

ENGINEERING EVALUATION (PUBLIC COPY)
Bemis Flexible Packaging - Milprint Div
Plant No. 20177
Banking Application No. 24574

BACKGROUND

Bemis Flexible Packaging - Milprint Div (Bemis) or Plant No. 20177 has applied for emission reduction credits (ERCs) corresponding to the permanent shutdown of the following equipment:

- S-17 #15 Extruder Laminator**
- S-18 #15 Laminator Oven**
- S-24 Line 15 Primer Station #2**
- S-25 Line 15 - 2nd Coater Dryer**
- S-26 Between Color and Tunnel Dryers**
- S-27 Flexographic Printing Press P6**
- S-28 Flexographic Printing Press - Dryer**
- S-29 Flexographic Press P8**
- S-30 Flexographic Printing Press P7 Dryer**
- A-2 Catalytic Oxidizer**
- A-3 Catalytic Oxidizer**
- A-4 Thermal Regenerative**

Bemis is a flexible packaging manufacturer that produced condiment packaging, lidding stock, and lettuce (or salad) bags. The manufacturing equipment at this site has been permanently shut down as of April 18, 2012. The operation and production at this site transferred to other Bemis sites located in Joplin, MO, Lancaster, WI, and Oshkosh, WI. Therefore, the ERCs from the permanent shutdown of S-17, S-18, S-24 through S-30, and A-2 through A-4 will not be replaced by any emission increase elsewhere within the District's jurisdiction.

The criteria pollutants for which Bemis has requested ERCs are nitrogen oxides (NO_x), carbon monoxide (CO), precursor organic compounds (POC), sulfur dioxide (SO₂), and particulate matter (PM). All of these pollutants are briefly discussed on the District's web site at www.baaqmd.gov.

This evaluation report will estimate the ERCs associated with the permanent shutdown of S-17, S-18, S-24 through S-30, and A-2 through A-4 at Bemis, and will discuss the compliance of the project with applicable rules and regulations.

EMISSION REDUCTION CREDITS SUMMARY

The District's ERC banking rule is Regulation 2, Rule 4. The emission calculation procedure in Section 2-4-601 refers to the emission calculation procedures in the New Source Review Rule, which is Regulation 2, Rule 2. For ERCs, the calculation procedure is described in Section 2-2-605.

This banking application was deemed complete in January 2013. However, because the data used to calculate the ERCs for this banking application are on a monthly basis, it is appropriate to start the baseline period from the beginning of January 2010. Therefore, the three-year baseline period for this banking application is 1/1/2010 through 12/31/2012.

The ERCs for this banking application are calculated as follows:

Solvent Sources (S-17, S-24, S-26, S-27, and S-29):

Bemis was a Synthetic Minor facility that was required to keep detailed recordkeeping of POC emissions to demonstrate that they were under the Major Facility emission thresholds. Bemis was required to record and calculate monthly POC emissions on a consecutive twelve-month basis. S-17 and S-24 are not fully offset sources. For these sources, Bemis has supplied the monthly POC emissions during the three-year baseline period in Appendix A. Appendix A also compares the monthly POC emissions with the data reported during annual updates.

S-26, S-27, and S-29 are fully offset sources. For these sources, which have emission caps (contained in Permit Condition No. 23913) that have been fully offset by the facility (without using emission reductions from the Small Facility Banking Account), the baseline throughputs and baseline emission rates will be based on the levels allowed by Permit Condition No. 23913.

The ERCs from the permanent shutdown of the solvent sources covered by this banking application are summarized in Table 1.

Table 1. Solvent ERCs from the permanent shutdown of S-17, S-24, S-26, S-27, and S-29

Source	Fully Offset?	Permit Limits on Non-Combustion Emissions (for fully offset sources only)	POC ERCs (TPY)
S-17	No	-	5.710 ¹
S-24	No	-	0.822
S-26	Yes for POC	39 TPY of POC	39.000
S-27	Yes for POC	28.33 TPY of total POC for S-27, S-29, and S-31	14.165 ²
S-29	Yes for POC	28.33 TPY of total POC for S-27, S-29, and S-31	14.165 ²
TOTAL			74.109

Notes:

1. Although Appendix A shows 5.957 TPY, the ERC will later be adjusted downward to 5.710 TPY, in order to comply with Regulation 8-20. The details of the adjustment can be found on page 4 of this evaluation report.
2. S-27, S-29, and S-31 were permitted as a group with an emission limit that was fully offset. Only S-27 and S-29 were installed, and the two presses were operating under the 28.33-TPY POC limit. S-31 was never installed or issued a Permit to Operate. Therefore, for each of S-27 and S-29, POC ERC will be 14.165 TPY (or half of the 28.33-TPY POC limit).

Combustion Equipment (S-18, S-25, S-26, S-28, S-30, and A-2 through A-4):

For purposes of ERC calculations, Bemis has provided the monthly natural gas fuel use data for all of the combustion equipment during the three-year baseline period in Appendix B.

As part of evaluation of a banking application, for purposes of verifying the data used to calculate ERCs, the District normally compares the data with those reported during annual updates. However, for these sources, because the data (i.e., facility-wide natural gas fuel use data) used to calculate ERCs could not be compared with those from annual updates, which asked for data at only some (and not all) combustion equipment, the District audited these data by comparing them with PG&E-issued natural gas purchase records for select months during the three-year baseline period.

For all of the combustion equipment covered by this banking application, the emission factors used to calculate the ERCs are as follows:

NOx:

According to Permit Condition No. 23913:

- For all combustion equipment except for A-4, NOx emission factor is 100 lb/MM scf (or 0.098 lb/MMBtu, using EPA-recommended average natural gas higher heating value of 1,020 Btu/scf), which is consistent with AP-42, Fifth Edition, Table 1.4-1.
- For A-4, NOx emission factor is 204 lb/MM scf (or 0.200 lb/MMBtu, using EPA-recommended average natural gas higher heating value of 1,020 Btu/scf).

CO, POC, PM₁₀, and SO₂:

Since Permit Condition No. 23913 does not specify any emission factors for CO, POC, PM₁₀, and SO₂, emission factors from AP-42, Fifth Edition, Tables 1.4-1 and 1.4-2 are used and summarized in Table 2.

Table 2. CO, POC, PM₁₀, and SO₂ emission factors from AP-42, Fifth Edition, Tables 1.4-1 and 1.4-2

Pollutant	AP-42 Emission Factor (lb/MM scf)	AP-42 Emission Factor (lb/MMBtu) ¹
CO	84	0.082
POC	5.5	0.0054
PM ₁₀ ²	7.6	0.0075
SO ₂	0.6	0.0006

Notes:

1. To convert from lb/MM cu ft to lb/MMBtu, divide by 1,020, per AP-42.
2. PM (Condensable) = 5.7 lb/MM cu ft, and PM (Filterable) = 1.9 lb/MM cu ft.

PM_{2.5}:

Per updated CEIDARS List with PM_{2.5} Fractions, PM_{2.5} fraction of PM₁₀ for gaseous fuel-fired external combustion equipment is 1.000. Therefore, PM_{2.5} emission factor is 7.6 lb/MM scf or 0.0075 lb/MMBtu.

The ERCs from the permanent shutdown of the combustion equipment covered by this banking application are calculated, using the data from Appendix B, and summarized in Table 3.

Table 3. Combustion ERCs from the permanent shutdown of S-18, S-25, S-26, S-28, S-30, and A-2 through A-4

Source	Rating (MM Btu /hr)	Natural Gas Use (% of facility wide natural gas use) ¹	Actual Natural Gas Use (MM Btu/yr) ¹	Natural Gas Use Limit (MM Btu/yr) ^{1,2}	Emission Factor (lb/MMBtu) ³						ERC (TPY) ^{4,5}					
					NOx	CO	POC	PM ₁₀	PM _{2.5}	SO ₂	NOx	CO	POC	PM ₁₀	PM _{2.5}	SO ₂
S-18	0.6	1.9	964	3,099	0.098	0.082	0.0054	0.0075	0.0075	0.0006	0.047	0.040	0.003	0.004	0.004	0.000
S-25	3	9.3	4,821	15,493	0.098	0.082	0.0054	0.0075	0.0075	0.0006	0.236	0.199	0.013	0.018	0.018	0.001
S-26	2.237	7.0	3,595	11,552	0.098	0.082	0.0054	0.0075	0.0075	0.0006	0.176	0.148	0.031	0.013	0.013	0.001
S-28	3.758	11.7	6,039	19,407	0.098	0.082	0.0054	0.0075	0.0075	0.0006	0.296	0.249	0.052	0.022	0.022	0.002
S-30	3.6	11.2	5,785	18,591	0.098	0.082	0.0054	0.0075	0.0075	0.0006	0.284	0.238	0.050	0.022	0.022	0.002
A-2	7.8	24.3	12,535	40,281	0.098	0.082	0.0054	0.0075	0.0075	0.0006	0.614	0.516	0.109	0.047	0.047	0.004
A-3	4.2	13.1	6,750	21,690	0.098	0.082	0.0054	0.0075	0.0075	0.0006	0.331	0.278	0.058	0.025	0.025	0.002
A-4	3	21.5	11,090	35,636	0.200	0.082	0.0054	0.0075	0.0075	0.0006	1.109	0.457	0.096	0.041	0.041	0.003
TOTAL		100.0	51,579	165,750							3.094	2.124	0.412	0.192	0.192	0.015

Notes:

1. Per Condition 23913, 21.5% of facility wide natural gas use is assumed to be used to fire A-4. The rest of natural gas use is scaled for the remaining sources and abatement devices by each device's rating.
2. Per Condition 23913, facility wide natural gas use is limited to 162.5 MM scf/yr or 165,750 MMBtu/yr (using EPA-recommended average natural gas higher heating value of 1,020 Btu/scf).
3. Emission factors are from AP-42, except for NOx for A-4, which is 204 lb/MM scf per item 35.2 of Condition 23913. The AP-42 NOx emission factor for all of the sources and abatement devices, except for A-4, is the same as the NOx emission factor specified in item 35.1 of Condition 23913.
4. For NOx, CO, PM₁₀, PM_{2.5}, and SO₂, ERC = (Actual Natural Gas Use) * (EF), because the sources are not fully offset with respect to these pollutants.
5. For POC: (i) ERC = (Actual Natural Gas Use) * (EF), for sources not fully offset (i.e., S-18 and S-25); and (ii) ERC = (Natural Gas Use Limit) * (EF), for sources fully offset with respect to POC (i.e., S-26, S-28, S-30, A-2, A-3, and A-4).

Regulation 2-2-605.5 requires adjustments of the baseline emission rate to comply with the most stringent of RACT, BARCT, and District rules and regulations in effect or contained in the most recently adopted Clean Air Plan (CAP). These adjustments are as follows:

Adjustment #1: Permit Limits

S-17, S-18, S-24 through S-30, and A-2 through A-4 were subject to Permit Condition No. 23913, which has the following limits:

- 12.3 TPY of POC emissions from S-24 and S-25.
- 39 TPY of POC emissions from S-26.
- 28.33 TPY of POC emissions from S-27, S-29, and S-31.
- 9.9 TPY of NOx emissions from all combustion equipment.
- 162.5 MM scf/yr of natural gas usage at all combustion equipment.

According to Tables 1 and 3:

- POC emissions from S-24 and S-25 are $0.822 \text{ TPY} + 0.013 \text{ TPY} = 0.835 \text{ TPY}$.
- POC emissions from S-26 are 39.000 TPY.
- POC emissions from S-27 and S-29 are $14.165 \text{ TPY} + 14.165 \text{ TPY} = 28.330 \text{ TPY}$.
- NOx emissions from all combustion equipment are 3.094 TPY.
- Natural gas usage at all combustion equipment does not exceed 165,750 MMBtu/yr (or 162.5 MM scf/yr, using EPA-recommended average natural gas higher heating value of 1,020 Btu/scf).

The emissions in Tables 1 and 3 are the same as or lower than the limits in Permit Condition No. 23913. In addition, District's databank shows that Bemis was never issued any Notices of Violation (NOVs) during the three-year baseline period. This means Bemis was in compliance with its permit limits during the baseline period of this banking application. Therefore, the baseline emissions from S-17, S-18, S-24 through S-30, and A-2 through A-4 do not need to be adjusted downward to comply with the limits set forth in Permit Condition No. 23913.

Adjustment #2: Current District's Rules and Regulations

S-17, S-24, S-26, S-27, and S-29 were subject to Regulation 8-20. Per Section 8-20-308, the limits for the flexographic ink and cleaning solvent do not apply when the owner/operator controls emissions of VOC to the atmosphere with an emission control system that meets the requirements of Regulation 2-1, and has a collection and control efficiency of at least 75% overall on a mass basis. No changes are being made to Section 8-20-308.

For S-17: Table A1 in Appendix A shows 75% control efficiency is not applied to the VOC emissions from the use of cleanup solvents at S-17. In order to comply with Section 8-20-308, Bemis has agreed to apply 75% control efficiency to the VOC emissions from the use of cleanup solvents at S-17. Appendix C shows the adjusted emissions at S-17.

For S-24: Bemis abated all VOC emissions from S-24 with A-2, A-3, and/or A-4, each of which was required to meet a 75% VOC capture and destruction efficiency. Therefore, the emissions from the source were in compliance with Section 8-20-308.

For S-26: Under Application No. 17637 (approved in 1997), the 39,000-TPY limit of POC emissions was established with a basis of 2.5-lb/gal VOC content for water-borne ink applications and 75% VOC capture and destruction efficiency for solvent-borne ink applications. This basis is consistent with the current applicable Regulation 8-20 standards (i.e., 2.5-lb/gal VOC content limit for flexographic ink on non-porous substrate per Section 8-20-302 and 75% VOC capture and destruction efficiency limit per Section 8-20-308). Therefore, the emissions from the source were in compliance with Sections 8-20-302 and 8-20-308.

For S-27 and S-29: Under Application No. 12013 (approved in 2006), the 28,330-TPY limit of POC emissions was established with a basis of 97% VOC capture and destruction

efficiency. Therefore, the emissions from the sources were in compliance with Section 8-20-308.

No further adjustment to the baseline emissions of VOC, or POC, is required.

S-18, S-25, the dryer at S-26, S-28, and S-30 were not subject to Regulation 9-7 because they were ovens used for drying, and this is in accordance with Section 9-7-110.6. Therefore, no adjustment to the baseline emissions is required.

Adjustment #3: Current Clean Air Plan

The most current Clean Air Plan (CAP) is the 2010 CAP. There are 18 stationary source control measures contained in the 2010 CAP, adopted on September 15, 2010. Operations of sources and abatement devices such as S-17, S-24, S-26, S-27, S-29, and A-2 through A-4 at Bemis are not included in the 2010 CAP. However, operations of sources such as S-18, S-25, the dryer at S-26, S-28, and S-30 are contained in the 2010 CAP under Stationary Source Measure (SSM) 13 for dryers, ovens, and kilns exempt from the requirements of Regulation 9-7.

SSM 13 recommends a rule similar to SCAQMD Rule 1147. However, per Dan Belik, an Air Quality Program Manager in District's Planning and Research Division, it is uncertain at the time this banking application is being evaluated as to whether or not the limits in SCAQMD Rule 1147 are applicable to dryers in the Bay Area because cost effectiveness has yet to be analyzed. In addition, per Mr. Belik, the District has yet to go through the rule development process for these dryers covered under SSM 13. Therefore, the baseline emissions from S-18, S-25, the dryer at S-26, S-28, and S-30 will not be adjusted downward to comply with SSM 13 of District's 2010 CAP.

ERCs for this banking application, which are calculated in Table 3 and Appendices A and C, are summarized as follows:

Table 4. Summary of Total ERCs from the permanent shutdown of S-17, S-18, S-24 through S-30, and A-2 through A-4

Source/Abatement Device No.	ERC (TPY)					
	NO _x	CO	POC	PM ₁₀ ¹	PM _{2.5} ¹	SO ₂
S-17	-	-	5.710	-	-	-
S-18	0.047	0.040	0.003	0.004	0.004	0.000
S-24	-	-	0.822	-	-	-
S-25	0.236	0.199	0.013	0.018	0.018	0.001
S-26	0.176	0.148	39.031	0.013	0.013	0.001
S-27	-	-	14.165	-	-	-
S-28	0.296	0.249	0.052	0.022	0.022	0.002
S-29	-	-	14.165	-	-	-
S-30	0.284	0.238	0.050	0.022	0.022	0.002
A-2	0.614	0.516	0.109	0.047	0.047	0.004
A-3	0.331	0.278	0.058	0.025	0.025	0.002
A-4	1.109	0.457	0.096	0.041	0.041	0.003
TOTAL	3.094	2.124	74.274	0.192	0.192	0.015

Note:

1. The PM₁₀ ERC total includes the PM_{2.5} listed here.

SMALL FACILITY BANK AND BANKING ACCOUNT

Bemis had not been the recipient of any offsets from the Small Facility Banking Account (SFBA). Therefore, no such emission offsets are required to be repaid to the SFBA as per Regulation 2-4-303.5.

STATEMENT OF COMPLIANCE

The ERCs are subject to and expected to comply with the standards of Regulation 2-4-302 for Bankable Reductions for Closures. Per Regulation 2-4-302.1, the ERCs from the permanent shutdown or closure of S-17, S-18, S-24 through S-30, and A-2 through A-4 are bankable because the emission reductions are permanent and will not be replaced by any emission increase elsewhere within the District. Per Regulation 2-4-302.2, issuance of a Banking Certificate for emission reductions resulting from the closure of S-17, S-18, S-24 through S-30, and A-2 through A-4 cancels the permits to operate the sources and abatement devices.

The ERC calculations were performed in accordance with the methodology outlined in Regulation 2-2-605. ERCs from the permanent shutdown of S-17, S-18, S-24 through S-30, and A-2 through A-4 were calculated based on the following information during the three-year baseline period from 1/1/2010 through 12/31/2012: (1) actual solvent use data for sources S-17 and S-24, (2) emission caps allowed by Permit Condition No. 23913 for fully offset sources S-26, S-27, and S-29, and (3) actual natural gas fuel use data for all combustion sources.

To comply with the requirements in Regulation 2-2-605.5, the bankable ERCs were compared with the most stringent of RACT, BARCT, and District rules and regulations in effect or contained in the most recently adopted Clean Air Plan. In order to comply with the limits set forth in Regulation 8-20, Bemis agreed to adjust the calculated VOC emissions from the use of cleanup solvents at S-17 downward by applying 75% control efficiency, when in actuality the VOC emissions were not abated. The bankable ERCs are in compliance with other applicable District rules and regulations. The bankable ERCs did not require adjustments to comply with the District's 2010 CAP. No further adjustments to the baseline emission rates are required.

Based on the data provided by Bemis, the ERCs are real, quantifiable, enforceable, and permanent as required by the definition of Emission Reduction Credit in Regulation 2-2-201.

The ERCs from the permanent shutdown of S-17, S-18, S-24 through S-30, and A-2 through A-4 exceed 40 tons/yr of POC, and the application is therefore subject to Publication, Public Comment and Inspection of Regulation 2-4-405.

The project is exempt from CEQA pursuant to Regulation 2-1-312.10. Bemis has completed and signed a BAAQMD Appendix H Environmental Information Form to ensure that the project has no potential for causing a significant adverse impact on the environment.

A toxics risk screening analysis is not required since there is no emission increase associated with the project.

PSD, Offsets, NSPS, and NESHAPS do not apply.

CONDITIONS

No conditions are required for this banking application. Conditions are commonly imposed on banking applications when an emission reduction is permanent at the source but it is unclear whether the reduction will be replaced by an emission increase elsewhere at the facility or within the District, or to ensure the permanency of the closure. Per Division policy, conditions are not necessarily needed in circumstances where the source, if operated in the future within the physical jurisdictional boundaries of the Bay Area Air Quality Management District, would be treated as a new source subject to New Source Review.

RECOMMENDATION

Staff recommends the District issue a 30-day public notice regarding the preliminary decision to approve the following ERCs for emission reductions that occurred at Bemis:

Pollutant:	ERC Amount (TPY):
NOx	3.094
CO	2.124
POC	74.274
PM ₁₀ ¹	0.192
PM _{2.5} ¹	0.192
SO ₂	0.015

¹Note: The PM₁₀ ERC total includes the PM_{2.5} listed here.

Mail the Banking Certificate to the owner:

Howard Hofmeister
Director, Environmental Affairs
Bemis Company
2200 Badger Avenue
Oshkosh, WI 54904

By: _____ Date: _____
Kevin Oei
Air Quality Engineer

Appendix A. Monthly POC Emissions at S-17 and S-24 from Bemis

Table A1. Monthly POC emissions at S-17 and S-24 from Bemis

Months	Pre-Abatement Emissions of POC (lbs)					Abated Emissions of POC (lbs)		
	From Solvent Based Coating (Primer) ¹	From Make Up Solvent ¹	From Clean Up Solvent ¹	S-17 ²	S-24 ³	S-17 ⁴	S-24 ⁵	
January-10	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	1,166	5	
February-10	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	1,380	78	
March-10	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	1,369	58	
April-10	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	825	0	
May-10	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	1,466	156	
June-10	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	1,005	41	
July-10	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	1,759	108	
August-10	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	2,392	411	
September-10	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	1,091	0	
October-10	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	1,546	284	
November-10	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	602	274	
December-10	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	997	593	
January-11	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	556	0	
February-11	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	785	127	
March-11	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	2,009	877	
April-11	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	770	0	
May-11	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	698	0	
June-11	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	841	33	
July-11	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	1,004	0	
August-11	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	2,169	766	
September-11	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	1,456	0	
October-11	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	2,349	522	
November-11	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	1,818	586	
December-11	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	1,311	0	
January-12	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	2,315	1,133	
February-12	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	700	0	
March-12	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	854	0	
April-12	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	506	0	
May-12	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	0	0	
June-12	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	0	0	
July-12	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	0	0	
August-12	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	0	0	
September-12	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	0	0	
October-12	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	0	0	
November-12	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	0	0	
December-12	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	0	0	
Annual	(lb/yr)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	11,913	2,018
Average	(TPY)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	(Trade secret info)	5.957	1.009

Notes:

1. Total POC emissions, pre-abatement, for both S-17 and S-24. Details of the monthly solvent throughputs and POC emission calculations by Bemis may be found in the application folder.
2. (Total Coating POC) + (Total Make Up Solvent POC) + (Total Clean Up Solvent POC) - (Pre-Abatement POC at S-24).
3. Details of the monthly solvent throughputs and POC emission calculations by Bemis may be found in the application folder.

4. $\{(Total\ Coating\ POC) + (Total\ Make\ Up\ Solvent\ POC)\} \times (1 - 75\%) + (Total\ Clean\ Up\ Solvent\ POC) - (Abated\ POC\ at\ S-24)$.
3. $(Pre-Abatement\ POC\ at\ S-24) \times (1 - 75\%)$.

Comparisons with Data Reported during Annual Updates:

During annual updates, Bemis reported the following abated emissions of POC:

- For a period from 11/1/2009 to 10/31/2010: 26,316 lbs for S-17 and 33 lbs for S-24.
- For a period from 11/1/2010 to 10/31/2011: 21,452 lbs for S-17. The District did not request any data for S-24.

Notes: The above emissions were calculated based on the throughput amounts reported during annual updates. Details of the calculations can be found in Tables A2 and A3.

Table A2. POC emissions at S-17 and S-24 based on annual updates data for period from 11/1/2009 to 10/31/2010

Source	Material	VOC Content (%)	VOC Density (lb/gal)	Compound Fraction in VOC (%)	Usage (gal/yr)	VOC Emissions, Unabated (lb/yr)	VOC Emissions, Unabated (TPY)	VOC Emissions, Abated (lb/yr)	VOC Emissions, Abated (TPY)
S-17	Primer	99.9	7	100	10,438	72,993	36.496	18,248	9.124
	Primer	57.5	7.5	100	2,274	9,807	4.903	2,452	1.226
	Cleanup	100	7.5	100	179	1,343	0.671	1,343	0.671
	Ethyl Acetate	100	7.5	100	2,274	17,055	8.528	4,264	2.132
	Polymerizing Cat	35	7.5	99.3	15	39	0.020	10	0.005
Grand Total						101,236	50.618	26,316	13.158
S-24	IPA	100	6.6	100	20	132	0.066	33	0.017
	Grand Total						132	0.066	33

Table A3. POC emissions at S-17 and S-24 based on annual updates data for period from 11/1/2010 to 10/31/2011

Source	Material	VOC Content (%)	VOC Density (lb/gal)	Compound Fraction in VOC (%)	Usage (gal/yr)	VOC Emissions (lb/yr)	VOC Emissions (TPY)	VOC Emissions, Abated (lb/yr)	VOC Emissions, Abated (TPY)
S-17	Primer	99.9	7	100	9,540	66,713	33.357	16,678	8.339
	Primer	57.5	7.5	100	454	1,958	0.979	489	0.245
	Cleanup	100	7.5	100	0	0	0.000	0	0.000
	Ethyl Acetate	100	7.5	100	2,285	17,138	8.569	4,284	2.142
	Polymerizing Cat	35	7.5	99.3	0	0	0.000	0	0.000
Grand Total						85,809	42.904	21,452	10.726
S-24	IPA	100	6.6	100	N/A	N/A	N/A	N/A	N/A
	Grand Total						N/A	N/A	N/A

According to the data from Table A1, the abated emissions of POC are as follows:

- For a period from 11/1/2009 to 10/31/2010: 17,742 lbs for S-17 and 1,757 lbs for S-24.
- For a period from 11/1/2010 to 10/31/2011: 14,237 lbs for S-17.

Note: Bemis also supplied the monthly POC emissions (abated) for calendar year 2009, which are not displayed in Table A1 but may be found in the application folder.

The data in Table A1 for S-17 are more conservative than those reported during annual updates, and will therefore be used as a basis for calculating ERCs for the source. The data in Table A1 for S-24, however, are less conservative than those reported during annual updates, and therefore need to be adjusted downward to be consistent with the annual updates data for the period from 11/1/2009 to 10/31/2010. This adjustment is shown in Table A4.

Table A4. Monthly abated emissions of POC at S-17 and S-24, after adjustment to be consistent with annual updates data

Months	Abated Emissions of POC (lbs)	
	S-17	S-24 ¹
January-10	1,166	0
February-10	1,380	1
March-10	1,369	1
April-10	825	0
May-10	1,466	3
June-10	1,005	1
July-10	1,759	2
August-10	2,392	8
September-10	1,091	0
October-10	1,546	5
November-10	602	274
December-10	997	593
January-11	556	0
February-11	785	127
March-11	2,009	877
April-11	770	0
May-11	698	0
June-11	841	33
July-11	1,004	0
August-11	2,169	766
September-11	1,456	0
October-11	2,349	522
November-11	1,818	586
December-11	1,311	0
January-12	2,315	1,133
February-12	700	0
March-12	854	0
April-12	506	0
May-12	0	0
June-12	0	0
July-12	0	0
August-12	0	0
September-12	0	0
October-12	0	0
November-12	0	0
December-12	0	0
Annual Average (lb/yr)	11,913	1,644
Annual Average (TPY)	5.957	0.822

Note:

1. To be consistent with the annual updates data, the data for period from 11/1/2009 to 10/31/2010 have been adjusted downward as follows: (Data in Table A1)*(33 lbs/1,757 lbs).

Appendix B. Monthly Natural Gas Fuel Use at All Combustion Equipment from Bemis

Table B1. Monthly natural gas fuel use data at all combustion equipment

Month	Natural Gas Use (therms)
January-10	44,949
February-10	65,387
March-10	54,880
April-10	53,951
May-10	53,706
June-10	43,570
July-10	47,756
August-10	52,350
September-10	51,331
October-10	51,409
November-10	47,240
December-10	48,518
January-11	70,487
February-11	71,630
March-11	65,822
April-11	66,208
May-11	65,268
June-11	57,225
July-11	58,654
August-11	62,550
September-11	51,763
October-11	48,316
November-11	66,294
December-11	51,735
January-12	63,448
February-12	75,295
March-12	57,641
April-12	-
May-12	-
June-12	-
July-12	-
August-12	-
September-12	-
October-12	-
November-12	-
December-12	-
36-Month Total (therms)	1,547,383
Annual Average (therms/yr)	515,794
Annual Average (MMBtu/yr)	51,579

Appendix C. Adjusted POC Emissions at S-17

Table C1. Adjusted POC emissions at S-17

Months		Abated Emissions of POC at S-17 (lbs) ¹
January-10		1,166
February-10		1,335
March-10		1,324
April-10		825
May-10		1,362
June-10		982
July-10		1,493
August-10		2,280
September-10		1,091
October-10		1,516
November-10		587
December-10		940
January-11		556
February-11		763
March-11		1,799
April-11		770
May-11		698
June-11		781
July-11		955
August-11		2,135
September-11		1,411
October-11		2,319
November-11		1,750
December-11		1,195
January-12		2,165
February-12		700
March-12		854
April-12		506
May-12		0
June-12		0
July-12		0
August-12		0
September-12		0
October-12		0
November-12		0
December-12		0
Annual Average	(lb/yr)	11,420
	(TPY)	5.710

Note:

1. $\{(Total\ Coating\ POC\ from\ Table\ A1) + (Total\ Make\ Up\ Solvent\ POC\ from\ Table\ A1) + (Total\ Clean\ Up\ Solvent\ POC\ from\ Table\ A1)\} \times (1 - 75\%) - (Abated\ POC\ at\ S-24\ from\ Table\ A1)$.