PUGET SOUND CLEAN AIR AGENCY

Additional Notice of Construction
Application Requirements for

VENTURI SCRUBBERS

General

Equipment or Process Being Controlled *[Specify the source(s) of the particulate matter to be controlled. If the source(s) are also new, complete the applicable permit forms.]*

Identify which of the following categories the project fits into:

1. New Construction *(New construction also includes existing, unpermitted equipment or processes*)
2. Reconstruction *(Reconstruction means the replacement of components of an existing facility to such an extent that the fixed capital cost of the new components exceeds 50% of the fixed capital cost that would be required to construct a comparable entirely new facility)*
3. Modification *(Modification means any physical change in, or change in the method of operation of, a source, except an increase in the Hours of Operation or production rates (not otherwise prohibited) or the use of an alternative fuel or raw material that the source is approved to use under an Order of Approval or operating permit, that increases the amount of any air contaminant emitted or that results in the emission of any air contaminant not previously emitted)*
4. Amendment to Existing Order of Approval Permit Conditions

Estimated Hours of Operation (hr/day, day/wk, wk/yr) *[Estimate the hours of operation for the new Venturi scrubber - not necessarily the entire facility.]*

Estimated Installation Date *[Estimate the date when the new Venturi scrubber will be put into service.]*

Inlet Gas Stream Characteristics *[Pretreatment (e.g., heating or dilution) is necessary if the temperature is not 50-100 °F above the dewpoint.]*

Flowrate (acfm) *[Specify the airflow in actual cubic feet per minute. This is usually determined from the fan performance 'curve' based upon the expected static pressure caused by the sum of the pressure losses from each component in the ductwork, including the Venturi scrubber]*

Temperature (°F) *[Specify the temperature in degrees Fahrenheit]*

Moisture (% by volume) *[Specify the moisture (water vapor) concentration in percent by volume.]*

Particulate Concentration (lb/hr, gr/acf, or gr/dscf) *[Specify the amount of particulate matter being vented to the Venturi scrubber in pounds per hour, grains per actual cubic foot, or grains per dry standard cubic foot. (One pound contains 7000 grains.)]*

Particle Mean Diameter (micrometers) *[Specify the mass mean aerodynamic diameter of the particles in micrometers]*

Design of Scrubber ***[Most design information is available from the manufacturer or vendor. Submittal of a brochure, scale drawing or process and instrumentation diagram will facilitate the review of the permit application]***

Make & Model *[Specify the manufacturer and model of the Venturi scrubber - not the serial number]*

Attach Performance Curve *[Supply a performance curve for the Venturi scrubber (a logarithmic plot relating collection efficiency, pressure drop and the aerodynamic mean diameter of particles)]*

Collection Efficiency (%) *[Specify the collection efficiency of the Venturi scrubber. This number can be taken directly from the performance curve for a given pressure drop based on the mean particle diameter]*

Pressure Drop Across Venturi (inches of water) *[Specify the pressure drop across the Venturi needed to obtain the design collection efficiency.]*

Venturi Throat Dimensions (inches) *[Specify the diameter or length and width of the Venturi throat in inches.]*

Water Flowrate (gal/min) *[Specify the water flowrate through the spray nozzles in gallons per minute]*

Method Used to Design/Size the Scrubber *[Specify the method used to select this design and size of Venturi scrubber. If design calculations were performed, they should be submitted. If the design and sizing was based on similar (successful) applications, list the owners and the city and state where they are located]*

Design of Mist Eliminator ***[Most design information is available from the manufacturer or vendor. Submittal of a brochure, scale drawing or process and instrumentation diagram will facilitate the review of the permit application.]***

Make & Model *[Specify the manufacturer and model of the mist eliminator - not the serial number. If the mist eliminator is integral with the Venturi scrubber and does not have a separate model number, state this]*

Control Efficiency (%) *[Specify the control efficiency (droplet removal efficiency) of the mist eliminator, as stated by the manufacturer]*

Minimum Pressure Drop (inches of water) *[Specify the pressure drop across the mist eliminator, as stated by the manufacturer]*

Stack

Stack Height (ft) *[Specify the height of the top of the stack above ground level - not above the building or sea level]*

Stack Diameter or Rectangular Cross-Sectional Dimensions (inches) *[Specify the internal dimensions - not the external dimensions]*

Exhaust Flowrate (acfm) *[Specify the airflow in actual cubic feet per minute. This is usually determined from the fan performance 'curve' based upon the expected static pressure caused by the sum of the pressure losses from each component in the ductwork, including the cyclone.]*

Exhaust Temperature (°F) *[Specify the temperature of the exhaust leaving the stack]*

Distance to Nearest Property Line (ft) *[Specify the distance from the base of the stack to the nearest property line]*

Height, Length and Width of Buildings (ft) *[Specify the approximate dimensions of any buildings that are >40% of the stack height and are located within 5 building heights from the stack]*

Operation and Maintenance

Method Used to Regulate Suspended and Dissolved Solids *[Specify the method to be used to regulate the suspended and dissolved solids content of the scrubber water, including the type of monitoring (conductivity, turbidity), the monitoring frequency, and the limit for the selected parameter.]*

Method Used to Regulate Water Flowrate *[Specify the method used to regulate the scrubber water flowrate, including the type of flow monitoring device and the frequency of monitoring]*

Method Used to Regulate Pressure Drop Across Venturi *[For units with variable throat dimensions, specify the method used to regulate the pressure drop and the frequency of monitoring. Otherwise, specify 'none']*

Describe Preventive Maintenance *[Specify the inspection frequencies for visible smoke emissions, pressure drop across the Venturi, water flowrate and solids content, and viewing of the spray nozzles and gauges for plugging. Also specify the records to be kept (e.g., records of all inspections and repairs, amount of sludge collected per month), and specify the spare parts to be kept on-site (e.g., nozzles)]*