ADDITIONAL TECHNICAL INFORMATION FOR CONTROL EQUIPMENT: ELECTROSTATIC PRECIPITATOR (ESP)

The following information will be used for the technical review of a permit to install application for an **electrostatic precipitator (ESP).** 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.

1. Make, model number and any available literature. Provide any guaranteed conditions stated by the manufacturer and the bid or final specifications, if available.
2. Precipitator air volume, in actual and dry standard cubic feet per minute (acfm and dscfm).
3. Operating temperature, in °F.
4. Expected efficiency, in percent (%).
5. The number and width of gas passages, in inches.
6. The number, effective height and width of the plates, in feet.
7. The specific collection area, in square feet.
8. The number, length and diameter of the wires.
9. The number of fields.
10. Describe any ability to isolate chambers.
11. The number of transverse chambers.
12. For each transformer/rectifier (T/R) set:
    a) Type
    b) Milliamp direct current (MADC) design
    c) Kilovolt direct current (KVDC) design
    d) Indicate full or half wave rectification
    e) Number of sections
    f) Plate area serviced
    g) A description of automatic voltage controller
13. The number, type and density of the discharge electrode rappers.
14. Expected and maximum inlet loading in pounds per hour and grains per acfm, and expected outlet loading in pounds per hour.
15. The number, type and frequency of rapping for the plate rappers.
16. The number, volume and angle of the each collection hopper, and a description of the hopper level detection devices. Describe the method of disposal for the collected material.
17. Provide a diagram indicating electrical sections and gas flow direction.
18. Describe any special measures to reduce re-entrainment and sneakage.
19. Describe any gas straightening devices and/or gas flow studies.
20. The expected setting of sparks per minute.
21. An analysis of the dust/ash including the resistivity at ESP operating temperatures. A chart or graph showing resistivity (ohm-cm) versus temperature (°F) is helpful.
22. The precipitation rate or migration velocity, in feet per second.