



ADDITIONAL TECHNICAL INFORMATION FOR A RENDERING PROCESS

The following information will be used for the technical review of a permit to install application for a **rendering process**. 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. Provide a process flow diagram and a detailed written description of the process, including the amounts and types of raw materials rendered, the amounts and types of rendering products and waste materials produced and material/product storage conditions. Process components such as cookers, percolator pans, screw presses, tallow processing equipment, blood processing equipment, wastewater treatment equipment, boilers, etc. should be described including manufacturer name, model, and processing capacity information. Information on boilers and heated process components should include the method of heating, the types of any fuels fired, the maximum amount of fuel to be used in an hour and a year, and the fuel firing capacity (in MMBtu/hr).
2. Describe the waste streams associated with the process, the proposed odor control equipment, and any on-site wastewater treatment system. The description should include the following:
 - a) Process waste products should be described and quantified along with a description of proposed methods of on-site storage, treatment, and disposal so as to prevent excessive odor emissions.
 - b) Scrubber effluent should be quantified and described in terms of gallons per hour generated and method of storage, disposal, and/or treatment.
 - c) Wastewater disposal and/or treatment should be described including information on amounts and types of wastewater generated; the type of on-site treatment system proposed; the ultimate fate of the raw or treated wastewater; and a description of the measures taken to prevent generation of excessive odor emissions from any wastewater storage and/or treatment system.
3. Describe and quantify all solvent-containing cleaning or disinfecting solutions or additives used. Estimates of maximum daily and annual usage of any such materials should be provided along with material safety data sheets (MSDS) for the materials used.

B. Regulatory Discussion

The following State and Federal 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.

- 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:
 1. Rule 901(b) prohibits the emission of an air contaminant in quantities that cause unreasonable interference with the comfortable enjoyment of life and property. The AQD evaluates odor impacts to prevent emissions in quantities which cause odor nuisance situations. As a result, an odor analysis may be required as part of a permit application review whenever a source exhibits a significant potential to emit odorous emissions. Existing rendering sources with past verified odor complaints are considered to exhibit a potential. New rendering sources may also be considered to have a significant

potential to emit odors based on the nature of the process. Contact the AQD, prior to submittal of an application, to discuss any particular situation which may cause odors and to determine if an odor analysis should be performed. If required, the AQD will provide guidance on performing an odor analysis.

2. Rule 911 allows the DEQ to request preparation and submittal of a malfunction abatement plan (MAP) to prevent, detect, and correct malfunctions or equipment failures resulting in emissions exceeding any applicable emission limitations. Since rendering facilities have a high potential for creating odor problems, a written MAP should be submitted to insure that process equipment and any proposed odor control equipment are properly maintained to prevent equipment and operational malfunctions that could result in odor nuisance problems. The MAP should at a minimum, specify all of the following:
 - a) A complete preventative maintenance program, including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b) Identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.”

C. Control Technology Analysis

1. Provide a demonstration that the selected odor control options will be sufficient so as to prevent violations of Rule 901. The demonstration should include information on the expected effectiveness of the odor control options proposed for the equipment being permitted, based on available odor emission testing, equipment vendor information, and/or case studies. The demonstration can also include dispersion modeling of odor emissions to predict maximum expected odor levels in the plant vicinity.
2. A detailed description of odor control equipment and odor control measures, including information on pertinent operational parameters. Provide the following (if applicable):
 - a) Scrubber Odor Control Systems - Provide all of the information requested on the information sheets for scrubbers (available separately) and the following:
 - Types of oxidant and/or other additives; recommended concentrations of oxidant and/or other additives; and proposed oxidant/additive level monitoring and control systems;
 - Liquid recirculation design rates and temperatures, and proposed monitoring systems for these operational parameters;
 - Design exhaust air temperature; and proposed temperature monitoring system;
 - Expected odor control efficiency and odor emission rate (if available).
 - b) Boiler Incinerator Odor Control Systems - Provide all of the information requested on the information sheets for boilers (available separately) and the following:
 - Description of pre-treatment and mixing systems for rendering exhaust air vented to boiler combustion systems for odor control;
 - Minimum firebox temperature and retention time for odor emissions vented to the boiler for control; and proposed temperature monitoring and control system;
 - Expected odor control efficiency and odor emission rate (if available).
 - c) Condensers or Heat Exchangers used in Odor Control Systems - Provide all of the information requested on the information sheets for condensers (available separately) and the following:
 - Design liquid recirculation rates and temperatures and proposed monitoring systems for these operational parameters
 - Design exhaust air temperature; and proposed temperature monitoring system
 - Expected odor control efficiency and odor emission rate (if available)