ADDITIONAL TECHNICAL INFORMATION FOR FLUORESCENT LIGHT BULB CRUSHERS

The following information will be used for the technical review of a permit to install application for a **fluorescent light bulb crusher.** This information is in addition to the general requirements outlined in the AQD document "Information for an Administratively Complete Permit to Install Application", Part 2 - Additional Supporting Information, Items A through F. All of the information may not be needed for each application. Also, this document may not be all inclusive. Additional information beyond that identified may be necessary to complete the technical review of any individual application. In the event a determination is made that new additional information is needed for a technical review, this document will be updated.

All referenced guidance documents are available at http://www.deq.state.mi.us/aps or you may contact the Permit Section at 517-373-7023.

A. Process Description

1. List and describe all process equipment which makes up the light bulb crushing unit. Include make, model number, and maximum design throughput capacity of the unit.
2. Specify if the unit is portable (contained within a truck) or fixed (installed within a building). If the unit is fixed, is it a drum top crusher?
3. List and describe all air pollution control equipment and methods/work practices used to reduce emissions from the unit.
4. Indicate the normal and maximum hourly and annual number of bulbs the unit will crush. If the unit is portable, indicate the values for a single location.
5. Date of original installation (at this or any previous site including those in another state).
6. Describe the exhaust system for the unit. Include the exhaust rate in cubic feet per minute, the stack height, stack diameter, and stack orientation (vertical, horizontal, etc.). Indicate if the exhaust air from an air pollution control device will be returned to the in-plant environment.
7. If the unit is portable, indicate the maximum length of time it will stay at any one site.

B. Regulatory Discussion

The following state air pollution control regulations may be applicable. Please review these regulations carefully to determine if they apply to your process and summarize the results in the application. The Air Pollution Control Rules may be viewed and downloaded from the AQD website at: www.michigan.gov/deqair.

1. State of Michigan, Department of Environmental Quality, Act 451 of 1994, Natural Resources and Environmental Protection Act, Part 55 Air Pollution Control and the following promulgated rules:
   a) Rules 215 and 216 apply to an existing facility which has a current Renewable Operating Permit (ROP). A Permit to Install issued for the installation of new equipment or modifications to existing equipment is incorporated into an ROP pursuant to Rules 215 and 216.
   b) If the process or equipment was installed or modified after April 17, 1992, Rules 224 – 230 apply. Rule 224 requires the application of Best Available Control Technology for toxics (T-BACT) for all non VOC toxic air contaminants (TACs). T-BACT does not apply to emissions of VOCs. Rule 225 limits the emission impacts of TACs and requires a demonstration that the proposed emission of each TAC complies with a health-based screening level. Compliance can be demonstrated using any of three methods described in Rule 227(1) including the use of computerized dispersion modeling. Refer to "Guidelines for Conducting a Rule 224 T-BACT Analysis," "TACs-Demonstrating Compliance with Rule 225," and "Dispersion Modeling Guidance" for additional detailed information.

c) Rule 301 specifies a process or process equipment shall not discharge visible emissions of a density greater than the most stringent of a 6-minute average of 20% opacity, or a limit specified by an applicable federal NSPS or as a condition of a Permit to Install.

d) Rule 331 specifies a maximum allowable particulate emission rate for material handling equipment if no federal limit applies.

e) Rule 901 prohibits emissions of an air contaminant in quantities that cause either a) injurious effects to human health or safety, animal life, plant life of significant economic value, or property; or b) unreasonable interference with the comfortable enjoyment of life and property.

C. Control Technology Analysis

1. Describe the filter/control system to be used for particulate and mercury control. Include the following:
   a) The make, model number, and maximum design throughput capacity of the filter/control system. Include all available literature.
   b) The expected control efficiencies of the filter/control system and all available test data to support these values.
   c) The inspection schedule and the procedure to be used to determine break through within the filter/control system.
2. Provide a preventative maintenance plan outlining how the unit will be maintained and operated.
3. Provide information indicating how all mercury contaminated wastes will be handled, transported, and disposed of.

D. Emissions Summary and Calculations

Estimate the maximum uncontrolled and controlled emission rates of each of the following pollutants, in pounds per hour and tons per year. Provide all assumptions, calculations, stack test results, and other documentation used to derive these estimates.

a) Particulate matter as PM10 (particulate diameter less than 10 microns)

b) Mercury

F. Site Description and Process Equipment Location Drawings

A scaled plot plan of the site, showing building locations and dimensions (width, length and height); stack location, locations of all air intakes and windows within 25 feet and all structures within 150 feet. Also include the distance from the exhaust to the following: all property line; any existing places of residence or private or public assembly; a school, apartment building, or institutional occupancy; a hospital or nursing home.