

# GOING THROUGH THE TITLE V PERMIT PROCESS

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I'm sure almost everyone in this room has had some experience in dealing with a government regulatory agency. How many of you have had experience with a government air quality agency? How many of you have had experience with a government water quality agency? How many of you filed taxes last year? Well hopefully you all did, and if you did fill out your own tax forms you have a little feel for the Title V process and what it requires.

First a little background on the history of Title V. A result of the 1990 clean air act was that each state must develop a comprehensive operating permit program for major industrial sources of air pollution. The State of Oregon was one of the first states to work on this program. There are 1100 businesses in the State of Oregon currently under an air contaminant discharge permit and 200 of those have been identified as major air polluters to be regulated under Title V. A major air polluter is one that has the potential to emit 100 tons of any criteria pollutant in a year. In the case of the Sun Studs Inc. the pollutant that triggered Title V was carbon monoxide. Title V requires no stricter emission standards but it does require much more monitoring & reporting on the part of the business involved.

Since the largest part of Title V that will affect the boiler or kiln operator is the monitoring and reporting. Let me explain that portion in some depth.

In the first column of Figure 1, you can see each emission point is identified. In the fourth column you can see the pollutant being measured. In the fifth column you can see the limits or standards that must be met. In the sixth column you can see the point at which emissions are monitored, and in the seventh column you can see the method of recording and monitoring the emission point.

The best way to bring all of this into focus is to use two of Sun Stud's emissions points as examples (Figure 2). First our wood fired boiler. It is a 40,000# per hour Kipper boiler that we run at approximately 30,000#'s per hour in order to maintain compliance. We are required to monitor two emission points at the boiler. First the stack, it is monitored for both particulate and visible emissions. Second, the steam gauge is monitored for a maximum steam production of 30,000#'s per hour. Then there are the dry kilns which we monitor at the vents for visible emissions. At the boiler stack we are allowed 40% opacity for three minutes in any hour for visible emissions, which means the smoke coming from the boiler stack must block less than 40% of the background you are viewing.

At this point let me mention the plume evaluation or smoke reading process. This is a specific skill and even though it sounds like something anyone could do, after all how hard could it be to see if the smoke from your boiler or the steam from your kilns is too light or too dark? Well I have learned that this is much more difficult than I first thought. Training comes first, at Portland State University and if you pass the class in theory, then you must pass the smoke reading test. If you get that far

EU ID	Applicable Requirement	Condition Number	Pollutant/Parameter	Limit/Standards	Monitoring Point	Monitoring Requirements	
						Method	Condition Number
CBB	340-21-015(2)(b)	8	Visible emissions	20% opacity	Stack	VE periodic monitoring	26
	340-21-020(1)(b)	9	PM	0.1 gr/dscf	Stack	record keeping	27
	340-28-1020 ACDP Condition 3	10	Max. lb steam/hr	17,000 lbs/hr	NA	Record keeping	30.b
	340-28-1020	11	Fuel required	Distillate fuel oil ASTM grades 1 & 2	NA	Record keeping	30.a
	340-28-1020	12	Max. operating hours	1008 hrs/yr	Operation time	Record keeping	30.a
ST	340-21-015(2)(b)	8	Visible emissions	20% opacity	Vents	VE periodic monitoring	26
KB	340-21-015(1)(b)	13	Visible emissions	40% opacity	Stack	VE periodic monitoring	26
	340-21-020(1)(a)	14	PM	0.2 gr/dscf	Stack	ST periodic monitoring	28
	340-28-1020	15	Max. steam production	30,000 lbs/hr 190 MM lbs/yr	Steam gauge	Record keeping	30.b
LDK	340-21-015(2)(b)	8	Visible emissions	20% opacity	Vents	VE periodic monitoring	26
AS	340-21-015(2)(b)	8	Opacity	20% opacity	Cyclones & target boxes	VE periodic monitoring	26
	340-21-030(1)	16	PM	0.2 gr/dscf	2 cyclones	VE periodic monitoring	29
	340-21-040	17	PM	Division 21 Table 1, lb/hr at tested process rate	2 cyclones	ST periodic monitoring I&M record keeping	29
CSP	340-21-015(2)(b)	8	Visible emissions	20% opacity	CSP area	VE periodic monitoring	26
PR	340-21-015(2)(b)	8	Visible emissions	20% opacity	Facility wide	VE periodic monitoring	26

FIGURE 1. Emission unit specific emission limits and standards. At least once a month, the permit shall inspect emissions unit AS and repair, if necessary, any material transfer points, conveyor belts, drag chains, drop points, loaders, chippers, screens, target boxes and cyclone.

SUN STUDS TITLE V #10-0030				SUN STUDS, INC.			
WEEKLY/MONTHLY/QUARTERLY				P.O. BOX 1127			
				ROSEBURG, OR.			
				541-673-0141			
<b>KIPPER HOG FUEL BOILER</b>							
INTEGRATOR READING		DATE	OPACITY <<40%>>		BY: MM - DD - YY		
STEAM FLOW	NOW	K	-	-	*COMPLAINTS	Y	N
ALARM CHECK	- LAST	K	-	-	NOTES-COMMENTS:		
- -19	-TOTAL	K			1	-	-
		K			2	-	-
		K			3	-	-
		K			4	-	-
		K			5	-	-
CHECKED BY	YEAR TO DATE	K			6	-	-
<b>CLEAVER-BROOKS DIESEL BOILER</b>							
WEEK	OIL USAGE 106.36 X GAL - #STEAM			OPACITY <<20%>>		BY: MM - DD - YY	
1	OIL USED	/TIME RUN	=	G/H	*COMPLAINTS	Y	N
2	# STEAM	/TIME RUN	=	#/H	NOTES-COMMENTS:		
3	TOTAL OIL YTD			GAL	1	-	-
4	TOTAL TIME YTD			HRS	2	-	-
5	TOTAL STEAMYTD			#	3	-	-
					4	-	-
					5	-	-
<b>STEAM TUNNELS</b>							
BATCHES				VISIBLE EMISSION		BY: MM - DD - YY	
LAST MONTHLYTD _____				OPACITY <<20%>>		1	
TOTAL THIS MONTH _____				*COMPLAINTS		Y N	
TOTAL TO DATE _____				NOTES-COMMENTS:		2	
						3	
						4	
						5	
<b>KILNS</b>				<b>CHIP STORAGE PILE</b>			
VISIBLE EMISSION OPACITY <<20%>>		KILN TRACKS		VISIBLE EMISSION		OPACITY <<20%>>	
BY: MM - DD - YY		KILN #1(O2)		BY: MM - DD - YY		BY: MM - DD - YY	
1	-	-	KILN #2	*COMPLAINTS		Y N	
2	-	-	KILN #3	NOTES-COMMENTS:			
3	-	-	KILN #4(O2)	1	-	-	
4	-	-	TOTAL THIS MONTH	2	-	-	
5	-	-	TOTAL TO DATE:	3	-	-	
				4	-	-	
				5	-	-	
<b>AIR SYSTEM</b>		VISIBLE EMISSION OPACITY <<20%>>		<b>ROADS</b>			
BY: MM - DD - YY		LEAKS?		DATE SUPPRESSION APPLIED - -19			
*COMPLAINTS	Y N	1	-	-	Y N	VISIBLE EMISSION OPACITY <<20%>>	
NOTES-COMMENTS:		2	-	-	Y N	PAVED ROADS	
		3	-	-	Y N	BY: MM - DD - YY	
		4	-	-	Y N	*COMPLAINTS	
		5	-	-	Y N	Y N	
						1	
						2	
						3	
						4	
						5	
*FOR ADDITIONAL COMMENTS, USE REVERSE SIDE							
COLLECTED/INSPECTED BY:				DATE: - -19			

FIGURE 2. Examples of emission points.

then you must recertify every sixth months, in order to keep your certification as a plume reader. As we found, each plant should have two or three readers just in case one does not pass recertification. As far as the particulate emissions from the stack, we are allowed 0.2 grains per standard cubic foot of particulate emissions. This standard is a grandfathered figure and if we make any substantial improvements at the boiler we would have to lower these emissions significantly. At the dry kiln vents we are allowed 20% opacity for three minutes in any hour. All of this monitoring must then be recorded. You can see from this form all the various emission points and how they are recorded. Each emission point is covered including, as you might note, the volume of lumber being processed through the dry kilns. Even though we do not currently record the volatile organic compounds emissions from the vents in our dry kilns, the Department of Environmental Quality has established a rate of emissions from the wood. I am speculating but I think that reading and recording of the emissions from the dry kiln vents is not that far in the future. Once we have begun to collect this data, controlling these same emissions will I'm sure, become important.

Figure 3 shows the summary of emission points, the operating perimeters, and current rate of operation as you can see, again using the dry kilns and Kipper boiler as examples there is a significant amount of control on the processes in the plant through Title V.

Now that we have covered the monitoring and recording process let us cover briefly the compliance and enforcement. Our current permit is for five years and will expire in 1999. We must report every six months on all the information we have collected. Any falsification of the data is a felony with five years in prison and fines of up to \$250,000 dollars. Prior to 1990 the EPA or DEQ would have to take you to court, but now they can issue administrative penalties up to \$25,000 dollars per violation, just like a police officer citing you for speeding.

After leading you through the history, nuts and bolts of monitoring and reporting and the penalties of the Title V, it is time for a little commentary on how this process actually meshes with an operating plant. The actual writing of our Title V permit was done by our engineering group at Sun Studs and took almost a year to complete. The day to day monitoring and recording is the responsibility of the boiler and dry kiln group. It took a significant amount of training to get all of the involved employees up to speed. The monitoring and recording is a very time consuming process, so I would say that our overall experience with Title V has been difficult at best.

My major concern though is what the future holds. The government is currently considering even tighter air quality standards and the possibility of them not passing being slim, after all who does not want cleaner air? Even though there is currently no technology to monitor the new standards being considered I am sure industry will be forced to implement them. So it will continually be more and more difficult to just run a boiler or just run the kilns to properly process the lumber, it will fall to us to become much more knowledgeable about air quality and how to make these government regulations work and still be able to operate the boiler and kilns in an efficient manner.

Pollutant:Criteria Pollutants

Emission Unit/Point	Operating Parameter	Emission Factor		Emissions	
		Rate	Reference	lbs/hour	tons/year
<b>Kipper Boiler</b>					
CO	30,000 lbs steam/hr, 190,000,000 lbs steam/yr	4.42 lbs/1000 lbs steam	9-28-90 Source Test	132.6	419.9
NO <sub>x</sub>	30,000 lbs steam/hr, 190,000,000 lbs steam/yr	0.229 lbs/1000 lbs steam	9-28-90 Source Test	6.9	21.8
SO <sub>2</sub>	30,000 lbs steam/hr, 190,000,000 lbs steam/yr	0.014 lbs/1000 lbs steam	DEQ factor	0.4	1.3
VOC	30,000 lbs steam/hr, 190,000,000 lbs steam/yr	0.13 lbs/1000 lbs steam	DEQ factor	3.9	12.4
<b>Cleaver Brooks Boiler</b>					
CO	17,000 lbs steam/hr, 17,136,000 lbs steam/yr	0.05 lbs/1000 lbs steam	DEQ factor	0.9	0.4
NO <sub>x</sub>	17,000 lbs steam/hr, 17,136,000 lbs steam/yr	0.2 lbs/1000 lbs steam	DEQ factor	3.4	1.7
SO <sub>2</sub>	17,000 lbs steam/hr, 17,136,000 lbs steam/yr	0.42 lbs/1000 lbs steam	DEQ factor	7.1	3.6
VOC	155 gal Dist. oil/hr, 156,240 gal. Dist. oil/yr	0.2 lb/1000 gal.	DEQ factor	Negl.*	Negl.*
Facility Wide VOC	31,875 bd/hr, 279,225,000 bd ft/yr	0.2 E - 4 lb/bd ft	MOD AP-42	0.8	1.7
Lumber Drying Kiln VOC	19,938 bd ft/hr, 7950 tracts/yr*	0.397 E - 4 lb/bd ft	MOD AP-42	0.8	1.2
Steam Tunnels VOC	199,452 bd ft/hr, 6730 batch/yr**	0.06 E - 4 lb/bd ft	MOD AP - 42	1.2	1.3

\*\* track = 63,137 actual bd ft  
batch = 66,484 bd ft

Note: The hourly steaming rate is 15% higher than the rate operated during the source test. Particulate emission factor (EF) equals source test result, CO emission factor is increased by 30% and NO<sub>x</sub> emission factor is increased by 20% to allow for fluctuations.

FIGURE 3. Plant site emissions detail sheet.