

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

BUREAU OF AIR

DIVISION of AIR POLLUTION CONTROL

PERMIT SECTION

PROJECT SUMMARY for the
DRAFT CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

Bunge Oils, Inc.
885 North Kinzie Avenue, Bradley, IL 60915

Illinois EPA ID Number: 091801AAH

Application Number: 96030136

Application Type: Renewal Permit

Start of Public Comment Period: 07/24/2006

Close of Public Comment Period: 08/23/2006

Permit Engineer/Technical Contact: Jonathan Sperry, 217/782-2113

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(This Project Summary generally describes the source and explains the draft permit. This document has been prepared pursuant to Section 39.5(8)(b) of the Illinois Environmental Protection Act, which requires "a statement that sets forth the legal and factual basis for the draft CAAPP permit conditions.")

I. INTRODUCTION

This source has applied for a renewal of the Clean Air Act Permit Program (CAAPP) operating permit. The CAAPP is the program established in Illinois for operating permits for significant stationary sources as required by Title V of the federal Clean Air Act and Section 39.5 of Illinois' Environmental Protection Act. The conditions in a CAAPP permit are enforceable by the Illinois Environmental Protection Agency (Illinois EPA), the USEPA, and the public. This document is for informational purposes only and does not shield the Permittee from enforcement actions or its responsibility to comply with applicable regulations. This document shall not constitute a defense to a violation of the Act or any rule or regulation.

A CAAPP permit contains conditions identifying the applicable state and federal air pollution control requirements that apply to a source. The permit also establishes emission limits, appropriate compliance procedures, and specific operational flexibility. The appropriate compliance procedures may include monitoring, record keeping, and reporting to show compliance with these requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate that the source is operating in accordance with the requirements of the permit. Further explanations of the specific provisions of the draft CAAPP permit are contained in the attachments to this document, which also identify the various emission units at the source.

The principal change from the current version of this CAAPP permit is the incorporation of conditions from Construction Permit 02100028, including the replacement of a gas-fired turbine/generator and an associated increase in NO_x emissions. NO_x emissions from the new gas turbine are 29.7 tons per year higher, while source-wide permitted increased by only 24.54 tons per year. The NO_x emissions increase for purpose of federal PSD regulations was 83.5 tons per year, which is less than the applicability threshold of 250 tons per year for non-major stationary sources.

II. GENERAL SOURCE DESCRIPTION

a. Nature of source

The source is an edible oil processing facility, which produces hydrogenated vegetable oils and animal fats. Liquid raw materials are received from railcars and tank trucks and stored in tanks equipped with carbon canisters for odor control. Raw vegetable oil is refined and coloring agents are removed by adsorption with bleaching clay. The materials are hydrogenated, blended to customer's specifications, and packaged or stored on-site. In addition, the source operates a steam boiler, an electricity generating turbine with an associated duct

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burner, and a hydrogen reformer, with pipeline natural gas as the primary fuel. Emission control measures include filters on the clay handling system to reduce particulate matter emissions.

b. Ambient air quality status for the area

The source is located in an area that is currently designated attainment or unclassifiable for the National Ambient Air Quality Standards for all criteria pollutants (carbon monoxide, lead, nitrogen dioxide, ozone, PM_{2.5}, PM₁₀, sulfur dioxide).

c. Major source status

1. The source requires a CAAPP permit as a major source of nitrogen oxides (NO_x), sulfur dioxide (SO₂) and hazardous air pollutant (HAP) emissions.
2. The source also requires a CAAPP permit because the source is subject to a standard, limitation, or other requirement under Section 111 (NSPS) or Section 112 (HAPs) of the CAA for which USEPA requires a CAAPP permit, or because the source is in a source category designated by the USEPA. Specifically, this source is subject to the federal rules for gas turbines (40 CFR 60, Subpart GG).

d. Source Emissions

The following table lists annual emissions of criteria pollutants from this source, as reported in the Annual Emission Reports sent to the Illinois EPA.

Pollutant	Annual Emissions (tons)				
	2001	2002	2003	2004	2005
CO	80.77	37.3	34.9	36.2	34.6
NO _x	6.93	88.5	67.9	65.1	61.5
PM	5.26	3.4	3.2	3.2	3.1
SO ₂	0.8	1.3	0.85	0.76	0.71
VOM	2.3	16.4	15.1	28.6	28.8
Hexane (top HAP)	not available	11.0*	8.2	17.8	15.6

* Reported on the Toxic Release Inventory, rather than the AER.

III. NEW SOURCE REVIEW / TITLE I CONDITIONS

This draft permit contains terms and conditions that address the applicability of permit programs for new and modified sources under Title I of the Clean Air Act (CAA) and regulations promulgated thereunder, including 40 CFR 52.21, Prevention of

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Significant Deterioration (PSD) and 35 IAC Part 203, Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within the draft permit by T1, T1R, or T1N. Any conditions established in a construction permit pursuant to Title I and not revised or deleted in this draft permit, remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them. Where the source has requested that the Illinois EPA establish new conditions or revise such conditions in a Title I permit, those conditions are consistent with the information provided in the CAAPP application and will remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them.

This draft permit would not establish any new Title I requirements or revised Title I requirements.

IV. COMPLIANCE INFORMATION

The source has certified compliance with all applicable rules and regulations; therefore, a compliance schedule is not required for this source. In addition, the draft permit requires the source to certify its compliance status on an annual basis.

V. PROPOSED ILLINOIS EPA ACTION/REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that this source's permit application meets the standards for issuance of a CAAPP permit. The Illinois EPA is therefore proposing to issue a CAAPP permit, subject to the conditions proposed in the draft permit.

Comments are requested by the Illinois EPA for the draft or proposed permit, pursuant to 35 IAC Part 252 and Sections 39.5(8) and (9) of the Illinois Environmental Protection Act. A final decision on the draft or proposed permit will not be made until the public, affected states, and USEPA have had an opportunity to comment. The Illinois EPA is not required to accept recommendations that are not based on applicable requirements. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 IAC Part 166.

ATTACHMENT 1: Summary of Source-Wide Requirements

The following table indicates the source-wide emissions control programs and planning requirements that are applicable to this source. These programs are addressed in Sections 5 and 6 of the draft permit.

Program/Plan	Applicable
Emissions Reduction Market System (ERMS)	No
Nitrogen Oxides (NO _x) Trading Program	No
Acid Rain Program	No
Compliance Assurance Monitoring (CAM) Plan	No
Fugitive Particulate Matter (PM) Operating Program	No
Risk Management Plan (RMP)	No
PM10 Contingency Measure Plan	No

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ATTACHMENT 2: Summary of Requirements for Specific Emission Units

The following tables include information on the requirements that apply to significant emission units at this source. The requirements are found in Section 7 of the draft permit, which is further divided into subsection, i.e., Section 7.1, 7.2, etc., for the different categories of units at the source. A separate table is provided for each subsection in Section 7 of the draft permit. An explanation of acronyms and abbreviations is contained in Section 2 of the draft permit.

Table 1 (Section 7.1 of the draft permit)

Emission Unit - Fuel Combustion Equipment	
Description	Hydrogen Reformer, Steam Boiler No. 1, and Duct Burner
Date Constructed	1967-1989
Emission Control Equipment	None
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 35 IAC 216.121: Limit on CO emissions • 35 IAC 212.207 and 35 IAC 214.162: Limits on PM and SO₂ emissions • 35 IAC 212.123(a): Limit on opacity
Title I Conditions	The draft permit contains limits on operation and emissions in Conditions 7.1.5 and 7.1.6. These limits were incorporated from Permit 02100028.
Non-applicability	<ul style="list-style-type: none"> • 35 IAC 215.301: This rule for VOM emissions does not apply to fuel combustion emission sources, pursuant to 35 IAC 215.303. • 35 IAC 217.141: This rule for NO_x emissions does not apply because the heat input of each unit is less than 250 mmBtu/hr. • 40 CFR Part 63, Subpart DDDDD: The standards in this federal rule for controlling HAP emission does not apply because the units are in the "existing large gaseous fuel" or "existing large liquid fuel" categories. Such units are only subject to initial notification requirements, which have been completed. • 40 CFR Part 64: The Compliance Assurance Monitoring program does not apply because there are no pollution control devices for these units.

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Emission Unit - Fuel Combustion Equipment	
Periodic Monitoring (other than basic regulatory requirements)	
Testing	The Permittee is required to sample each shipment of fuel oil for its sulfur content or provide documentation of the sulfur content by the supplier. The Illinois EPA also reserves the right to sample the fuels used, particularly the liquid fuels, to ensure that organic liquid by-products or waste materials are not used, and sulfur contents are below allowable levels. The Permittee is required to periodically test for PM emissions and opacity.
Emissions Monitoring	The Permittee is required to prepare a CO combustion analysis if fuel oil is burned.
Recordkeeping	The Permittee is required to keep records of fuel usage (gas and liquid) and annual emissions. In addition, for each supplier of fuel oil, the Permittee is required to keep records of the maximum sulfur content and gross heating value. These records are necessary and sufficient to ensure compliance with the operation and emissions limits contained in this permit.
Reporting	
Prompt Reporting	The Permittee is required to promptly report a violation of the opacity limit, sulfur content limit, or emission limits. "Prompt" is identified as within 60 days for opacity violations and 30 days for other violations. These time periods are adequate to address the types of deviations likely to occur and will allow an effective and efficient review of overall performance by the Illinois EPA and other interested parties.

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Table 2 (Section 7.2 of the draft permit)

Emission Unit - Gas-Fired Turbine/Generator	
Description	4,579 kW generator
Date Constructed	May 1989 (overhauled in 2003)
Emission Control Equipment	
Applicable Rules and Requirements	
Emission Standards	<ul style="list-style-type: none"> • 40 CFR 60 Subpart GG: Federal standard for NO_x and SO₂ emissions • 35 IAC 215.301: Limit on VOM emissions • 35 IAC 212.123(a): Limit on opacity
Title I Conditions	The draft permit contains limits on operation and emissions in Conditions 7.2.5 and 7.2.6. These limits were incorporated from Permit 02100028.
Non-applicability	<ul style="list-style-type: none"> • 35 IAC Part 217: The NO_x rules do not apply because the generator's heat input or capacity is less than the threshold for any particular regulation. • 35 IAC 212.321: This limit on PM emissions does not apply because the equation used to determine the limit is based on the process weight rate, and liquid or gaseous fuel is excluded from the definition of process weight rate (see 35 IAC 211.5250). • 35 IAC 214.122: This limit on SO₂ emissions does not apply because the generator only burns natural gas. • 35 IAC 216.121: This limit on CO emissions does not apply because the generator is not by definition a fuel combustion unit since it does not operate by indirect heat transfer (see 35 IAC 211.2470). • 40 CFR Part 63, Subpart YYYY: The generator does not have to meet the federal standards for hazardous air pollutants because the generator is an existing unit (it was constructed before January 14, 2003). The overhaul performed in 2003 did not meet the definition of reconstruction in 40 CFR 63.2. According to the equipment manufacturer, typical engine overhaul costs 17-32% of the cost of a comparable new unit. • 40 CFR Part 64: The Compliance Assurance Monitoring program does not apply because there are no pollution control devices for this unit.
Periodic Monitoring (other than basic regulatory requirements)	
Testing	The Permittee is required to periodically test for opacity to ensure compliance with 35 IAC 212.123(a). Due to the nature of natural gas combustion (generally low opacity), annual testing is sufficient for this purpose.

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Emission Unit - Gas-Fired Turbine/Generator	
Recordkeeping	The Permittee is required to keep records of fuel usage and emissions on a monthly basis. In addition, the Permittee is required to keep records of the natural gas heat content and the generator's power output. These records are necessary and sufficient to ensure compliance with the operation and emissions limits contained in this permit.
Reporting	
Prompt Reporting	The Permittee is required to promptly report a violation of the emission limits. "Prompt" is identified as within 30 days, which is adequate to address the types of deviations likely to occur and will allow an effective and efficient review of overall performance by the Illinois EPA and other interested parties.

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Table 3 (Section 7.3 of the draft permit)

Emission Unit - Edible Oil Refinery	
Description	Vegetable oil is refined, hydrogenated and blended to produce edible oil products.
Date Constructed	1967
Emission Control Equipment	None
Applicable Rules and Requirements	
Emission Standards	35 IAC 215.301: Limit on VOM emissions
Title I Conditions	The draft permit contains limits on operation and emissions in Conditions 7.3.5 and 7.3.6. These limits were incorporated from Permits 96030136 and 02100028.
Non-applicability	<ul style="list-style-type: none"> • 40 CFR 63, Subpart GGGG: This federal rule for controlling HAP emissions does not apply because this is a refinery for vegetable oil, not a process for the extraction of vegetable oil from grain or seeds. • 40 CFR Part 64: The Compliance Assurance Monitoring program does not apply because there are no pollution control devices for this unit.
Periodic Monitoring (other than basic regulatory requirements)	
Recordkeeping	The Permittee is required to keep records of operating rates (vegetable oil processed and organic solvent content) and emissions on a monthly basis. These records are necessary and sufficient to ensure compliance with the operation and emissions limits contained in this permit.
Reporting	
Prompt Reporting	The Permittee is required to promptly report a violation of the emission limits. "Prompt" is identified as within 30 days, which is adequate to address the types of deviations likely to occur and will allow an effective and efficient review of overall performance by the Illinois EPA and other interested parties.

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Table 4 (Section 7.4 of the draft permit)

Emission Unit - Bleaching Clay Handling System	
Description	Coloring agents in vegetable oil and animal fats are removed by adsorption with bleaching clay.
Date Constructed	1982
Emission Control Equipment	Clay Silo Filters
Applicable Rules and Requirements	
Emission Standards	35 IAC 212.321(a): Limits on PM emissions
Title I Conditions	The draft permit contains limits on operation and emissions in Conditions 7.4.5 and 7.4.6. These limits were incorporated from Permits 96030136 and 02100028.
Non-applicability	40 CFR Part 64: The Compliance Assurance Monitoring program does not apply because the potential pre-control device PM emissions are less than major source threshold levels. The potential pre-control device emissions are 17.37 tons per year, based on a controlled emission rate of 0.033 tons per year and an estimated control efficiency of 99.81%.
Periodic Monitoring (other than basic regulatory requirements)	
Recordkeeping	The Permittee is required to keep records of operating rates and emissions. In addition, the Permittee is required to keep records of the inspection, maintenance, and repair of pollution control equipment. These records are necessary and sufficient to ensure compliance with the operation and emissions limits contained in this permit.
Reporting	
Prompt Reporting	The Permittee is required to promptly report a violation of the emission limits. "Prompt" is identified as within 30 days, which is adequate to address the types of deviations likely to occur and will allow an effective and efficient review of overall performance by the Illinois EPA and other interested parties.

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