

TABLES TO ACCOMPANY PERMIT CONDITIONS FOR THE TOSCO
AVON REFINERY #3 HDS PROJECT

Table

REFINERY EMISSION SOURCES COVERED BY
PERMIT EMISSION LIMITATIONS

The emission source groups have the following significance:

- Group A Furnaces are equipped with SCR NOx controls.
- Group B Furnaces are equipped with low NOx burners.
- Group C Furnaces are equipped with oxygen analyzer NOx controls in baseline and future case.
- Group D Furnaces are equipped with oxygen analyzer NOx controls in future case but were uncontrolled in baseline.
- Group E Furnaces and boilers have no NOx controls.
- Group F Natural gas fired internal combustion engines.
- Group G Natural gas fired turbine
- Group H Process units that burn coke and are controlled by electrostatic precipitators.
- Group I Miscellaneous combustion sources.
- Group J Sulfur removal facilities adjacent to refinery
- Group K Organic Liquid Storage Vessels (added for Permits 6625, 10912 and 14580)
 - S-772 External Floating Roof Tank, 130,000 bbl
 - S-773 External Floating Roof Tank, 130,000 bbl
 - S-774 External Floating Roof Tank, 175,000 bbl
 - S-775 Internal Floating Roof Tank, 109,000 bbl

Table "A"

REFINERY EMISSION SOURCES COVERED BY
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- Group F Natural gas fired internal combustion engines.
- Group G Natural gas fired turbine.
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- Group I Miscellaneous combustion sources.
- Group J Sulfur removal facilities adjacent to refinery.

GROUP SOURCE NO.(1) SOURCE NAME AND DESCRIPTION

Fired Furnaces and Boilers

A	S-973	No. 3 HDS recycle gas heater, F-#56
A	S-974	No. 3 HDS fractionator feed heater, F-#55
A	S-991	FCCU preheat furnace, F-#57
B	S-1020	No. 3 Reformer charge heater, F-#53
B	S-1021	No. 3 Reformer debutanizer reboiler, F-#54
C	S-922	No. 5 Gas Plant debutanizer reboiler, F-#22
C	S-950	No. 50 Crude Unit, F-#50
D	S-906	No. 3 Crude Unit, F-#6
D	S-907	No. 3 Crude Unit, F-#7
D	S-908	No. 3 Crude Unit, F-#8
D	S-909	No. 1 Feed Prep., F-#9
D	S-910	No. 4 Gas Plant splitter reboiler, F-#10
D	S-911	No. 4 Gas Plant feed heater, F-#11
D	S-912	No. 1 Feed Prep., F-#12
D	S-913	No. 2 Feed Prep., F-#13
D	S-916	No. 1 HDS charge heater, F-#16
D	S-917	No. 1 HDS prefrac. reboiler, F-#17
D	S-918	No. 2 HDS rerun reboiler, F-#18
D	S-919	No. 2 HDS depentanizer reboiler, F-#19
D	S-920	No. 2 HDS charge heater, F-#20
D	S-921	No. 2 HDS charge heater, F-#21
D	S-928	HDN reactor A heater, F-#28
D	S-929	HDN reactor B heater, F-#29
D	S-930	HDN reactor C heater, F-#30
D	S-931	Isocracker reactor 1 heater, F-#31
D	S-932	Isocracker reactor 2 heater, F-#32
D	S-933	Isocracker reactor 2 heater, F-#33
D	S-934	Isocracker stabilizer reboiler, F-#34
D	S-935	Isocracker splitter reboiler, F-#35
D	S-937	Hydrogen Plant steam-methane reformer, F-#37
D	S-938	HDN prefractionator, F-#38

(1) Source number for Plant #13 except where noted.

GROUP SOURCE J. SOURCE NAME AND D. CRIPTION

Fired Furnaces and Boilers (continued)

E	S-914	No. 1 Reformer charge heater, F-#14
E	S-915	No. 1 Reformer intermediate heater, F-#15
E	S-924	Coker steam superheater, F-#24
E	S-925	Coker steam superheater, F-#25
E	S-926	No. 2 Reformer rerun reboiler, F-#26
E	S-927	No. 2 Reformer charge heater, F-#27
E	S-936	Regeneration gas heater, F-#36
E	S-939	Propane product heater, F-#39
E	S-940	No. 4 Boiler, Boiler #1
E	S-941	No. 4 Boiler, Boiler #2
E	S-942	No. 4 Boiler, Boiler #3
E	S-951	No. 2 Reformer auxiliary reheat, F-#51
E	--	Amorco Wharf heater (S-52 for Plant # 224)

Gas Fired Engines

F	S-952	No. 1 Gas Plant vapor compressor No. 4023
F	S-953	No. 1 Gas Plant vapor compressor No. 4024
F	S-954	No. 1 Gas Plant vapor compressor No. 4025
F	S-955	No. 4 Gas Plant compressor No. 4064
F	S-956	No. 4 Gas Plant compressor No. 4065
F	S-957	No. 4 Gas Plant compressor No. 4066
F	S-958	No. 4 Gas Plant compressor No. 4067
F	S-959	No. 4 Gas Plant compressor No. 4068
F	S-960	No. 4 Gas Plant compressor No. 4096

Gas Fired Turbine

G	S-963	Alkylation Plant Gas Turbine #177
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Coke Burning Units

H	S-901	FCCU-CO Boiler
H	S-903	Coker-CO Boiler
H	S-904	No. 6 Boiler

Other Fuel Gas Combustion

I	--	Miscellaneous Pilots and Purges
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Sulfur Recovery Facilities

J	--	Sulfur Plant (S-1 for Plant #14)
J	--	Sulfuric Acid Plant (S-11 for Plant #14)

1. Emission points covered by the hydrocarbon limits of Section 2
 - o FCCU-COB, Coker-COB, and No. 6 Boiler (Group H)
 - o Fired Furnaces and Boilers (Groups A,B,C,D,E, and I)
 - o Gas Fired Engines and Turbine (Groups F and G)
 - o Marine Activity
2. Emission points covered by the nitrogen oxides and limits of Section 2
 - o FCCU-COB, Coker-COB, and No. 6 Boiler (Group H)
 - o Fired Furnaces and Boilers (Groups A,B,C,D,E, and I)
 - o Gas Fired Engines and Turbine (Groups F and G)
 - o Marine Activity
3. Emission points covered by the sulfur oxide limits of Section 2
 - o FCCU-COB, Coker-COB, and No. 6 Boiler (Group H)
 - o Fired Furnaces and Boilers (Groups A,B,C,D,E, and I)
 - o Sulfur Plant and Sulfuric Acid Plant (Group J)
 - o Marine Activity
4. Emission points covered by the carbon monoxide limits of Section 2
 - o FCCU-COB, Coker-COB, and No. 6 Boiler (Group H)
 - o Fired Furnaces and Boilers (Groups A,B,C,D,E, and I)
 - o Gas Fired Engines and Turbine (Groups F and G)
 - o Marine Activity
5. Emission points covered by the particulates limits of Section 2
 - o FCCU-COB, Coker-COB, and No. 6 Boiler (Group H)
 - o Fired Furnaces and Boilers (Groups A,B,C,D,E, and I)
 - o Gas Fired Engines and Turbine (Groups F and G)
 - o Marine Activity