# POWC MACT Example Case Study Susan J. Miller Clayton Group Services 104 Towerview Court Cary, North Carolina 27513 smiller@claytongrp.com (919) 468-0135

## Approach Discuss some overall "truths" Look at a basic example

### IF: Your average coating content is less than: • 0.8 kg HAP / kg coating OR • 4.0 kg HAP/ kg solids



### Truth #1 (concluded) THEN: The 95 percent option is ALWAYS more stringent than complying with the respective content limits through a combination of controls and content.

### Truth #2

- **IF**: Your average solids content is **greater than** 20 percent...
- THEN: 0.2 kg HAP / kg solids is ALWAYS the less stringent content option.

### Truth #3

- **IF**: your average solids content is <u>less than</u> 20 percent...
- THEN: 0.04 kg HAP/ kg coating is ALWAYS the less stringent content option.



### And Finally...

- IF your average solids content equals 20 percent
- THEN both contentbased options are equal.

### One last overall truth...

Many facilities will have trouble demonstrating that they have a PTE.

[This may be okay.]

You do not have to demonstrate a capture efficiency (if using solvent recovery)

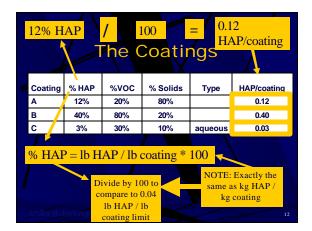
### Case Study 1-Background

- Facility XYZ has current HAP emissions of over 25 tons/year.
- Facility has 1 line, using three different coatings

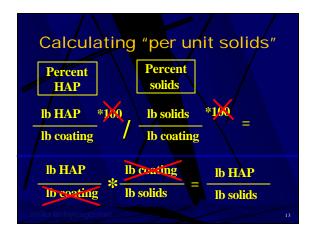


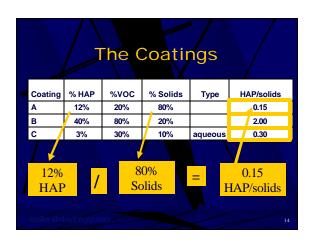
# Some caveats Example uses 3 coatings Facilities will likely have more Contents are not real coatings Providing entire coating, not components Only using 3 months of data Ignoring solvent recovery or other control

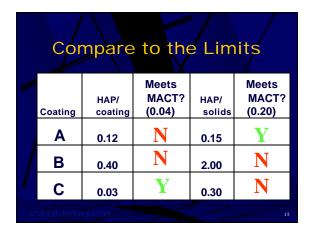
# Where does coating information come from? Material Safety Data Sheets Other source: certified product data sheet Data Hierarchy Method 311 (HAP) Method 24 (VOC, solids) Formulation data



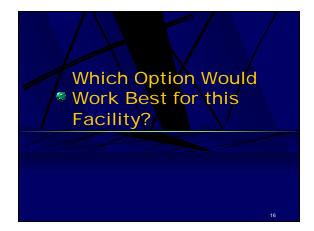








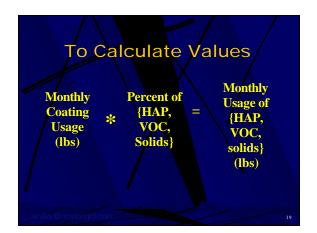




### Things to Consider How much of each coating will be used? Is averaging an option? Definitely! Actually the only option (other than material substitution)

### 3 Months of Data Material Code Usage (lb) Line Month Jan-02 600 В 250 Jan-02 Jan-02 300 1000 Feb-02 Feb-02 1 В 90 С 800 Feb-02 Mar-02 1000 Mar-02 В 400 600 Mar-02





		3 Mc	onths	of Da	ata	
	Month	Material Code	Usage (lb)	Lb HAP	Lb VOC	Lb Solids
	Jan-02	Α	, 600	72	120	480
- 1	Jan-02	В	250	100	200	50
	Jan-02	c /	300	9	90	30
	Feb-02	A/	1000	120	200	800
	Feb-02	B	90	36	72	18
	Feb-02	/c	900	?4	240	80
	Mar-02	<u> </u>	HAP	content 20	T 1	800
	Usag	e B C	for A	(Slide 50	\_t	of 80
	of A		Lance Control of the	- 4	_ H.	AP 60
	OI A	X	14	4)		
	[600]			%]	[7	<sup>'2</sup> ]

	Lb HAP/ Lb Coating										
							0.04	0.2			
	Month	Mat'l	Usage (lb)	Lb HAP	Lb VOC	Lb Solids	lb HAP/lb Coating	lb HAP/ lb solids			
	Jan-02	Α	600	, 72	120	480	0.12	0.15			
- )	Jan-02	В	250	100	200	50	0.40	2.00			
	Jan-02	C	300	9	90	30	0.03	0.30			
	Feb-02	Α	1000	120	200	800	0.12	0.15			
	Feb-02	B/	90	36	72	18	0.40	2.00			
	Feb-02	<b>X</b>	800	24	240	80	O Lb o	of HAP			
	Lb of HAP		0 0	Lb of	Coati	8 <u>00</u> ing 30 30	0 *	r lb of pating			
- 5	[72]	np.	/		600]			0.12]			



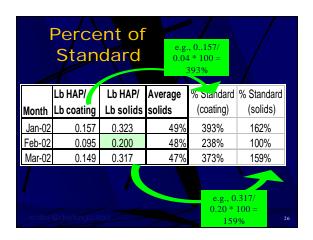
		Lk	HA	AP/	Lb	So	lids	
							0.04	0.2
	Month	Mat'l	Usage (lb)	Lb HAP	Lb VOC	Lb Solids	lb HAP/lb Coating	lb HAP/ lb solids
	Jan-02	Α	600	, 72	120	, 480	0.12	<b>▲</b> 0.15
\ \	Jan-02	В	250	100	200	50	0.40	2.00
	Jan-02	C	300	9	90	30	0.03	0.30
	Feb-02	Α	1000	120	200	800	0.12	0.15
	Feb-02	B/	90	36	72	18	0.40	2.00
	Feb-02	Ľ	800	24	240	80	<u> </u>	of HAP
	Lb of HAP		1000	Lbo	f Solice 480]	800 ds 30	0 *	lb of olids
	[72]	np.					[(	).15]

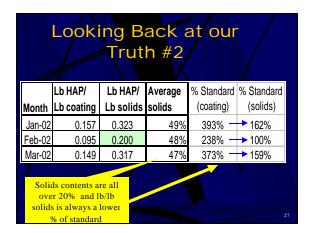
	San	ne	Re	sul	ts	as :	Slide	15
							0.04	0.2
	Month	Mat'l	Usage (lb)	Lb HAP	Lb VOC	Lb Solids	Ib HAP/Ib Coating	lb HAP/ lb solids
	Jan-02	Α	600	72	120	480	0.12 N	0.15 X
	Jan-02	В	250	100	200	50	0.40 N	2.00
	Jan-02	C	300	9	90	30	0.03	0.30
	Feb-02	Α	1000	120	200	800	0.12	0.15
	Feb-02	В	90	36	72	18	0.40	2.00
	Feb-02	C	800	24	240	80	0.03	0.30
	Mar-02	Α	1000	120	200	800	0.12	0.15
•	Mar-02	В	400	160	320	80	0.40	2.00
	Mar-02	С	600	18	180	60	0.03	0.30
								23

Summing All Coatings by Month										
	Month Mat'l		Usage	•		Lb VOC	Lb Solids			
	Jan-02	Α	600		72	120	480	1		
	Jan-02	В	250	ľ	100	200	50	Ł.		
	Jan-02	C	300	L	9	90	30	A .		
						\ \				
	Total	7								
Month	Coating	/  1	Total H	Р	To	al VOC	Tota	al solids		
Jan-02	1150		181		V	410		560 <sup>*</sup>		
Feb-02	1890		180			512		898		
Mar-02	2000		298			700		940		



Comparing to MACT Limits											
Month	Total Coating	Total HAP	Total VOC	Total solids	Lb HAP/ Lb coating	Lb HAP/ Lb solids					
Jan-02	1150	181	410	560	0.157	0.323					
Feb-02	1890	180	512	898	0.095	0.200					
Mar-02	2000	298	700	940	0115	0.317					
smiler	-			in compraged to		2:					







# What would you do next? Consider ability to adjust coating usage Different coatings Different relative amounts Consider solvent recovery [Even a little can be a lot!]

### To Wrap Things Up There are multiple compliance options under this rule The "best" depends on many factors Need to evaluate specific operations

