Table 2.3-4

Refinery Emission Reduction Summary Table (New, April 2003)

	Current Steam Demand 1,2,3 & 4 Utility Boilers[1]	Future Steam Demand Clean Fuels Projects			Opportunity Projects Currently Fired Reboilers			Total at 100% Cogen Availability	Auxiliary Demand at 96% Cogen Availability[7]	Total at 96% Cogen Availability
		ISOM IBL[2]	ISOM OBL[3]	De-C6 Reboiler[4]	NHDS Stripper Reboiler[5]	H/C Jet Stripper Reboiler[6]				
NOx, tons/yr	281	82	25	82	31	4		506	6	499
CO, tons/yr	24	9	3	9	8	4		56	2	54
VOC, tons/yr	1	0	0	0	1	0		3	0	3
PM10, tons/yr	5	2	0	2	2	0		11	0	10
SO2, tons/yr	4	1	0	1	1	0		7	0	7
						Total		**583**		**573**

[1] The Cogeneration Project will provide steam to the Refinery that is currently provided by Utility Boilers 1-4. This column indicates the expected emission reductions calculated based on historical Refinery steam needs.

[2] The Cogeneration Project will also provide steam for use in planned projects at the Refinery including the Isomerzation Project, which is also known as the "Clean Fuels Project." This column indicates the expected emission reductions as a result of providing steam required inside the Isomerzation Project unit boundaries that would otherwise be provided by utility boilers.

[3] This column indicates the expected emission reductions as a result of providing steam required by the Isomerization Project, but outside its boundaries.

[4] This column indicates the expected emission reductions as a result of the Cogeneration Project providing steam to the Dehexanizer Tower process reboiler.

[5] This column indicates the expected emission reductions as a result of the Cogeneration Project providing steam to the NHDS Stripper Reboiler. A gas-fired furnance is currently used as the NHDS Stripper Reboiler and it will be replaced by a steam reboiler.

[6] This column indicates the expected emission reductions as a result of the Cogeneration Project providing steam to the H/C Jet Stripper reboiler, which will allow less gas to be burned.

[7] The Refinery will operate utility boilers to produce steam when the Cogeneration Project is down for maintenance. This column accounts for the emissions associated with operating the utility boilers during these periods.