

**Major Source Operating Permit Application
Control Equipment – Wet Collection System**

Form 70-17

1	Facility Name			
2	Equipment name and identification #			
3	Stack ID or flow diagram point identification			
4	Name of manufacturer			
5	Model number			
6	Cost of scrubber			
7	Date of installation			
8	Date of manufacturer			
9	Does wet scrubber contain pre-cleaning equipment?	<input type="checkbox"/> Yes – What type? _____ <input type="checkbox"/> No		
10	Volume of gas discharged from wet scrubber at dry standard conditions (dscfm)			
Pressure drop across wet scrubber				
11	Stated by manufacturer (inches of water)			
	Measured (actual) (inches of water)			
Properties of gas at inlet to scrubber				
12	A. Temperature of inlet gas (Ti)		°F	
	B. Pressure of inlet gas (Pi)		Inches water	
	C. Inlet gas velocity (Vi)		Ft/sec	
	D. Area of inlet (Ai)		Ft ²	
	E. Inlet gas density (ρg)		Lbs/ft ³	
	F. Gs viscosity (μ)		Lbs/ft-sec	
	G. Moisture in gas stream		%	
	H. Dew point of gas stream		°F	
13	Indicate which of the following are components of this wet scrubber	<input type="checkbox"/> Flow rate instrumentation <input type="checkbox"/> Transmissometer	<input type="checkbox"/> Heat Exchanger <input type="checkbox"/> Inlet gas temperature instrumentation	<input type="checkbox"/> Differential pressure instrumentation <input type="checkbox"/> Gas preheater
14	Type of wet collection device	<input type="checkbox"/> Spray Tower <input type="checkbox"/> Packed Tower <input type="checkbox"/> Variable pressure drop orifice scrubber <input type="checkbox"/> Wet impingement collector <input type="checkbox"/> Mechanical scrubber	<input type="checkbox"/> Centrifugal scrubber <input type="checkbox"/> Orifice type scrubber <input type="checkbox"/> Venturi scrubber <input type="checkbox"/> Cyclonic scrubber <input type="checkbox"/> Wet filter	
15	Operation of wet scrubber	<input type="checkbox"/> Continuous <input type="checkbox"/> Intermittent <input type="checkbox"/> Periodically		
	Pressure drop	Inches water		
	Does scrubber have a special wear resistant plate?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	Shape of wet scrubber (chamber)	<input type="checkbox"/> Rectangular	<input type="checkbox"/> Cubical	<input type="checkbox"/> Cylindrical
		<input type="checkbox"/> Other (describe) _____		
	Size of wet scrubber (volume)	Ft ³		
Give dimensions (ft)	Height	Length	Width	
	Construction material			
<i>Continued</i>				

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		Collecting medium data			
16	Type of scrubbing liquid	<input type="checkbox"/> Water <input type="checkbox"/> Other (list chemical agents used):			
	Purpose of chemical agent	<input type="checkbox"/> Surface reactant		<input type="checkbox"/> Wetting agent	
		<input type="checkbox"/> Neutralizing agent		<input type="checkbox"/> Other (specify):	
	Liquid consumption rate	Gallons per 1000 CFM of gas			
	Inlet liquid pressure	PSI			
Inlet liquid temperature	Normal:			°F	
	Maximum			°F	
<i>Answer only those questions which are applicable to your control equipment.</i>					
17	Direction of spray (to the gas flow)	<input type="checkbox"/> Normal		<input type="checkbox"/> Parrel	<input type="checkbox"/> Tangential
	Type of spray nozzle	<input type="checkbox"/> Hollow cone		<input type="checkbox"/> Full/solid cone	<input type="checkbox"/> Atomizing
	Describe impingement plate(s)				
	Number of impingement plates in collector				
	Number of holes per impingement plate				
	Area of each impingement plate	Ft ²			
	Average area of each opening through plate	Ft ²			
	Type of packing (describe)				
	Height of packing material in collector	ft			
Describe the type of impingement target used					
18	Type of mist eliminator (describe)				
19	Particle size distribution in microns (μ)				
	Particle size	0-5μ	5-10μ	10-20μ	20-44μ
	Give % by weight				
20	Sludge disposal method	<input type="checkbox"/> Automatic		<input type="checkbox"/> Other (describe):	
		<input type="checkbox"/> Manual			
	How often are the hoppers emptied?	Every _____ hours			
	Is a water clarification and recycling system utilized by this equipment?	<input type="checkbox"/> Yes <input type="checkbox"/> No			
	Site of sludge disposal				
21	Particulate control efficiency				
	Manufacturer's stated efficiency				%
	Required efficiency				%
	Operation efficiency (perf. testing)				%
	Efficiency for particle size				
	Particle	0-5μ	5-10μ	10-20μ	20-44μ
	Give % by weight				
22	Location of fan	<input type="checkbox"/> Clean air side (pull through)		<input type="checkbox"/> Dirty air side (push through)	
	Type fan (check one)	<input type="checkbox"/> Centrifugal		<input type="checkbox"/> Axial-flow	
		<input type="checkbox"/> Compressor			
Type blade (check one)	<input type="checkbox"/> Forward curve		<input type="checkbox"/> Backward curve		
	<input type="checkbox"/> Straight		<input type="checkbox"/> Propeller		
	<input type="checkbox"/> Tube-axial		<input type="checkbox"/> Vane-axial		

Continued

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23	Fan Data			
	Diameter (inches)		Braking Horsepower (BHP)	<input type="checkbox"/> Standard
	Speed (RPM)		Inlet Area (ft ²)	<input type="checkbox"/> Heavy duty
	Volume (cfm @ STP)		Outlet Area (ft ²)	
	Static pressure (inches WC)		Motor Horsepower (HP)	
	Submitted copy of manufacturer's multirating tables	<input type="checkbox"/> Yes <input type="checkbox"/> No		
For compressor	<input type="checkbox"/> Positive Displacement <input type="checkbox"/> Dynamic <input type="checkbox"/> Reciprocating			
24	Drawings of all equipment should be submitted with each application.			
25	Page Number	Revision Number	Date of Revision	

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