

# PUGET SOUND CLEAN AIR AGENCY

## Additional Notice of Construction Application Requirements for

### **INCINERATORS, CREMATORIES, BURN-OFF OVENS**

#### **Definitions**

Incinerators [*For solid or liquid waste only. Use the permit form for thermal oxidizers if used for burning gases or vapors.*]

Burn-Off Ovens [*These are ovens used to burn off insulation from wires, grease from engine blocks, etc., used by reclamation and repair facilities*]

#### **General**

Description of Equipment and its Purpose [*Specify incinerator, crematory, or burn-off oven and its intended use (waste disposal, electric generation, steam generation, resource recovery, disposal of human or animal corpses, wire reclamation, grease removal, etc.)*]

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

Date of Equipment Manufacture [*This is the date when the unit was built by the manufacturer. It is required only for municipal waste incinerators and sewage sludge incinerators*] (month/yr)

Estimated Hours of Operation (hr/day, day/wk, wk/yr) [*Estimate the hours of operation for the new incinerator, crematory, or burn-off oven - not necessarily the entire facility*]

Estimated Installation Date [*Estimate the date when the incinerator, crematory or burn-off oven will be put into service.*]

**Waste Properties**

Waste Materials Charged [Estimate the total amount of waste to be charged to the incinerator or burn-off oven per year. For burn-off ovens, estimate the total amount of waste to be removed from the parts being reclaimed]

Estimated Annual Weight Charged (ton/yr) [*Estimate the total amount of waste to be charged to the incinerator or burn-off oven per year. For burn-off ovens, estimate the total amount of waste to be removed from the parts being reclaimed*]

Heat Content of Waste (Btu/lb) [*Specify the upper heating value of the waste to be incinerated. Not required for crematories or burn-off ovens.*]

Ash Content of Waste (%) [*Not required for crematories or burn-off ovens*]

Chemical Composition of Each Waste (% by weight, mg/l, or ppm) [*Specify the average concentration of each metal and chlorinated compound to be incinerated. For burn-off ovens, specify if PVC insulation or chlorinated compounds will be incinerated. Not required for crematories*]

**Design** [*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 of the incinerator, crematory, or burn-off oven and its model number - not its serial number*]

Type of Combustor [*For solid wastes, specify mass burn, modular, traveling grate, rotary, refuse-derived fuel, fluidized bed, liquid injection, fixed hearth (controlled air, starved air, or pyrolytic)*]

Emission Warranties for NO<sub>x</sub>, CO and Particulates [*Supply the vendor's emission warranties for nitrogen oxides, carbon monoxide and particulates, and information on excess air control and combustion monitoring (O<sub>2</sub>, CO, °F); include scale drawings*]

Rated Waste Capacity (lb/hr) [*Specify the maximum weight of waste the incinerator, crematory or burn-off oven can accept per hour*]

Type of Fuel [*Specify natural gas, distillate (#2 fuel oil, diesel), residual (#6 fuel oil, bunker oil), waste oil (used oil), wood, coal, or other (describe)*]

Rated Heat Input (Million Btu/hr) [*Specify the rated heat input - not the heat output. The rated heat input is equal to the sum of the maximum fuel and waste firing rates times their respective upper heating values*]

Estimated Fuel Usage (Million cu ft/yr, thousand gal/yr, tons/yr) [*Estimate how many million cubic feet of gaseous fuel, thousands of gallons of liquid fuel (not waste), or tons of solid fuel (not waste) will be burned annually. Alternatively, specify how many billion Btu/yr*]

Primary Combustion Chamber Temperature (°F) [*Specify the average temperature in the chamber that waste is charged to*]

Average Residence Time in Primary Chamber (seconds) [*Specify the residence time of the flue gas in the chamber that waste is charged to*]

Secondary Combustion Chamber Temperature (°F) [*Specify the average temperature in the secondary chamber (afterburner)*]

Average Residence Time in Secondary Chamber (seconds) [*Specify the residence time of the flue gas in the secondary chamber (afterburner)*]

Nitrogen Oxide Emission Controls [*Specify if using low-NO<sub>x</sub> burners, staged combustion, flue gas recirculation, ammonia injection, or selective catalytic reduction. If applicable, complete the permit form for selective catalytic reduction. If selective noncatalytic reduction is used, describe the system in detail*]

Particulate Emission Controls [*Specify 'none', baghouse, Venturi scrubber, or ESP and complete the applicable permit forms*]

Sulfur Dioxide Emission Controls [*Specify 'none', dry injection, spray dryer, or absorber and complete the applicable permit forms*]

Emissions Estimate (lb/hr, lb/yr) [*Estimate the emissions of each pollutant and include your calculations. Emissions should be based on the manufacturer's warranties or measurements. For other pollutants, use emission factors from <http://www.epa.gov/ttn/chief/ap42/index.html>.*]

**Stack** [*Required only for units without add on control equipment. Otherwise, use the appropriate permit forms for control equipment (spray dryer, dry injection, baghouse, absorber, ESP, selective catalytic reduction, selective noncatalytic reduction, ammonia or urea injection)*]

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*]

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**

Describe Preventive Maintenance [*Specify the periodic maintenance recommended by the manufacturer and its frequency*]