved through the local unit of government.
To address potential odors generated from the facility, the proposer will raise the new DDGS dryer stack to a height of 175 feet above grade. In addition, odors would also be reduced by the DDGS low-temperature drying system which would reduce the amount of product combustion during drying.

B. Air Emissions. An analysis of the potential increases in the emission of air pollutants has been performed in conjunction with the Facility’s application for an air quality permit amendment. Preliminary estimates of air emissions that were submitted to the MPCA by the Facility indicate that the plant would remain a minor source for Title V air permitting purposes. The volatile organic compound emissions are primarily ethanol, which is not classified as a Hazardous Air Pollutant.

The total facility controlled emissions after the expansion are proposed to be as follows:

- Carbon Monoxide: 74.02 tpy
- Nitrous Oxides: 97.0 tpy
- Sulfur Dioxide: 4.15 tpy
- Volatile Organic Compounds: 97.81 tpy
- Benzene: 0.1281 tpy
- Total Particulate Matter: 89.25 tpy
- Particulate less than ten microns: 81.56 tpy

E. C. Greenhouse Gases. The Facility proposes to install a CO2 recovery system. This system captures CO2 gas, which can be sold for beverage carbonation and other uses. This system should reduce or eliminate direct discharges of CO2 during normal operations.

E. D. Visual Impacts. The existing facility is in an area zoned for agriculture. The new dryer exhaust stack will be raised from 60 to 175 feet. The plume from the dryer stack includes steam, which is not regulated by the MPCA. The taller stack may cause the steam to be visible from a greater distance. The stack height proposals do not appear to violate any standards.

E. Noise. The proposed modifications are not expected to increase noise significantly at the Facility. No noise complaints have been received about the existing facility by the MPCA.

The MPCA finds that the type and extent of environmental effects of the project as proposed do not have the potential for significant environmental effects as a result of air emissions, odor, noise, green house gases, and visual impacts.

18. Expected environmental effects of this project with respect to water quality are:

A. Water Use. The proposed project would require an increase in water usage to a maximum of 160.6 MGY. The Facility currently has three wells, each permitted for 104 MGY (for a total appropriation of 312 MGY). In 2000, the Facility used 72.72 MGY. The proposed increase would be well below the current Minnesota Department of Natural Resources permitted appropriation volume. The increase in water use is not expected to impact the city of Claremont's municipal wells in any way.
B. **Wastewater.** Approximately 150,000 GPD of cooling tower blowdown, reverse osmosis reject water and boiler blowdown would be directly discharged into Judicial Ditch No. 7 under a National Pollutant Discharge Elimination System (NPDES) outfall permit. All other process related wastewater would be treated in a methanation system located at the plant. After treatment, the process water would be recycled for use in the plant. No wastewater would be discharged to a publicly owned treatment works.

C. **Storm-water Runoff.** The Al-Corn Clean Fuel Storm Water Pollution Prevention Plan (SW3P) requires the Facility to identify sources of wastewater discharge that can cause possible storm water contamination. After sources are identified, the Facility must implement and maintain Best Management Practices to minimize the potential for contamination. The SW3P also establishes schedules and criteria for routine inspections as defined in the plan. Recordkeeping, reporting and other activities necessary for compliance with the permit are also in the plan to minimize the potential for contamination.

Because material handling and manufacturing process equipment is enclosed, the potential for storm-water contamination by contact with materials is limited. In most cases, contact would only be possible in the event of a spill, leak or equipment failure. Fuel could be present to contaminate storm water in the event of a mishap in fueling vehicles in the plant yard or in the event of a spill or leak of liquid ethanol or denaturant gasoline. Any spill or leak of fuel or finished material in the tank farm area would be captured within the containment dikes. The facility spill prevention procedures and bulk transfer policy would minimize finished material spills at the loadout area or from liquid transfer.

No significant impact on surface waters is expected.

D. **Storage Tanks.** Regulated tanks located indoors are designed and would be managed to prevent the possibility of a release reaching surface or ground water. The liners installed under all aboveground storage tanks (ASTs) (except for the beerwell tank) are made of impervious synthetic material. The beerwell tank, however, is surrounded with an elevated ringwall with sand fill. Each of the tanks has a high alarm system to prevent overfilling. Al-Corn Clean Fuel's AST permit application would be modified to reflect use of all regulated interior and exterior tanks.

The Facility would convert both of the 120,000-gallon denatured ethanol storage tanks into shift tanks. The Facility would also convert the shift tank into an additional denaturant storage tank. A new 500,000-gallon denatured ethanol storage tank, an 18,000-gallon anhydrous ammonia tank and a 2,000-gallon corrosion inhibitor tank would also be added. Al-Corn Clean Fuel would add the anhydrous ammonia tank to their existing Risk Management Plan. Anhydrous ammonia is a regulated chemical under section 112(r) of the Clean Air Act. The Facility would also convert the existing shift tank into an additional denaturant tank. All new and existing exterior ASTs would be provided with secondary containment to contain the contents of the largest AST as well as runoff from a significant (25 year storm) rainfall event.

The MPCA finds that the type and extent of environmental effects of the project as proposed do not have the potential for significant environmental effects as a result of its water use, wastewater discharge, storm-water runoff, and storage tanks.
19. Expected environmental effects of this project to sensitive resources are:

According to the Minnesota Department of Natural Resources (DNR) there are seven known occurrences of rare species or natural communities within a one-mile radius of the proposed Facility. Several prairie remnants have been documented along the Chicago and Northwestern Railroad just south of the project area. Two rare plant species, Rattlesnake Master (Eryngium yuccifolium), a specie of special concern, and Valerien (Valeriana edulis), a threatened plant specie have been associated with these prairie remnants. Two railway spurs now run north from the main railway line to the Al-Corn Facility. Construction of two new grain storage bins is planned as part of the expansion. The new bins would be located between the two rail spurs. No construction activities would occur along the main railway line, so damage or disturbance of prairie remnants is not anticipated.

Because more than 99 percent of the prairie that was present in the state before settlement has been destroyed, the DNR believes that all remnants merit protection. To protect this rare feature, disturbance near prairie areas would be completely avoided. No equipment or material storage would occur in the area where specimens are found.

The MPCA finds that the type and extent of environmental effects of the project as proposed do not have the potential for significant environmental effects on sensitive resources.

20. MPCA Findings. The MPCA finds that the project as it is proposed does not have the potential for significant environmental effects.

CUMULATIVE POTENTIAL EFFECTS OF RELATED OR ANTICIPATED FUTURE PROJECTS

The second factor that the MPCA must consider is the "cumulative potential effects of related or anticipated future projects," Minn. R. 4410.1700, subp. 7.B. The MPCA findings with respect to this factor are set forth below.

21. The proposed project is intended to provide additional ethanol production capacity.

22. The MPCA finds that there are no related or anticipated future actions which could result in cumulative, adverse, environmental effects.
THE EXTENT TO WHICH THE ENVIRONMENTAL EFFECTS ARE SUBJECT TO MITIGATION BY ONGOING PUBLIC REGULATORY AUTHORITY

The third factor that the MPCA must consider is "the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority," Minn. R. 4410.1700, subp. 7.C. The MPCA findings with respect to this factor are set forth below.

23. The following permits or approvals will be required for the project:

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<th>Unit of Government</th>
<th>Permit or Approval Required</th>
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<td>a. MPCA</td>
<td>Air Emissions Permit</td>
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<td>b. MPCA</td>
<td>NPDES Outfall Permit</td>
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<td>c. MPCA</td>
<td>Industrial Stormwater Permit</td>
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<td>d. MPCA</td>
<td>Above-Ground Liquid Storage Tank Permit</td>
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<td>e. Minnesota Department of</td>
<td>Above-Ground Flammable and Combustible Liquids Review</td>
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<td>f. City of Claremont</td>
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24. The MPCA finds that the permits and monitoring reports required by public regulatory authority will provide additional opportunity to mitigate the environmental effects of the project, if necessary.

THE EXTENT TO WHICH ENVIRONMENTAL EFFECTS CAN BE ANTICIPATED AND CONTROLLED AS A RESULT OF OTHER AVAILABLE ENVIRONMENTAL STUDIES UNDERTAKEN BY PUBLIC AGENCIES OR THE PROJECT PROPOSER, INCLUDING OTHER EISs.

The fourth factor that the MPCA must consider is "the extent to which environmental effects can be anticipated and controlled as a result of other available environmental studies undertaken by public agencies or the project proposer, including other EISs," Minn. R. 4410.1700, subp. 7.D. The MPCA findings with respect to this factor are set forth below.

25. The proposed ethanol plant expansion was reviewed by the MPCA staff.

26. There are no elements of the project that pose the potential for significant environmental effects which cannot be addressed in the project design and permit development processes.

27. The MPCA finds that the environmental effects of the project can be anticipated and controlled as a result of environmental review, previous environmental studies, and permitting processes undertaken by the MPCA on similar projects.
CONCLUSIONS

1. The EAW, the permit development process, and the Facility planning process, for the Al-Corn Clean Fuels EAW (the project), have generated information adequate to determine whether the project has the potential for significant environmental effects.

2. Areas where the potential for significant environmental effects may have existed have been identified and appropriate mitigative measures have been incorporated into the project design and permits. The project is expected to comply with all MPCA standards.

3. Based on the criteria established in Minn. R. 4410.1700, the project does not have the potential for significant environmental effects.

4. An Environmental Impact Statement is not required.

5. Any findings that might properly be termed conclusions and any conclusions that might properly be termed findings are hereby adopted as such.

Karen A. Studders, Commissioner
Minnesota Pollution Control Agency

Date