Appendix E: Non-EGU Point and Area Source Control Measure Summary

The data in this table of non-EGU point and area source control measures for direct PM and PM precursor emissions comes from Appendix B of the AirControlNET 4.1 control measures documentation report prepared in May 2006. The detailed information found in AirControlNET for each of these control measures can be found in this same report. This detailed information also includes any assumptions, caveats, and limitations associated with the information and is presented in a "at-a-glance" table that is available for each control measure in AirControlNET. All of this information represents the best and most complete data that EPA has for each of these control measures at this time and will be revised and updated by EPA as appropriate.

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Cattle Feedlots	Chemical Additives to Waste								√							228	
Hog Operations	Chemical Additives to Waste								√*				50%			73	
Poultry Operations	Chemical Additives to Waste								√*				75%			1,014	
Agricultural Burning	Seasonal Ban (Ozone Season Daily)					√*							100%			N/A	
Ammonia—Natural Gas—Fired Reformers—Small Sources	Oxygen Trim + Water Injection					√*							65%			680	
Ammonia—Natural Gas—Fired Reformers—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				50%		2,900	3,870	3,870
Ammonia—Natural Gas—Fired Reformers—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				80%		2,230	2,230	2,860
Ammonia—Natural Gas—Fired Reformers—Small Sources	Low NOx Burner					√*							50%			820	
Ammonia—Natural Gas—Fired Reformers—Small Sources	Low NOx Burner (LNB) + Flue Gas Recirculation (FGR)					√*							60%		2,470	2,560	2,560
Ammonia Products; Feedstock Desulfurization—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							60%		2,470	2,560	2,560
Asphaltic Cone; Rotary Dryer; Conv Plant—Small Sources	Low NOx Burner					√*							50%			2,200	
By-Product Coke Manufacturing; Oven Underfiring	Selective Non-Catalytic Reduction (SNCR)					√*			X				60%			1,640	
Cement Kilns	Biosolid Injection					√*							23%			310	
Cement Manufacturing—Dry	Mid-Kiln Firing					√*							25%		-460	55	730
Cement Manufacturing—Dry	Selective Non-Catalytic Reduction (SNCR) Urea Based					√*			X				50%			770	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

Source Category	Control Measure Name	Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant										Control Efficiency (% reduction)			Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)		
		$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Cement Manufacturing—Dry	Selective Catalytic Reduction (SCR)					√*			X				80%			3,370	
Cement Manufacturing—Dry	Selective Non-Catalytic Reduction (SNCR) Ammonia Based					√*			X				50%			850	
Cement Manufacturing—Dry	Low NOx Burner					√*							25%		300	440	620
Cement Manufacturing—Wet	Mid-Kiln Firing					√*							25%		-460	55	730
Cement Manufacturing—Wet	Low NOx Burner					√*							25%		300	440	620
Cement Manufacturing—Wet—Large Sources	Selective Catalytic Reduction (SCR)					√*			X				80%			2,880	
Cement Manufacturing—Wet—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				80%			2,880	
Ceramic Clay Manufacturing; Drying—Small Sources	Low NOx Burner					√*							50%			2,200	
Coal Cleaning-Thrml Dryer; Fluidized Bed—Small Sources	Low NOx Burner					√*							50%			1,460	
Combustion Turbines—Jet Fuel—Small Sources	Selective Catalytic Reduction (SCR) + Water Injection					√*							90%			2,300	
Combustion Turbines—Jet Fuel—Small Sources	Water Injection					√*							68%			1,290	
Combustion Turbines—Natural Gas—Large Sources	Dry Low NOx Combustors					√*							50%		100	100	140
Combustion Turbines—Natural Gas—Small Sources	Selective Catalytic Reduction (SCR) + Water Injection					√*							95%			2,730	
Combustion Turbines—Natural Gas—Small Sources	Selective Catalytic Reduction (SCR) + Steam Injection					√*			X				95%		2,010	2,010	8,960
Combustion Turbines—Natural Gas—Small Sources	Steam Injection					√*							80%			1,040	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Combustion Turbines—Natural Gas—Small Sources	Water Injection					√*							76%			1,510	
Combustion Turbines—Natural Gas—Small Sources	Selective Catalytic Reduction (SCR) + Low NOx Burner (LNB)					√*			X				94%		2,570	2,570	19,120
Combustion Turbines—Natural Gas—Small Sources	Dry Low NOx Combustors					√*							84%		490	490	540
Combustion Turbines—Oil—Small Sources	Selective Catalytic Reduction (SCR) + Water Injection					√*							90%			2,300	
Combustion Turbines—Oil—Small Sources	Water Injection					√*							68%			1,290	
Commercial/Institutional—Natural Gas	Water Heater Replacement					√*							7%			N/A	
Commercial/Institutional—Natural Gas	Water Heaters + LNB Space Heaters					√*							7%			1,230	
Commercial/Institutional Incinerators	Selective Non-Catalytic Reduction (SNCR)					√*			X				45%			1,130	
Conv Coating of Prod; Acid Cleaning Bath—Small Sources	Low NOx Burner					√*							50%			2,200	
Fiberglass Manufacture; Textile-Type; Recuperative Furnaces	Low NOx Burner					√*							40%			1,690	
Fluid Catalytic Cracking Units—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							55%		1,430	3,190	3,190
Fuel Fired Equipment—Process Heaters	Low NOx Burner + Flue Gas Recirculation					√*							50%			570	
Fuel Fired Equipment; Furnaces; Natural Gas	Low NOx Burner					√*							50%			570	
Glass Manufacturing—Containers	OXY-Firing					√*							85%			4,590	
Glass Manufacturing—Containers	Electric Boost					√*							10%			7,150	
Glass Manufacturing—Containers	Gullet Preheat					√*							25%			940	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

Source Category	Control Measure Name	Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant										Control Efficiency (% reduction)			Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)		
		$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Glass Manufacturing—Containers	Low NOx Burner					√*							40%			1,690	
Glass Manufacturing—Containers	Selective Non-Catalytic Reduction (SNCR)					√*			X				40%			1,770	
Glass Manufacturing—Containers	Selective Catalytic Reduction (SCR)					√*			X				75%			2,200	
Glass Manufacturing—Flat	OXY-Firing					√*							85%			1,900	
Glass Manufacturing—Flat	Low NOx Burner					√*							40%			700	
Glass Manufacturing—Flat	Electric Boost					√*							10%			2,320	
Glass Manufacturing—Flat—Large Sources	Selective Catalytic Reduction (SCR)					√*			X				75%			710	
Glass Manufacturing—Flat—Large Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				40%			740	
Glass Manufacturing—Flat—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				75%			710	
Glass Manufacturing—Flat—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				40%			740	
Glass Manufacturing—Pressed	Gullet Preheat					√*							25%			810	
Glass Manufacturing—Pressed	Low NOx Burner					√*							40%			1,500	
Glass Manufacturing—Pressed	Selective Non-Catalytic Reduction (SNCR)					√*			X				40%			1,640	
Glass Manufacturing—Pressed	Selective Catalytic Reduction (SCR)					√*			X				75%			2,530	
Glass Manufacturing—Pressed	OXY-Firing					√*							85%			3,900	
Glass Manufacturing—Pressed	Electric Boost					√*							10%			8,760	
1C Engines—Gas	L-E (Low Speed)					√*							87%			176	
1C Engines—Gas—Small Sources	Selective Catalytic Reduction (SCR)					√*							90%			2,769	
1C Engines—Gas, Diesel, LPG—Small Sources	Selective Catalytic Reduction (SCR)					√*							80%			2,340	
1C Engines—Gas, Diesel, LPG—Small Sources	Ignition Retard					√*							25%			770	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

Source Category	Control Measure Name	Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant										Control Efficiency (% reduction)			Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)		
		$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
ICI Boilers—Coal/Cyclone—Large Sources	Coal Reburn					√*							50%			300	
ICI Boilers—Coal/Cyclone—Small Sources	Selective Catalytic Reduction (SCR)					√*							80%			820	
ICI Boilers—Coal/Cyclone—Small Sources	Natural Gas Reburn (NGR)					√*							55%			1,570	
ICI Boilers—Coal/Cyclone—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				35%			840	
ICI Boilers—Coal/Cyclone—Small Sources	Coal Reburn					√*							50%			1,570	
ICI Boilers—Coal/FBC—Large Sources	Selective Non-Catalytic Reduction (SNCR) Urea Based					√*			X				40%			670	
ICI Boilers—Coal/FBC—Small Sources	Selective Non-Catalytic Reduction (SNCR) Urea Based					√*			X				75%			900	
ICI Boilers—Coal/Stoker—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				40%		873	1,015	1,015
ICI Boilers—Coal/Stoker—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				40%			817	
ICI Boilers—Coal/Wall—Large Sources	Low NOx Burner					√*							50%			1,090	
ICI Boilers—Coal/Wall—Large Sources	Selective Catalytic Reduction (SCR)					√*			X				70%			1,070	
ICI Boilers—Coal/Wall—Large Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				40%			840	
ICI Boilers—Coal/Wall—Small Sources	Selective Catalytic Reduction (SCR)					√*							70%			1,260	
ICI Boilers—Coal/Wall—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				40%		400	1,040	1,040
ICI Boilers—Coal/Wall—Small Sources	Low NOx Burner					√*							50%			1,460	
ICI Boilers—Coke—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				40%		400	1,040	1,040
ICI Boilers—Coke—Small Sources	Low NOx Burner					√*							50%			1,460	
ICI Boilers—Coke—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				70%			1,260	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
ICI Boilers—Distillate Oil—Large Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				50%			1,890	
ICI Boilers—Distillate Oil—Small Sources	Low NOx Burner					√*							50%			1,180	
ICI Boilers—Distillate Oil—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							60%		1,090	2,490	2,490
ICI Boilers—Distillate Oil—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				80%		2,780	2,780	3,570
ICI Boilers—Distillate Oil—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				50%		3,470	4,640	4,640
ICI Boilers—Liquid Waste	Selective Catalytic Reduction (SCR)					√*			X				80%		1,480	1,480	1,910
ICI Boilers—Liquid Waste—Small Sources	Low NOx Burner					√*							50%			400	
ICI Boilers—Liquid Waste—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							60%		1,120	1,120	1,080
ICI Boilers—Liquid Waste—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				50%		1,940	2,580	2,580
ICI Boilers—LPG—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				80%		2,780	2,780	3,570
ICI Boilers—LPG—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							60%		1,090	2,490	2,490
ICI Boilers—LPG—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				50%		3,470	4,640	4,640
ICI Boilers—LPG—Small Sources	Low NOx Burner					√*							50%			1,180	
ICI Boilers—MSW/Stoker—Small Sources	Selective Non-Catalytic Reduction (SNCR) Urea Based					√*			X				55%			1,690	
ICI Boilers—Natural Gas—Large Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				50%			1,570	
ICI Boilers—Natural Gas—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							60%		2,470	2,560	2,560
ICI Boilers—Natural Gas—Small Sources	Oxygen Trim + Water Injection					√*							65%			680	
ICI Boilers—Natural Gas—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				80%		2,230	2,230	2,860

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
ICI Boilers—Natural Gas—Small Sources	Low NOx Burner					√*							50%			820	
ICI Boilers—Natural Gas—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				50%		2,900	3,870	3,870
ICI Boilers—Process Gas—Small Sources	Oxygen Trim + Water Injection					√*							65%			680	
ICI Boilers—Process Gas—Small Sources	Low NOx Burner					√*							50%			820	
ICI Boilers—Process Gas—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							60%		2,470	2,560	2,560
ICI Boilers—Process Gas—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				80%		2,230	2,230	2,860
ICI Boilers—Residual Oil—Large Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				50%			1,050	
ICI Boilers—Residual Oil—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				80%		1,480	1,480	1,910
ICI Boilers—Residual Oil—Small Sources	Low NOx Burner					√*							50%			400	
ICI Boilers—Residual Oil—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				50%		1,940	2,580	2,580
ICI Boilers—Residual Oil—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							60%		1,120	1,120	1,080
ICI Boilers—Wood/Bark/Stoker—Large Sources	Selective Non-Catalytic Reduction (SNCR) Urea Based					√*			X				55%			1,190	
ICI Boilers—Wood/Bark/Stoker—Small Sources	Selective Non-Catalytic Reduction (SNCR) Urea Based					√*			X				55%			1,440	
Industrial Coal Combustion	RACT to 25 tpy (LNB)					√*							21%			1,350	
Industrial Coal Combustion	RACT to 50 tpy (LNB)					√*							21%			1,350	
Industrial Incinerators	Selective Non-Catalytic Reduction (SNCR)					√*			X				45%			1,130	
Industrial Natural Gas Combustion	RACT to 50 tpy (LNB)					√*							31%			770	
Industrial Natural Gas Combustion	RACT to 25 tpy (LNB)					√*							31%			770	
Industrial Oil Combustion	RACT to 50 tpy (LNB)					√*							36%			1,180	
Industrial Oil Combustion	RACT to 25 tpy (LNB)					√*							36%			1,180	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

Source Category	Control Measure Name	Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant										Control Efficiency (% reduction)			Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)		
		$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
In-Proc; Process Gas; Coke Oven/Blast Ovens	Low NOx Burner + Flue Gas Recirculation					√*							55%		1,430	3,190	3,190
In-Process Fuel Use—Bituminous Coal—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				40%			1,260	
In-Process Fuel Use; Natural Gas—Small Sources	Low NOx Burner					√*							50%			2,200	
In-Process Fuel Use; Residual Oil—Small Sources	Low NOx Burner					√*							37%			2,520	
In-Process; Bituminous Coal; Cement Kilns	Selective Non-Catalytic Reduction (SNCR) Urea Based					√*			X				50%			770	
In-Process; Bituminous Coal; Lime Kilns	Selective Non-Catalytic Reduction (SNCR) Urea Based					√*			X				50%			770	
In-Process; Process Gas; Coke Oven Gas	Low NOx Burner					√*							50%			2,200	
Internal Combustion Engines—Gas	L-E (Medium Speed)					√*							87%			380	
Internal Combustion Engines—Gas—Large Sources	Ignition Retard					√*							20%			550	
Internal Combustion Engines—Gas—Large Sources	Air/Fuel + Ignition Retard					√*							30%		150	460	460
Internal Combustion Engines—Gas—Large Sources	Air/Fuel Ratio Adjustment					√*							20%			380	
Internal Combustion Engines—Gas—Small Sources	Air/Fuel + Ignition Retard					√*							30%		270	1,440	1,440
Internal Combustion Engines—Gas—Small Sources	Air/Fuel Ratio Adjustment					√*							20%			1,570	
Internal Combustion Engines—Gas—Small Sources	Ignition Retard					√*							20%			1,020	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Internal Combustion Engines—Oil—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				80%			2,340	
Internal Combustion Engines—Oil—Small Sources	Ignition Retard					√*							25%			770	
Iron & Steel Mills—Annealing	Low NOx Burner (LNB) + SCR					√*			X				80%		1,320	1,720	1,720
Iron & Steel Mills—Annealing	Low NOx Burner + Flue Gas Recirculation					√*							60%		250	750	750
Iron & Steel Mills—Annealing	Selective Non-Catalytic Reduction (SNCR)					√*			X				60%			1,640	
Iron & Steel Mills—Annealing	Low NOx Burner					√*							50%			570	
Iron & Steel Mills—Annealing—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				85%			3,830	
Iron & Steel Mills—Annealing—Small Sources	Low NOx Burner (LNB) + Selective Catalytic Reduction (SCR)					√*			X				90%		3,720	4,080	4,080
Iron & Steel Mills—Galvanizing	Low NOx Burner + Flue Gas Recirculation					√*							60%		190	580	580
Iron & Steel Mills—Galvanizing	Low NOx Burner					√*							50%			490	
Iron & Steel Mills—Reheating	Low NOx Burner + Flue Gas Recirculation					√*							77%		150	380	380
Iron & Steel Mills—Reheating	Low NOx Burner					√*							66%			300	
Iron & Steel Mills—Reheating	Low Excess Air (LEA)					√*							13%			1,320	
Iron Production; Blast Furnaces; Blast Heating Stoves	Low NOx Burner + Flue Gas Recirculation					√*							77%			380	
Lime Kilns	Low NOx Burner					√*							30%			560	
Lime Kilns	Mid-Kiln Firing					√*							30%			460	
Medical Waste Incinerators	Selective Non-Catalytic Reduction (SNCR)					√*			X				45%			4,510	
Municipal Waste Combustors	Selective Non-Catalytic Reduction (SNCR)					√*			X				45%			1,130	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

Source Category	Control Measure Name	Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant										Control Efficiency (% reduction)			Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)		
		$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Natural Gas Production; Compressors—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				20%			1,651	
Nitric Acid Manufacturing—Small Sources	Extended Absorption					√*							95%			480	
Nitric Acid Manufacturing—Small Sources	Non-Selective Catalytic Reduction (NSCR)					√*			X				98%		510	550	710
Nitric Acid Manufacturing—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				97%			590	
Open Burning	Episodic Ban (Daily Only)					√*							100%			N/A	
Plastics Prod-Specific; (ABS)—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							55%		1,430	3,190	3,190
Process Heaters—Distillate Oil—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				75%			9,230	
Process Heaters—Distillate Oil—Small Sources	Low NOx Burner - Selective Non-Catalytic Reduction (SNCR)					√*			X				78%		3,620	3,620	3,830
Process Heaters—Distillate Oil—Small Sources	Ultra Low NOx Burner					√*							74%			2,140	
Process Heaters—Distillate Oil—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				60%			3,180	
Process Heaters—Distillate Oil—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							48%		4,250	4,250	19,540
Process Heaters—Distillate Oil—Small Sources	Low NOx Burner					√*							45%			3,470	
Process Heaters—Distillate Oil—Small Sources	Low NOx Burner (LNB) + Selective Catalytic Reduction (SCR)					√*			X				92%		9,120	9,120	15,350
Process Heaters—LPG—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				60%			3,180	
Process Heaters—LPG—Small Sources	Low NOx Burner (LNB) + Selective Catalytic Reduction (SCR)					√*			X				92%		9,120	9,120	15,350
Process Heaters—LPG—Small Sources	Low NOx Burner (LNB) + SNCR					√*			X				78%		3,620	3,620	3,830
Process Heaters—LPG—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				75%			9,230	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Process Heaters—LPG—Small Sources	Ultra Low NOx Burner					√*							74%			2,140	
Process Heaters—LPG—Small Sources	Low NOx Burner					√*							45%			3,470	
Process Heaters—LPG—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							48%		4,250	4,250	19,540
Process Heaters—Natural Gas—Small Sources	Ultra Low NOx Burner					√*							75%			1,500	
Process Heaters—Natural Gas—Small Sources	Low NOx Burner					√*							50%			2,200	
Process Heaters—Natural Gas—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							55%		3,190	3,190	15,580
Process Heaters—Natural Gas—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				60%			2,850	
Process Heaters—Natural Gas—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				75%			12,040	
Process Heaters—Natural Gas—Small Sources	Low NOx Burner (LNB) + Selective Catalytic Reduction (SCR)					√*			X				88%		11,560	11,560	27,910
Process Heaters—Natural Gas—Small Sources	Low NOx Burner (LNB) + SNCR					√*			X				80%		3,520	3,520	6,600
Process Heaters—Other Fuel—Small Sources	Low NOx Burner (LNB) + SNCR					√*			X				75%		2,230	2,300	2,860
Process Heaters—Other Fuel—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				75%			5,350	
Process Heaters—Other Fuel—Small Sources	Ultra Low NOx Burner					√*							73%			1,290	
Process Heaters—Other Fuel—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				60%			1,930	
Process Heaters—Other Fuel—Small Sources	Low NOx Burner					√*							37%			2,520	
Process Heaters—Other Fuel—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							34%			3,490	
Process Heaters—Other Fuel—Small Sources	Low NOx Burner (LNB) + Selective Catalytic Reduction (SCR)					√*			X				91%		5,420	5,420	7,680
Process Heaters—Process Gas—Small Sources	Low NOx Burner (LNB) + Selective Catalytic Reduction (SCR)					√*			X				88%		11,560	11,560	27,910

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Process Heaters—Process Gas—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							55%		1,430	3,190	3,190
Process Heaters—Process Gas—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				60%			2,850	
Process Heaters—Process Gas—Small Sources	Ultra Low NOx Burner					√*							75%			1,500	
Process Heaters—Process Gas—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				75%			12,040	
Process Heaters—Process Gas—Small Sources	Low NOx Burner (LNB) +Selective Reduction SNCR					√*			X				80%		3,520	3,520	6,600
Process Heaters—Process Gas—Small Sources	Low NOx Burner					√*							50%			2,200	
Process Heaters—Residual Oil—Small Sources	Low NOx Burner (LNB) + Selective Catalytic Reduction (SCR)					√*			X				91%		5,420	5,420	7,680
Process Heaters—Residual Oil—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				75%			5,350	
Process Heaters—Residual Oil—Small Sources	Low NOx Burner (LNB) + SCR					√*			X				75%		2,230	2,300	2,860
Process Heaters—Residual Oil—Small Sources	Ultra Low NOx Burner					√*							73%			1,290	
Process Heaters—Residual Oil—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				60%			1,930	
Process Heaters—Residual Oil—Small Sources	Low NOx Burner					√*							37%			2,520	
Process Heaters—Residual Oil—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							34%			3,490	
Residential Natural Gas	Water Heater Replacement					√*							7%			N/A	
Residential Natural Gas	Water Heater + LNB Space Heaters					√*							7%			1,230	
Rich-Burn Stationary Reciprocating Internal Combustion Engines	Non-selective catalytic reduction					√*							90%			342	
Rich-Burn Stationary Reciprocating Internal Combustion Engines	Non-selective catalytic reduction					√*							90%			342	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

Source Category	Control Measure Name	Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant										Control Efficiency (% reduction)			Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)		
		$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Rich-Burn Stationary Reciprocating Internal Combustion Engines (RICE)	Non-selective catalytic reduction (NSCR)					√*	√			√			90%			342	
Sand/Gravel; Dryer—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							55%		1,430	3,190	3,190
Secondary Aluminum Production; Smelting Furnaces	Low NOx Burner					√*							50%			570	
Solid Waste Disposal; Government; Other	Selective Non-Catalytic Reduction (SNCR)					√*			X				45%			1,130	
Space Heaters—Distillate Oil—Small Sources	Low NOx Burner					√*							50%			1,180	
Space Heaters—Distillate Oil—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				50%		3,470	4,640	4,640
Space Heaters—Distillate Oil—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				80%		2,780	2,780	3,570
Space Heaters—Distillate Oil—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							60%		1,090	2,490	2,490
Space Heaters—Natural Gas—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				50%		2,900	3,870	3,870
Space Heaters—Natural Gas—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				80%		2,230	2,230	2,860
Space Heaters—Natural Gas—Small Sources	Oxygen Trim + Water Injection					√*							65%			680	
Space Heaters—Natural Gas—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							60%		2,470	2,560	2,560
Space Heaters—Natural Gas—Small Sources	Low NOx Burner					√*							50%			820	
Starch Manufacturing; Combined Operation—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							55%		1,430	3,190	3,190
Steel Foundries; Heat Treating	Low NOx Burner					√*							50%			570	
Steel Production; Soaking Pits	Low NOx Burner + Flue Gas Recirculation					√*							60%		250	750	750
Sulfate Pulping—Recovery Furnaces—Small Sources	Low NOx Burner + Flue Gas Recirculation					√*							60%		2,470	2,560	2,560
Sulfate Pulping—Recovery Furnaces—Small Sources	Selective Catalytic Reduction (SCR)					√*			X				80%		2,230	2,230	2,860

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

Source Category	Control Measure Name	Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant										Control Efficiency (% reduction)			Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)		
		$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Sulfate Pulping—Recovery Furnaces—Small Sources	Low NOx Burner					√*							50%			820	
Sulfate Pulping—Recovery Furnaces—Small Sources	Selective Non-Catalytic Reduction (SNCR)					√*			X				50%		2,900	3,870	3,870
Sulfate Pulping—Recovery Furnaces—Small Sources	Oxygen Trim + Water Injection					√*							65%			680	
Surface Coat Oper; Coating Oven Htr; Nat Gas—Small Sources	Low NOx Burner					√*			X				50%			2,200	
Agricultural Burning	Bale Stack/Propane Burning	√	√*	√	√							49%	63%	63%		2,591	
Agricultural Tilling	Soil Conservation Plans	√	√	√	√								11.7%			138	
Asphalt Manufacture	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Asphalt Manufacture	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Asphalt Manufacture	Paper/Nonwoven Filters - Cartridge Collector Type	√	√*	√	√								99%		85	147	256
Asphalt Manufacture	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303
Asphalt Manufacture	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Asphalt Manufacture	Fabric Filter (Pulse Jet Type)	√	√*	√	√								99%		42	117	266
Beef Cattle Feedlots	Watering	√	√*	√	√								50%			307	
Chemical Manufacture	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Chemical Manufacture	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Chemical Manufacture	Wet ESP - Wire Plate Type	√	√*	√	√								99%		55	220	550
Commercial Institutional Boilers—Coal	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Commercial Institutional Boilers—Coal	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Commercial Institutional Boilers—Coal	Fabric Filter (Pulse Jet Type)	√	√*	√	√								99%		42	117	266
Commercial Institutional Boilers—Coal	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Commercial Institutional Boilers—Coal	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Commercial Institutional Boilers—Natural Gas	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Commercial Institutional Boilers—Oil	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Commercial Institutional Boilers—Oil	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Commercial Institutional Boilers—Oil	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Commercial Institutional Boilers—Solid Waste	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Commercial Institutional Boilers—Solid Waste	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Commercial Institutional Boilers—Wood	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Commercial Institutional Boilers—Wood	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Commercial Institutional Boilers—Wood/Bark	Dry ESP-Wire Plate Type	√	√*	√	√								90%		40	110	250
Commercial Institutional Boilers—Wood/Bark	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								80%		53	148	337
Commercial Institutional Boilers—Wood/Bark	Fabric Filter (Pulse Jet Type)	√	√*	√	√								80%		42	117	266
Construction Activities	Dust Control Plan	√	√*	√	√								62.5%			3,600	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Conveyorized Charbroilers	Catalytic Oxidizer	√*	√*	√	√		√					80%	83%	90%		2,966	
Conveyorized Charbroilers	ESP for Commercial Cooking	√*	√*	√	√							99%	99%	99%		7,000	
Fabricated Metal Products—Abrasive Blasting	Paper/Nonwoven Filters - Cartridge Collector Type	√	√*	√	√								99%		85	142	256
Fabricated Metal Products—Welding	Paper/Nonwoven Filters - Cartridge Collector Type	√	√*	√	√								99%		85	142	256
Ferrous Metals Processing—Coke	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Ferrous Metals Processing—Coke	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Ferrous Metals Processing—Coke	Venturi Scrubber	√	√*	√	√								93%		75	751	2,100
Ferrous Metals Processing—Coke	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Ferrous Metals Processing—Coke	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303
Ferrous Metals Processing—Ferroalloy Production	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Ferrous Metals Processing—Ferroalloy Production	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Ferrous Metals Processing—Ferroalloy Production	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Ferrous Metals Processing—Ferroalloy Production	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303
Ferrous Metals Processing—Ferroalloy Production	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Ferrous Metals Processing—Gray Iron Foundries	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Ferrous Metals Processing—Gray Iron Foundries	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Ferrous Metals Processing—Gray Iron Foundries	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Ferrous Metals Processing—Gray Iron Foundries	Impingement-Plate Scrubber	√	√*	√	√								64%		46	431	1,200
Ferrous Metals Processing—Gray Iron Foundries	Venturi Scrubber	√	√*	√	√								94%		76	751	2,100
Ferrous Metals Processing—Gray Iron Foundries	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Ferrous Metals Processing—Iron & Steel Production	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Ferrous Metals Processing—Iron & Steel Production	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Ferrous Metals Processing—Iron and Steel Production	Sinter Cooler	√*	√	√	√								99%			5,000	
Ferrous Metals Processing—Iron and Steel Production	Capture Hood Vented to a Baghouse	√*	√	√	√								85%			N/A	
Ferrous Metals Processing—Iron and Steel Production	Secondary Capture and Control System	√*	√	√	√								85%			N/A	
Ferrous Metals Processing—Iron and Steel Production	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303
Ferrous Metals Processing—Iron and Steel Production	Fabric Filter (Pulse Jet Type)	√	√*	√	√								99%		42	117	266
Ferrous Metals Processing—Iron and Steel Production	Wet ESP - Wire Plate Type	√	√*	√	√								99%		55	220	550

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Ferrous Metals Processing—Iron and Steel Production	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Ferrous Metals Processing—Iron and Steel Production	Venturi Scrubber	√	√*	√	√								73%		76	751	2,100
Ferrous Metals Processing—Iron and Steel Production	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Ferrous Metals Processing—Other	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Ferrous Metals Processing—Other	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Ferrous Metals Processing—Steel Foundries	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Ferrous Metals Processing—Steel Foundries	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Ferrous Metals Processing—Steel Foundries	Venturi Scrubber	√	√*	√	√								73%		76	751	2,100
Ferrous Metals Processing—Steel Foundries	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Ferrous Metals Processing—Steel Foundries	Fabric Filter (Pulse Jet Type)	√	√*	√	√								99%		42	117	266
Ferrous Metals Processing—Steel Foundries	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303
Grain Milling	Fabric Filter (Pulse Jet Type)	√	√*	√	√								99%		42	117	266
Grain Milling	Paper/Nonwoven Filters - Cartridge Collector Type	√	√*	√	√								99%		85	142	256
Grain Milling	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

Source Category	Control Measure Name	Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant										Control Efficiency (% reduction)			Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)		
		$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Industrial Boilers—Coal	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Industrial Boilers—Coal	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Industrial Boilers—Coal	Venturi Scrubber	√	√*	√	√								82%		76	751	2,100
Industrial Boilers—Coal	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Industrial Boilers—Coal	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Industrial Boilers—Coal	Fabric Filter (Pulse Jet Type)	√	√*	√	√								99%		42	117	266
Industrial Boilers—Coke	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Industrial Boilers—Coke	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Industrial Boilers—Liquid Waste	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Industrial Boilers—Oil	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Industrial Boilers—Oil	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Industrial Boilers—Oil	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Industrial Boilers—Oil	Venturi Scrubber	√	√*	√	√								92%		76	751	2,100
Industrial Boilers—Solid Waste	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Industrial Boilers—Solid Waste	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Industrial Boilers—Wood	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Industrial Boilers—Wood	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Industrial Boilers—Wood	Venturi Scrubber	√	√*	√	√								93%		76	751	2,100
Industrial Boilers—Wood	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Industrial Boilers—Wood	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Industrial Boilers—Wood	Fabric Filter (Pulse Jet Type)	√	√*	√	√								99%		42	117	266
Mineral Products—Cement Manufacture	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Mineral Products—Cement Manufacture	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Mineral Products—Cement Manufacture	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303
Mineral Products—Cement Manufacture	Fabric Filter (Pulse Jet Type)	√	√*	√	√								99%		42	117	266
Mineral Products—Cement Manufacture	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Mineral Products—Cement Manufacture	Paper/Nonwoven Filters - Cartridge Collector Type	√	√*	√	√								99%		85	142	256
Mineral Products—Cement Manufacture	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Mineral Products—Coal Cleaning	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Mineral Products—Coal Cleaning	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Mineral Products—Coal Cleaning	Venturi Scrubber	√	√*	√	√								99%		76	751	2,100
Mineral Products—Coal Cleaning	Paper/Nonwoven Filters - Cartridge Collector Type	√	√*	√	√								99%		85	142	256
Mineral Products—Coal Cleaning	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Mineral Products—Coal Cleaning	Fabric Filter (Pulse Jet Type)	√	√*	√	√								99%		42	117	266

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

Source Category	Control Measure Name	Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant										Control Efficiency (% reduction)			Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)		
		$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Mineral Products—Coal Cleaning	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303
Mineral Products—Other	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Mineral Products—Other	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Mineral Products—Other	Fabric Filter (Pulse Jet Type)	√	√*	√	√								99%		42	117	266
Mineral Products—Other	Wet ESP - Wire Plate Type	√	√*	√	√								99%		55	220	550
Mineral Products—Other	Paper/Nonwoven Filters - Cartridge Collector Type	√	√*	√	√								99%		85	145	256
Mineral Products—Other	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303
Mineral Products—Other	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Mineral Products—Other	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Mineral Products—Stone Quarrying & Processing	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Mineral Products—Stone Quarrying & Processing	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Mineral Products—Stone Quarrying and Processing	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Mineral Products—Stone Quarrying and Processing	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303
Mineral Products—Stone Quarrying and Processing	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Mineral Products—Stone Quarrying and Processing	Paper/Nonwoven Filters - Cartridge Collector Type	√	√*	√	√								99%		85	142	256
Mineral Products—Stone Quarrying and Processing	Wet ESP - Wire Plate Type	√	√*	√	√								99%		55	220	550
Mineral Products—Stone Quarrying and Processing	Venturi Scrubber	√	√*	√	√								95%		76	751	2,100
Mineral Products—Stone Quarrying and Processing	Fabric Filter (Pulse Jet Type)	√	√*	√	√								99%		42	117	266

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Municipal Waste Incineration	Dry ESP-Wire Plate Type	√	√*	√									98%		40	110	250
Non-Ferrous Metals Processing—Aluminum	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Non-Ferrous Metals Processing—Aluminum	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Non-Ferrous Metals Processing—Aluminum	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Non-Ferrous Metals Processing—Aluminum	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303
Non-Ferrous Metals Processing—Aluminum	Wet ESP - Wire Plate Type	√	√*	√	√								99%		55	220	550
Non-Ferrous Metals Processing—Aluminum	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Non-Ferrous Metals Processing—Copper	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Non-Ferrous Metals Processing—Copper	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Non-Ferrous Metals Processing—Copper	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Non-Ferrous Metals Processing—Copper	Wet ESP - Wire Plate Type	√	√*	√	√								99%		55	220	550
Non-Ferrous Metals Processing—Copper	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303
Non-Ferrous Metals Processing—Copper	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Non-Ferrous Metals Processing—Lead	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Non-Ferrous Metals Processing—Lead	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Non-Ferrous Metals Processing—Lead	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Non-Ferrous Metals Processing—Lead	Wet ESP - Wire Plate Type	√	√*	√	√								99%		55	220	550
Non-Ferrous Metals Processing—Lead	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Non-Ferrous Metals Processing—Lead	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303
Non-Ferrous Metals Processing—Other	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Non-Ferrous Metals Processing—Other	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Non-Ferrous Metals Processing—Other	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	1,260	303
Non-Ferrous Metals Processing—Other	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Non-Ferrous Metals Processing—Other	Wet ESP - Wire Plate Type	√	√*	√	√								99%		55	220	550
Non-Ferrous Metals Processing—Other	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Non-Ferrous Metals Processing—Zinc	CEM Upgrade and Increased Monitoring Frequency of PM Controls	√*	√*										7.7%			5,200	
Non-Ferrous Metals Processing—Zinc	Increased Monitoring Frequency (IMF) of PM Controls	√*	√*	√	√								6.5%			620	
Non-Ferrous Metals Processing—Zinc	Fabric Filter (Mech. Shaker Type)	√	√*	√	√								99%		37	126	303
Non-Ferrous Metals Processing—Zinc	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Non-Ferrous Metals Processing—Zinc	Fabric Filter (Reverse-Air Cleaned Type)	√	√*	√	√								99%		53	148	337
Non-Ferrous Metals Processing—Zinc	Wet ESP - Wire Plate Type	√	√*	√	√								99%		55	220	550
Paved Roads	Vacuum Sweeping	√	√*	√	√								50.5%			485	
Prescribed Burning	Increase Fuel Moisture	√	√*	√	√								50%			2,617	
Residential Home Heating	Switch to Low Sulfur Fuel	√*	√*			√		√					75%			2,350	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	$S0_2$	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Residential Wood Combustion	Education and Advisory Program	√	√*	√	√								50%			1,320	
Residential Wood Stoves	NSPS compliant Wood Stoves	√*	√*										98%			2,000	
Unpaved Roads	Hot Asphalt Paving	√	√*	√	√								67.5%			537	
Unpaved Roads	Chemical Stabilization	√	√*	√									37.5%			2,753	
Wood Pulp & Paper	Wet ESP - Wire Plate Type	√	√*	√	√								99%		55	220	550
Wood Pulp & Paper	Dry ESP-Wire Plate Type	√	√*	√	√								98%		40	110	250
Bituminous/Subbituminous Coal	Flue Gas Desulfurization							√*					90%			N/A	
Bituminous/Subbituminous Coal	Flue Gas Desulfurization							√*					90%			N/A	
Bituminous/Subbituminous Coal (Industrial Boilers)	Spray Dryer Absorber							√*					90%		804	1,341	1,973
Bituminous/Subbituminous Coal (Industrial Boilers)	In-duct Dry Sorbent Injection							√*					40%		1,111	1,526	2,107
Bituminous/Subbituminous Coal (Industrial Boilers)	Wet Flue Gas Desulfurization							√*					90%		1,027	1,536	1,980
By-Product Coke Manufacturing	Vacuum Carbonate Plus Sulfur Recovery Plant							√*					90%			N/A	
Inorganic Chemical Manufacture Operations	Flue Gas Desulfurization							√*					90%			N/A	
In-process Fuel Use—Bituminous Coal	Flue Gas Desulfurization							√*					90%			N/A	
Lignite (Industrial Boiler)	In-duct Dry Sorbent Injection							√*					40%		1,111	1,526	2,107
Lignite (Industrial Boiler)	Spray Dryer Absorber							√*					90%		804	1,341	1,973
Lignite (Industrial Boiler)	Wet Flue Gas Desulfurization							√*					90%		1,027	1,536	1,980
Lignite (Industrial Boilers)	Flue Gas Desulfurization							√*					90%			N/A	
Mineral Products Industry	Flue Gas Desulfurization							√*					90%			N/A	
Petroleum Industry	Flue Gas Desulfurization (FGD)							√*					90%			N/A	
Primary Lead Smelters—Sintering	Dual Absorption							√*					99%			N/A	
Primary Metals Industry	Flue Gas Desulfurization							√*					90%			N/A	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

Source Category	Control Measure Name	Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant										Control Efficiency (% reduction)			Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)		
		$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Primary Zinc Smelters—Sintering	Dual Absorption							√*					99%			N/A	
Process Heaters (Oil and Gas Production)	Flue Gas Desulfurization							√*					90%			N/A	
Pulp and Paper Industry (Sulfate Pulping)	Flue Gas Desulfurization							√*					90%			N/A	
Residual Oil (Commercial/Institutional Boilers)	Wet Flue Gas Desulfurization							√*					90%		2,295	3,489	4,524
Residual Oil (Commercial/Institutional Boilers)	Flue Gas Desulfurization							√*					90%			N/A	
Residual Oil (Industrial Boilers	Flue Gas Desulfurization							√*					90%			N/A	
Secondary Metal Production	Flue Gas Desulfurization							√*					90%			N/A	
Steam Generating Unit-Coal/Oil	Flue Gas Desulfurization							√*					90%			N/A	
Sulfur Recovery Plants—Elemental Sulfur	Amine Scrubbing + Flue Gas Desulfurization							√*					99.8%			N/A	
Sulfur Recovery Plants—Elemental Sulfur	Amine Scrubbing + Flue Gas Desulfurization							√*					99.7%			N/A	
Sulfur Recovery Plants—Elemental Sulfur	Amine Scrubbing							√*					98.4%			N/A	
Sulfur Recovery Plants—Elemental Sulfur	Amine Scrubbing							√*					97.8%			N/A	
Sulfur Recovery Plants—Elemental Sulfur	Amine Scrubbing + Flue Gas Desulfurization							√*					99.8%			N/A	
Sulfur Recovery Plants—Elemental Sulfur	Amine Scrubbing							√*					97.1%			N/A	
Sulfuric Acid Plants—Contact Absorbers	Increase Absorption Efficiency from Existing to NSPS Level (99.7%) + Flue Gas Desulfurization							√*					75%			N/A	
Sulfuric Acid Plants—Contact Absorbers	Increase Absorption Efficiency from Existing to NSPS Level (99.7%)							√*					95%			N/A	
Sulfuric Acid Plants—Contact Absorbers	Increase Absorption Efficiency from Existing to NSPS Level (99.7%) + Flue Gas Desulfurization							√*					90%			N/A	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

Source Category	Control Measure Name	Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant										Control Efficiency (% reduction)			Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)		
		$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Sulfuric Acid Plants—Contact Absorbers	Increase Absorption Efficiency from Existing to NSPS Level (99.7%)							√*					90%			N/A	
Sulfuric Acid Plants—Contact Absorbers	Increase Absorption Efficiency from Existing to NSPS Level (99.7%)							√*					85%			N/A	
Sulfuric Acid Plants—Contact Absorbers	Increase Absorption Efficiency from Existing to NSPS Level (99.7%) + Flue Gas Desulfurization							√*					95%			N/A	
Sulfuric Acid Plants—Contact Absorbers	Increase Absorption Efficiency from Existing to NSPS Level (99.7%)							√*					75%			N/A	
Sulfuric Acid Plants—Contact Absorbers	Flue Gas Desulfurization							√*					90%			N/A	
Sulfuric Acid Plants—Contact Absorbers	Increase Absorption Efficiency from Existing to NSPS Level (99.7%) + Flue Gas Desulfurization							√*					85%			N/A	
Adhesives—Industrial	SCAQMDRule1168						√*						73%			2,202	
Aircraft Surface Coating	MACT Standard						√*						60%			165	
Architectural Coatings	OTC AIM Coating Rule						√*						55%			6,628	
Architectural Coatings	AIM Coating Federal Rule						√*						20%			228	
Architectural Coatings	South Coast Phase 1						√*						34%		3,300	1,443	4,600
Architectural Coatings	South Coast Phase III						√*						73%			10,059	
Architectural Coatings	South Coast Phase II						√*						47%			4,017	
AREA	OTC Mobile Equipment Repair and Refinishing Rule						√*						61%			2,534	
AREA	OTC Mobile Equipment Repair and Refinishing Rule						√*						61%			2,534	
AREA	OTC Solvent Cleaning Rule						√*						66%			1,400	
AREA	OTC Consumer Products Rule						√*						39.2%			1,032	
AREA	OTC Mobile Equipment Repair and Refinishing Rule						√*						61%			2,534	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
AREA	OTC Mobile Equipment Repair and Refinishing Rule						√*						61%			2,534	
AREA	OTC Consumer Products Rule						√*						39.2%			1,032	
Automobile Refinishing	California FIP Rule (VOC content & TE)						√*						89%			7,200	
Automobile Refinishing	CARB BARCT Limits						√*						47%			750	
Automobile Refinishing	Federal Rule						√*						37%			118	
Bakery Products	Incineration >1 00,000 lbs bread						√*						39.9%			1,470	
Commercial Adhesives	Federal Consumer Solvents Rule						√*						25%			232	
Commercial Adhesives	CARB Long-Term Limits						√*						85%			2,880	
Commercial Adhesives	CARB Mid-Term Limits						√*						55%			2,192	
Consumer Solvents	CARB Mid-Term Limits						√*						55%			2,192	
Consumer Solvents	Federal Consumer Solvents Rule						√*						25%			232	
Consumer Solvents	CARB Long-Term Limits						√*						85%			2,880	
Cutback Asphalt	Switch to Emulsified Asphalts						√*						100%			15	
Electrical/Electronic Coating	SCAQMD Rule						√*						70%			5,976	
Electrical/Electronic Coating	MACT Standard						√*						36%			5,000	
Fabric Printing, Coating and Dyeing	Permanent Total Enclosure (PTE)						√*						97%			N/A	
Flexographic Printing	Permanent Total Enclosure (PTE)						√*						95			9,947	
Graphic Arts	Use of Low or No VOC Materials						√*						65%		3,500	4,150	4,800
Industrial Maintenance Coating	South Coast Phase III						√*						73%			10,059	
Industrial Maintenance Coating	AIM Coating Federal Rule						√*						20%			228	
Industrial Maintenance Coating	South Coast Phase 1						√*						34%		3,300	1,443	4,600

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		*Pollutant(s) Affected √=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	SO_2	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Industrial Maintenance Coating	South Coast Phase II						√*						47%			4,017	
Machinery, Equipment, and Railroad Coating	SCAQMD Limits						√*						55.2%			2,027	
Marine Surface Coating (Shipbuilding)	Add-On Controls						√*						90%			8,937	
Marine Surface Coating (Shipbuilding)	MACT Standard						√*						24%			2,090	
Metal Can Surface Coating Operations	Permanent Total Enclosure (PTE)						√*						95			8,469	
Metal Coil & Can Coating	MACT Standard						√*						36%			1,000	
Metal Coil & Can Coating	Incineration						√*						90%			8,937	
Metal Coil & Can Coating	BAAQMD Rule 1 1 Amended						√*						42%			2,007	
Metal Furniture Surface Coating Operations	Permanent Total Enclosure (PTE)						√*						95			19,321	
Metal Furniture, Appliances, Parts	SCAQMD Limits						√*						55.2%			2,027	
Metal Furniture, Appliances, Parts	MACT Standard						√*						36%			1,000	
Miscellaneous Metal Products Coatings	MACT Standard						√*						36%			1,000	
Motor Vehicle Coating	Incineration						√*						90%			8,937	
Motor Vehicle Coating	MACT Standard						√*						36%			118	
Municipal Solid Waste Landfill	Gas Collection (SCAQMD/BAAQMD)						√*						70%			700	
Oil and Natural Gas Production	Equipment and Maintenance						√*						37%			317	
Oil and Natural Gas Production—Fugitive Emissions	SCAQMD Proposed Rule 1148.1 -Fugitive Emissions						√*						14%			2,483	
Open Top Degreasing	SCAQMD 1 122 (VOC content limit)						√*						76%			1,248	
Open Top Degreasing	Title III MACT Standard						√*						31%			-69	
Open Top Degreasing	Airtight Degreasing System						√*						98%			9,789	
Paper and other Web Coating Operations	Permanent Total Enclosure (PTE)						√*						95			1,503	

(continued)

Table E-1: Non-EGU Point and Area Control Measure Summary List by Source Category—Sorted alphabetically by Pollutant and Source Category (continued)

		Pollutant(s) Affected *√=pollutant reduction, X= pollutant increase, *=major pollutant*										*Control Efficiency (% reduction)*			*Average Annual Cost Effectiveness ($/ton primary pollutant in 1999 dollars)*		
Source Category	*Control Measure Name*	$PM_{2.5}$	PM_{10}	EC	OC	NO_x	VOC	$S0_2$	NH_3	CO	Hg	Low	Typical	High	Low	Typical	High
Paper Surface Coating	Incineration						√*						78%			4,776	
Pesticide Application	Reformulation - FIP Rule						√*						20%			9,300	
Portable Gasoline Containers	OTC Portable Gas Container Rule						√*						33%			581	
Product and Packaging Rotogravure and Screen Printing	Permanent Total Enclosure (PTE)						√*						95			12,770	
Publication Rotogravure Printing	Permanent Total Enclosure (PTE)						√*						95			2,422	
Rubber and Plastics Manufacturing	SCAQMD - Low VOC						√*						60%			1,020	
Stage II Service Stations	Low Pressure/Vacuum Relief Valve						√*						91.6%		930	1,080	1,230
Stage II Service Stations—Underground Tanks	Low Pressure/Vacuum Relief Valve						√*						73%		930	1,080	1,230
Traffic Markings	South Coast Phase III						√*						73%			1,059	
Traffic Markings	AIM Coating Federal Rule						√*						20%			228	
Traffic Markings	South Coast Phase 1						√*						34%		8,600	1,443	12,800
Traffic Markings	South Coast Phase II						√*						47%			4,017	
Wood Furniture Surface Coating	New CTG						√*						47%		462	967	22,100
Wood Furniture Surface Coating	Add-On Controls						√*					67%	75%	98%	468	20,000	22,100
Wood Furniture Surface Coating	MACT Standard						√*						30%			446	
Wood Product Surface Coating	Incineration						√*						86%			4,202	
Wood Product Surface Coating	SCAQMDRule1104						√*						53%			881	
Wood Product Surface Coating	MACT Standard						√*						30%			446	