Santa Barbara County
Air Pollution Control District

MEMORANDUM

TO: Community Advisory Council Members

FROM: Doug Grapple DG

DATE: November 28, 2012

SUBJECT: 2013 Clean Air Plan (CAP) Proposed Control Measures and Cost Effectiveness Data

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Enclosed please find preliminary data for the 2013 CAP Tables 4-1 and 4-2. The APCD plans to discuss these tables, the emission reductions, and the cost-effectiveness associated with the control measures at the December 12, 2012, Community Advisory Council meeting. Staff will also provide an overview of the procedures for determining the emission reductions and cost-effectiveness values and discuss ranges of cost effectiveness across air districts.

If there are questions or issues you would like to discuss beforehand, please call me at (805) 961-8883 or send an email to grappled@sbcapcd.org.

Attached:

1. Data for Table 4-1, Emission Control Measures Adopted or Scheduled for Adoption During the Reporting Period (2010-2012)
2. Data for Table 4-2, Proposed Emission Control Measures
3. Cost-Effectiveness Figures for Rule Development at Various Air Districts

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DATA FOR TABLE 4-1, EMISSION CONTROL MEASURES ADOPTED OR SCHEDULED FOR ADOPTION DURING THE REPORTING PERIOD (2010-2012)

Rule	Description	Scheduled Rule Adoption Date	Actual Rule Adoption Date	Pollutant	Cost-Effectiveness (Dollars per Ton of Emissions Reduced)	2010 CAP Expected Emission Reductions, Tons/Day (Tons/Year)[a]	Revised Emission Reductions, Tons/Day (Tons/Year)	
							2020	2030
321 (Revised)	Solvent Cleaning Machines and Solvent Cleaning	2007[b]	September 2010	ROC	-3,310 to 12,940	0.5261 (192.0187)	0.5186 (189.2970)	0.5186 (189.2970)
330 (Revised)	Surface Coating of Metal Parts and Products (Revisions to Include Solvent Cleaning Requirements) [a]	2010-2012	June 2012	ROC	-241 to 4,744	0.0212 (5.5146)	0.0238 (6.1918)	0.0238 (6.1918)
337 (Revised)	Surface Coating of Aircraft or Aerospace Vehicle Parts and Products (Revisions to Include Solvent Cleaning Requirements)	2010-2012	June 2012	ROC	0	0.0006 (0.1482)	0	0
342 (Revised)	Revisions to Reduce the NOx Limits to 15 ppmv at 3% Oxygen for Boilers, Steam Generators and Process Heaters Greater than or Equal to 5 MMBtu/hr	2010-2012	Not yet adopted	NOx	N/A[c]	0.0080 (2.9345)	N/A[c]	N/A[c]
349 (Revised)	Polyester Resin Operations (Revisions to Include Solvent Cleaning Requirements)	2010-2012	June 2012	ROC	-4,145 to 1,888	0.0058 (1.4964)	0 (0)	0 (0)
351 (Revised)	Coating of Wood Products (Revisions to Include Solvent Cleaning Requirements)	2010-2012	Not yet adopted	ROC	477 to 909	0.0019 (0.6936)	0.0025 (0.6526)	0.0025 (0.6526)

[a] The figures shown are for planning year 2020.
[b] Delayed from the schedule shown in the 2007 CAP.
[c] Not applicable because the control measure has been moved to further study.

DATA FOR TABLE 4-1, EMISSION CONTROL MEASURES ADOPTED OR SCHEDULED FOR ADOPTION DURING THE REPORTING PERIOD (2010-2012)

Rule	Description	Scheduled Rule Adoption Date	Actual Rule Adoption Date	Pollutant	Cost-Effectiveness (Dollars per Ton of Emissions Reduced)	2010 CAP Expected Emission Reductions, Tons/Day (Tons/Year)[a]	Revised Emission Reductions, Tons/Day (Tons/Year)	
							2020	2030
352 (Revised)	Residential Water Heaters; Residential and Commercial Space Heaters (Revision Reduced the NOx Limits on the Residential Water Heaters to 15 ppmv)	2013-2015	October 2011	NOx	2,979 to 9,292	0.0660 (24.0743)	0.0926[b] (33.8116)[b]	0.1260 (45.9810)
353 (Revised)	Adhesives and Sealants	2010-2012	June 2012	ROC	-194 to 3,036	0.0050 (1.8246)	0.0031 (1.1170)	0.0031 (1.1170)
354 (Revised)	Graphic Arts and Paper, Film Foil, and Fabric Coatings (Revisions to Rule 354 to Include Solvent Cleaning and Additional Requirements for Rotogravure, Flexographic, Lithographic, Letterpress, and Screen Printing)	2010-2012	Not yet adopted	ROC	1,002 to 3,130	0.0579 (21.1404)	0.0552 (20.1471)	0.0579 (21.1194)
					Totals for ROC.[c]	0.6184 (222.8366)	0.6032 (217.4055)	0.6059 (218.3778)
					Totals for NOx.[c]	0.0740 (27.0078)	0.0926 (33.8116)	0.1260 (45.9810)

[a] The figures shown are for planning year 2020.
[b] The Rule 352 figures are based on 80% rule implementation in planning year 2020.
[c] Totals may not appear to be correct due to rounding.

DATA FOR TABLE 4-2, PROPOSED EMISSION CONTROL MEASURES

Rule (Status)	CAP Control Measure ID	Description	Adoption Schedule	Cost-Effectiveness (Dollars per Ton of Emissions Reduced)	Emission Reductions in Tons per Day (Tons per Year) from the Control Measure[a]	
					ROC	NO_X
321 (Revised	R-SL-2	Solvent Cleaning Machines and Solvent Cleaning (Revisions to Lower ROC-Content Limits).	2013 - 2015	0	0.0249 (9.0925)	—
323 (Revised)	R-SC-1	Architectural Coatings (Revisions to Include Solvent Cleaning Requirements and any New or Modified State Suggested Control Measure Provisions).	2013 - 2015	536 to 6,059	0.1333 (48.6640)	—
351 (Revised)	R-SC-5	Surface Preparation and Coating of Wood Products (Revisions to Include Solvent Cleaning Requirements and to Incorporate any New or Modified State Suggested Control Measure Provisions).	2013 - 2015	477 to 909	0.0025 (0.6526)	—
354 (Revised)	R-SL-7	Graphic Arts and Paper, Film Foil, and Fabric Coatings (Revisions to Rule 354 to Include Solvent Cleaning and Additional Requirements for Rotogravure, Flexographic, Lithographic, Letterpress, and Screen Printing).	2016 - 2018	1,000 to 3,130	0.0552 (20.1471)	—
360 (Revised)	N-XC-2	Revisions to Reduce the NOx Limits to 20 ppmv at 3% Oxygen for Large Water Heaters and Small Boilers Rated 0.075 MMBtu/hr to 2 MMBtu/hr.	2013 - 2015	2,683 to 17,888	—	0.0168[b] (6.1282)[b]
325, 326, 343, & 344 (Revised)	R-PP-1, R-PT-1, and R-PT-2	Crude Oil Production and Separation and Storage of Reactive Organic Compound Liquids; Petroleum Tank Degassing; and Petroleum Sumps, Pits and Well Cellars (Add Solvent Cleaning Provisions (e.g., Solvent with 25 grams of ROC per liter or less, Cleaning Machines Need to Comply with Rule 321, etc.).	2016 - 2018	606	0.0394 (14.3767)	—

[a] With the exception of Rule 360, the figures shown are for planning year 2020 with 100% rule implementation. The Rule 360 figure is for planning year 2030 with 70% rule implementation.

[b] ERs are for CY 2030 with 70% rule implementation.

DATA FOR TABLE 4-2, PROPOSED EMISSION CONTROL MEASURES

Rule (Status)	CAP Control Measure ID	Description	Adoption Schedule	Cost-Effectiveness (Dollars per Ton of Emissions Reduced)	Emission Reductions in Tons per Day (Tons per Year) from the Control Measure[a]	
					ROC	NO_X
Totals for ROC.[b]				—	0.2533 (92.9329)	—
Totals for NOx.[b]				—	—	0.0168 (8.9386)

[a] With the exception of Rule 360, the figures shown are for planning year 2020 with 100% rule implementation. The Rule 360 figure is for planning year 2030 with 70% rule implementation.
[b] Totals may not appear to be correct due to rounding.

COST-EFFECTIVENESS FIGURES FOR RULE DEVELOPMENT AT VARIOUS AIR DISTRICTS

DISTRICT	COST EFFECTIVENESS	COMMENT
Bay Area	Informal policy	No Board adopted cost-effectiveness (C/E) policy. Current C/Es in rules adopted have been as high as $25,000-$30,000/ton. Board decides on a case-by-case basis, depending on source type. Contact: Julian Elliott
Mojave Desert	None	No Board-adopted C/E policy. According to a staff report for their Rule 1159 (Gas Turbines), control techniques with cost-effectiveness figures of $18,821/ton and greater were found to be not cost effective. Contact: Tracy Walters
Monterey	None	No Board-adopted C/E policy. They have been in attainment and they have not adopted any emission-control rules in about 12 years. Contact: Mike Sewell
Sacramento Metro	None	No Board adopted C/E policy. Over the past 15 years or so $2,240 to $39,600/ton has been the range of C/E for rules they have adopted. Contact: Marc Colley
San Diego	Informal policy of $12,000/ton maximum	No Board-adopted C/E policy. But staff realizes that their Board will not adopt rules with a C/E over $12,000/ton. Contact: Rob Reider
San Luis Obispo	Essentially none	No Board-adopted C/E policy. They have used C/Es developed for control measures in their 1991 state plan that have periodically been updated by the CPI – e.g., in 1991, commercial fuel combustion NOx ranges from $1700 to $11,000/ton. Contacts: Gary Willey and Gary Arcemont
Santa Barbara	None	No Board-adopted C/E policy. The highest C/E figure staff found was $36,000/ton of NOx reduced for Rule 342 adopted in 1992. The staff report indicated that many of the units could avoid the high costs by derating their boilers. Contact: Douglas Grapple
South Coast	Informal policy	Except for large sources (e.g., refineries) informal policy of not exceeding BACT C/E guidelines of $25,000/ton for NOx and $26,000/ton for ROG. Generally, for rules, the C/E for "non-large sources" has been $10,000 to $20,000/ton for VOC. Contact: Mike Morris
Ventura	$18,000/ton maximum	Board-adopted C/E policy. Contact: Chuck Thomas