3M XL - PTE/ALLOWABLE

Potential to Emit based on real products at maximum capacity. This assumes the following changes through 1998 -- North Plant subject to Mag MACT, installs some new equipment and transitions one coater; South Plant modifies one coater.

North Plant					
	1995 Allowable	1996 Allowable	1997 Allowable	1998 Allowable	
	VOC Emissions	VOC Emissions	VOC Emissions	VOC Emissions	Basis
Coater	(tpy)	(tpy)	(tpy)	(tpy)	
22	1086	1086	1086	1086	Not modified. No MACT appl.
23	4802	240	240	240	Mag MACT in 1996, 95% control.
24	4340	217	217	217	Mag MACT in 1996, 95% control.
25	5255	263	263	263	Mag Mact in 1996, 95% control.
26	4989	260	260	260	Mag Mact in 1996, 95% control.
27	936	250	250	250	Mag Mact in 1996, 95% control.
28	936	58	58	58	Modified to make pharmaceuticals. Would've limited to actuals + 39 = 58. No 112(g) or MACT.
ST5	na	na	na	5	New in 1998 - no 112(g) or MACT. Low VOC coating satisfies NSPS and BACT.
ST6	na	na	na	13	same as ST5 above.
LM3	na	140	140	140	New in 1996 - total enclosure with 95% TO satisfies BACT, NSPS, and 112(g).
Other	664	70	70	70	Mag Mact in 1996, 95% control plus some small sources not requiring review or MACT.
Total	**23008**	**2584**	**2584**	**2602**	
North					

South Plant					
	1995 Allowable	1996 Allowable	1997 Allowable	1998 Allowable	
	VOC Emissions	VOC Emissions	VOC Emissions	VOC Emissions	Basis
Coater	(tpy)	(tpy)	(tpy)	(tpy)	
1 (1L)	3483	3483	3483	3483	Not modified. No MACT appl.
2 (2L)	4596	4596	4596	4596	Not modified. No MACT appl.
3 (3L)	863	863	863	70	Modified in 1998. 92% TO satisfies PSTL NSPS, and BACT.
4 (5L)	1371	1371	1371	1371	Not modified. No MACT appl.
5 (6L)	220	220	220	220	Not modified. No MACT appl.
Others	448	440	440	440	Adjusted for production + some removal of equipment
Total	**10981**	**10973**	**10973**	**10180**	
South					
Total	**33989**	**13557**	**13557**	**12782**	
Facility					

All numbers are fictitious.

7/24/96

3M XL - WHAT WOULD'VE OCCURRED

Analysis 1 - Actual emissions compared to what "actually" would've occurred absent XL.

Using criteria in EPA comments -- e.g., assumes that voluntary controls continue to be operated and typical control efficiencies are used instead of "allowable".

North Plant						
	1995 Actual	1996 Actual	1997 Actual	1998 Actual	What "Would Have"	Basis for what
	VOC Emissions	VOC Emissions	VOC Emissions	VOC Emissions	Occurred in 1998	"Would Have" occurred
Coater	(tpy)	(tpy)	(tpy)	(tpy)	Absent XL (tpy)	
22	90	93	95	99	394	under XL, effectively capped at 99.
23	82	84	82	80	149	MACT only would require 95%, operating margin would be 96% vs 97.8%
24	64	68	71	69	141	MACT only would require 95%, operating margin would be 96% vs 98%
25	87	91	94	97	162	MACT only would require 95%, operating margin would be 96% vs 97.6%
26	77	81	80	85	155	MACT only would require 95%, operating margin would be 96% vs 97.8%
27	12	25	60	83	151	MACT only would require 95%, operating margin would be 96% vs 97.8%
28	9	8	8	5	8	Will operate TO at 97% to leave room, operating margin would've been 95.5%
ST5	na	na	na	5	5	no difference
ST6	na	na	na	13	13	no difference
LM3	na	80	90	100	129	Will operate TO at 96.5% to leave room, operating margin would've been 95.5%
Other	460	300	280	200	70	Will control only top emitters and new small lines vs. all MACT sources.
Total	**881**	**830**	**860**	**836**	**1377**	
North						

			3M XL - WHAT WOULD'VE OCCURRED			
South Plant						
	1995 Actual	1996 Actual	1997 Actual	1998 Actual	What "Would Have"	Basis for what
	VOC Emissions	VOC Emissions	VOC Emissions	VOC Emissions	Occurred in 1998	"Would Have" occurred
Coater	(tpy)	(tpy)	(tpy)	(tpy)	Absent XL (tpy)	
1 (1L)	380	425	475	560	560	no difference
2 (2L)	230	260	325	420	420	no difference
3 (3L)	75	84	120	36	39	NSPS would require 92%, operating
						margin would be 92.5% vs 93%
4 (5L)	500	540	610	630	630	no difference
5 (6L)	43	52	90	130	122	Under XL vent w/o control occasionally
Others	198	220	200	150	265	Will add control to compounding due to
						XL savings.
Total	1426	1581	1820	1926	2036	
South						
Total	2307	2411	2680	2762	3413	
Facility						
All numbers are fictitious.						

3M XL - WHAT COULD'VE OCCURRED

Analysis 2 - Actual emissions compared to what could have occurred absent XL

This example uses the production data from the 1998 and multiplies by the allowable emission rate/required controls. This analysis assumes the voluntary controls could be turned off. Control efficiencies with an operating margin are used (e.g., MACT requires 95% - 3M would operate at approx. 96%).

North Plant						
	1995 Actual	1996 Actual	1997 Actual	1998 Actual	What Could Have	Basis for
	VOC Emissions	VOC Emissions	VOC Emissions	VOC Emissions	Occurred in 1998	"Could Have" Actuals
Coater	(tpy)	(tpy)	(tpy)	(tpy)	Absent XL (tpy)	
22	90	93	95	99	394	under XL, effectively capped at 99.
23	82	84	82	80	149	MACT only would require 95%, operating margin would be 96% vs 97.8%
24	64	68	71	69	141	MACT only would require 95%, operating margin would be 96% vs 98%
25	87	91	94	97	162	MACT only would require 95%, operating margin would be 96% vs 97.6%
26	77	81	80	85	155	MACT only would require 95%, operating margin would be 96% vs 97.8%
27	12	25	60	83	151	MACT only would require 95%, operating margin would be 96% vs 97.8%
28	9	8	8	5	8	Will operate TO at 97% to leave room, operating margin would've been 95.5%
ST5	na	na	na	5	5	no difference
ST6	na	na	na	13	13	no difference
LM3	na	80	90	100	129	Will operate TO at 96.5% to leave room, operating margin would've been 95.5%
Other	460	300	280	200	70	Will control only top emitters and new small lines vs. all MACT sources.
Total	**881**	**830**	**860**	**836**	**1377**	
North						

3M XL - WHAT COULD'VE OCCURRED

South Plant Coater	1995 Actual VOC Emissions (tpy)	1996 Actual VOC Emissions (tpy)	1997 Actual VOC Emissions (tpy)	1998 Actual VOC Emissions (tpy)	What Could Have Occurred in 1998 Absent XL (tpy)	Basis for "Could Have" Actuals
1 (1L)	380	425	475	560	1783	no control required
2 (2L)	230	260	325	420	2138	no control required
3 (3L)	75	84	120	36	39	NSPS would require 92%, operating margin would be 92.5% vs 93%
4 (5L)	500	540	610	630	646	Control required per 1992 permit (w/operating margin) is applied.
5 (6L)	43	52	90	130	122	Under XL vent w/o control occasionally
Others	198	220	200	150	265	Will add control to compounding due to XL savings.
Total South	**1426**	**1581**	**1820**	**1926**	**4993**	
Total Facility	**2307**	**2411**	**2680**	**2762**	**6370**	