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Facility Name: **Anheuser-Busch Inc**

Application Number: **01-7370**

Date: **June 17, 1998**

### GENERAL PERMIT CONDITIONS

#### TERMINATION OF PERMIT TO INSTALL

Substantial construction for installation must take place within 18 months of the effective date of this permit. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

#### NOTICE OF INSPECTION

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above-named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, or to examine records or reports pertaining to the construction, modification or installation of the source(s) of environmental pollutants identified within this permit.

#### CONSTRUCTION OF NEW SOURCE(S)

The proposed source(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

If the construction of the proposed source(s) has already begun or has been completed prior to the date the Director of the Ohio Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's

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approval constitutes a violation of Ohio Administrative Code (OAC) Rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities prove to be inadequate or cannot meet applicable standards.

#### PERMIT TO INSTALL FEE

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 15 days of the effective date of this permit to install.

#### PUBLIC DISCLOSURE

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC Rule 3745-49-03.

#### APPLICABILITY

This Permit to Install is applicable only to the contaminant sources identified. Separate application must be made to the Director for the installation or modification of any other contaminant sources.

#### BEST AVAILABLE TECHNOLOGY

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

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PERMIT TO OPERATE APPLICATION

A Permit to Operate application must be submitted to the appropriate field office for each air contaminant source in this Permit to Install. In accordance with OAC Rule 3745-35-02, the application shall be made at least 90 days prior to start-up of the source.

NINETY DAY OPERATING PERIOD

The facility will be permitted to operate during a 90-day period in accordance with OAC Rule 3745-35-02(C)(4)(b). The purpose of this period of operation is to fulfill the performance tests conditions used in the determination of compliance with the provisions of this Permit to Install or other applicable Ohio EPA rules.

SOURCE OPERATION AFTER COMPLETION OF CONSTRUCTION

This facility is permitted to operate each source described by this permit to install for period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies.

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AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **Anheuser-Busch Inc** located in **Franklin** County. The emissions units listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

| Ohio EPA Source Number | Source Identification Description   | BAT Determination  | Applicable Federal & OAC Rules     | Permit Allowable Mass Emissions and/or Control/Usage Requirements   |
|------------------------|---|--|------------------------------------|---|
| P075                   | Bio-energy recovery system (clarifier, equalization tanks, anaerobic reactors, biofilter, and flare) to produce biogas from plant wastewater treatment. | Compliance with applicable Ohio rules and regulations, compliance with Ohio Air Toxics policy, use of biofilter to control odorous tank vent gas, application of iron chloride to wastewater to reduce amount of sulfur in biogas, and use of flare to combust excess biogas produced. | 3745-31-05<br>3745-18-06<br>(E)(2) | Allowable emissions of sulfur dioxide (SO <sub>2</sub> ) from combustion of biogas in flare shall not exceed 22.2 pounds per hour and 39.47 tons per year, respectively.<br><br>The maximum allowable monthly quantity of biogas flared shall not exceed 19.5 million cubic feet per month. |
|                        |   |  | 3745-17-07<br>(A)(1)(a)            | Visible particulate emissions from any stack shall not exceed 20 percent opacity,   |

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| <u>Ohio<br/>EPA<br/>Source<br/>Number</u> | <u>Source<br/>Identification<br/>Number</u> | <u>BAT<br/>Determination</u> | <u>Applicable Federal<br/>&amp; OAC Rules</u> | <u>Permit Allowable Mass<br/>Emissions and/or<br/>Control/Usage<br/>Requirements</u> |
|---|---|------------------------------|---|--|
|---|---|------------------------------|---|--|

as a six minute average, except as provided by rule.

No<sub>x</sub>: 8.8  
tons/year  
CO: 32.5  
tons/year  
VOC: 5.5  
tons/year  
PM: 4.33  
tons/year  
H<sub>2</sub>S: 1.32  
tons/year

See Additional Special Terms and Conditions

SUMMARY

TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

| <u>Pollutant</u> | <u>Tons/Year</u> |
|------------------|------------------|
| SO <sub>2</sub>  | 39.47            |
| No <sub>x</sub>  | 8.80             |
| CO               | 32.5             |
| VOC              | 5.50             |
| PM               | 4.33             |
| H <sub>2</sub> S | 1.32             |

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#### **CONSTRUCTION STATUS**

The **Ohio EPA, Central District Office** shall be notified in writing as to (a) the construction starting date, (b) the construction completion date, and (c) the date the facilities were placed into operation for the following sources: **Bio-energy recovery system (BERS)**.

#### **RECORD(S) RETENTION AND AVAILABILITY**

All records required by this Permit to Install shall be retained on file for a period of not less than three years unless otherwise indicated by Ohio Environmental Protection Agency. All records shall be made available to the Director, or any representative of the Director, for review during normal business hours.

#### **REPORTING REQUIREMENTS**

Unless otherwise specified, reports required by the Permit to Install need only be submitted to **Ohio EPA, Central District Office, 3232 Alum Creek Drive, Columbus, OH 43207-3417**.

#### **WASTE DISPOSAL**

The owner/operator shall comply with any applicable state and federal requirements governing the storage, treatment, transport and disposal of any waste material generated by the operation of the sources.

#### **MAINTENANCE OF EQUIPMENT**

This source and its associated air pollution control system(s) shall be maintained regularly in accordance with good engineering practices and the recommendations of the respective manufacturers in order to minimize air contaminant emissions.

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**MALFUNCTION/ABATEMENT**

In accordance with OAC RULE 3745-15-06, any malfunction of the source(s) or associated air pollution control system(s) shall be reported immediately to the **Ohio EPA, Central District Office, 3232 Alum Creek Drive, Columbus, OH 43207-3417.**

Except as provided by OAC Rule 3745-15-06(A)(3), scheduled maintenance of air pollution control equipment that requires the shutdown or bypassing of air pollution control system(s) must be accompanied by the shutdown of the associated air pollution sources.

**AIR POLLUTION NUISANCES PROHIBITED**

The air contaminant source(s) identified in this permit may not cause a public nuisance in violation of OAC Rule 3745-15-07.

**CONSTRUCTION COMPLIANCE CERTIFICATION**

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

**ADDITIONAL SPECIAL TERMS AND CONDITIONS**

**A. Additional Terms and Conditions**

1. Maximum Hourly Emissions Limitation for P075

The allowable maximum hourly emissions of sulfur dioxide (SO<sub>2</sub>) from combustion of biogas in the flare shall not exceed 22.2 pounds SO<sub>2</sub> per hour.

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2. Annual Emissions Limitations for P075

The allowable annual emissions of sulfur dioxide (SO<sub>2</sub>) from combustion of biogas in the flare shall not exceed 39.47 tons SO<sub>2</sub> per year.

**B. Operational Restrictions for Emissions Unit P075**

1. The permittee shall flare excess biogas not utilized in the boilers.
2. The maximum allowable monthly quantity of biogas flared shall not exceed 19.5 million cubic feet of biogas per month.
3. The permittee shall follow and implement the manufacturer's recommended guidelines for proper operation, maintenance, and periodic inspection of the flare. The permittee shall utilize condensate traps to remove water from the biogas stream prior to flaring.
4. The permittee shall employ biofilter media to control the odors from biogas production. All vent gases from the equalization tanks headspace shall be directed to the biofilters.
5. Iron chloride shall be added to the equalization tanks to precipitate additional sulfur and reduce the amount of total sulfur in the biogas.

**C. Recordkeeping Requirements for Emissions Unit P075**

1. The permittee shall collect and record the following information for the Bio-Energy Recovery System:
  - a. the quantity of biogas produced by the anaerobic reactors on a hourly basis, in cubic feet per hour;
  - b. the permittee shall determine either by direct measurement or by material balance, the quantity of biogas flared on a hourly basis, in cubic feet per hour; and,

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- c. the permittee shall compile on an annual basis, the quantity of biogas produced by the anaerobic reactors, in million cubic feet per calendar year;
  - d. the permittee shall compile on an annual basis, the quantity of biogas flared, in million cubic feet per calendar year;
  - e. the total quantity of iron compounds added to the reactor effluent and the equalization tanks every month, in pounds per month; and,
  - f. the permittee shall maintain the data required by the flare manufacturer's recommended daily operating guidelines. The permittee shall submit such a checklist to the Ohio EPA, Central District Office within 90 days of the issuance of this permit. At a minimum, the permittee shall monitor key flare operating parameters such as pressure and pressure differentials of system components, and inlet, outlet, and combustion zone temperatures. Any subsequent changes to this checklist shall be mutually agreeable to the permittee and the Ohio EPA, Central District Office.
2. The permittee shall perform weekly checks, when the Bio-energy recovery system is in operation and when the weather conditions allow, for any visible particulate emissions from the stacks serving the control units (biofilters and flare) in this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
  - b. whether the emissions are representative of normal operation;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emissions incident; and,

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- e. any corrective actions taken to eliminate visible emissions.

**D. Reporting Requirements for Emissions Unit P075**

1. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the maximum allowable monthly biogas flaring limit for this emissions unit. If no deviations occurred during the 3-month period, the permittee shall submit a quarterly report which states that no deviations occurred during that period. The reports shall be submitted to Ohio EPA, Central District Office by May 15, August 15, November 15, and February 15 of each year and shall address the data obtained during the previous calendar quarter (i.e., January to March, April to June, July to September, and October to December, respectively).
2. The permittee shall submit an annual report of the total biogas produced by the anaerobic reactors during the calendar year, and the estimated total SO<sub>2</sub> and H<sub>2</sub>S emissions from the Bio-Energy Recovery System control units (biofilter and flare). This annual report shall be submitted by February 15 of each year and shall address data obtained during the previous calendar year (i.e., January to December).
3. The permittee shall submit quarterly written reports which:
  - a. identify all days during which any visible particulate emissions were observed from the stacks serving the Bio-energy recovery system; and,
  - b. describe any corrective actions taken to eliminate the visible particulate emissions.

These quarterly reports shall be submitted to the Ohio EPA, Central District Office by May 15, August 15, November 15, and February 15 of each year and shall address the data obtained during the previous calendar quarter (i.e., January to March, April to June, July to September, and October to December, respectively).

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**E. Compliance Determination for Emissions Unit P075**

1. No term and condition specifying a method for demonstrating compliance with any emission limitation or other requirement of this permit shall preclude the use by any person of any credible evidence to establish compliance with or a violation of this permit, the Clean Air Act, or any implementing regulations or rules promulgated thereunder.
2. Compliance with the emission limitation(s) in Sections A.1 and A.2 of these Additional Special Terms and Conditions shall be determined in accordance with the following method(s):

a. Hourly Emissions Limitation (P075)

Allowable emissions of sulfur dioxide (SO<sub>2</sub>) from combustion of biogas in the flare shall not exceed 22.2 pounds SO<sub>2</sub> per hour.

Applicable Compliance Method (P075)

Compliance with this emissions limit shall be determined by multiplying the actual hourly biogas flared quantity (Q<sub>1</sub>) by a maximum H<sub>2</sub>S concentration of 3,100 ppmv to obtain the amount of H<sub>2</sub>S gas in the biogas stream (cubic feet H<sub>2</sub>S to flare per hour; as shown in the calculation below). Divide the H<sub>2</sub>S quantity (cubic feet per hour) by 379.4 cubic feet per pound-mol (molar volume at 60 degrees Fahrenheit) to obtain pound moles H<sub>2</sub>S to flare per hour. Multiply the resultant by 64 (H<sub>2</sub>S to SO<sub>2</sub> conversion factor) to obtain pounds SO<sub>2</sub> emitted from flare per hour.

$$\text{SO}_2 \text{ Emissions (pound/hour)} = Q_1(\text{ft}^3/\text{hr}) \times \frac{3,100 \text{ ppmv}}{10^6 \text{ ppmv}} \times \frac{1 \text{ pound-mol}}{379.4 \text{ ft}^3/\text{pound-mol}} \times 64 \text{ pounds SO}_2/\text{pound-mol}$$

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b. Annual Emission Limitation P075)

Allowable emissions of sulfur dioxide (SO<sub>2</sub>) from combustion of biogas in flare shall not exceed 39.47 tons SO<sub>2</sub> per year.

Applicable Compliance Method (P075)

Compliance with this emissions limit shall be determined by multiplying the actual annual quantity of biogas flared (Q<sub>2</sub>) by a maximum annual average H<sub>2</sub>S concentration of 2,000 ppmv to obtain the amount of H<sub>2</sub>S gas in the biogas stream (cubic feet H<sub>2</sub>S to flare per hour; as shown in the calculation below). Divide the H<sub>2</sub>S quantity (cubic feet per year) by 379.4 cubic feet per pound-mol (molar volume at 60 degrees Fahrenheit) to obtain pound moles H<sub>2</sub>S to flare per year. Multiply the resultant by 64 (H<sub>2</sub>S to SO<sub>2</sub> conversion factor) to obtain pounds SO<sub>2</sub> emitted from flare per year. Divide by 2,000 to obtain the answer in tons SO<sub>2</sub> per year.

$$\text{SO}_2 \text{ Emissions (tons/year)} = \frac{Q_2(\text{ft}^3/\text{yr}) \times 2,000 \text{ ppmv}}{10^6 \text{ ppmv}} \times \frac{1}{379.4 \text{ ft}^3/\text{pound-mol}} \times 64 \text{ pounds SO}_2/\text{pound-mol} \times \frac{1 \text{ ton}}{2,000 \text{ pounds}}$$

c. Visible Particulate Emission Limitation (P075)

Visible particulate emissions from any stack associated with this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method (P075)

For the purpose of determining compliance with the visible particulate emissions limitation specified above, visible particulate emissions shall be determined according to the test methods and procedures prescribed in OAC rule 3745-17-03(B)(1).