



Par1113 Working Group Meeting

MARCH 25, 2015



OVERVIEW

2012 AQMP CTS-01 includes 2-4 tpd VOC reductions

- Alternative fee structure or *25 g/L VOC limit flats, non-flats, PSU*
- *Restrictions on Small Container Exemption* to address rule circumvention
- Transfer Efficiency – *best practices guideline for spray applying architectural coatings*

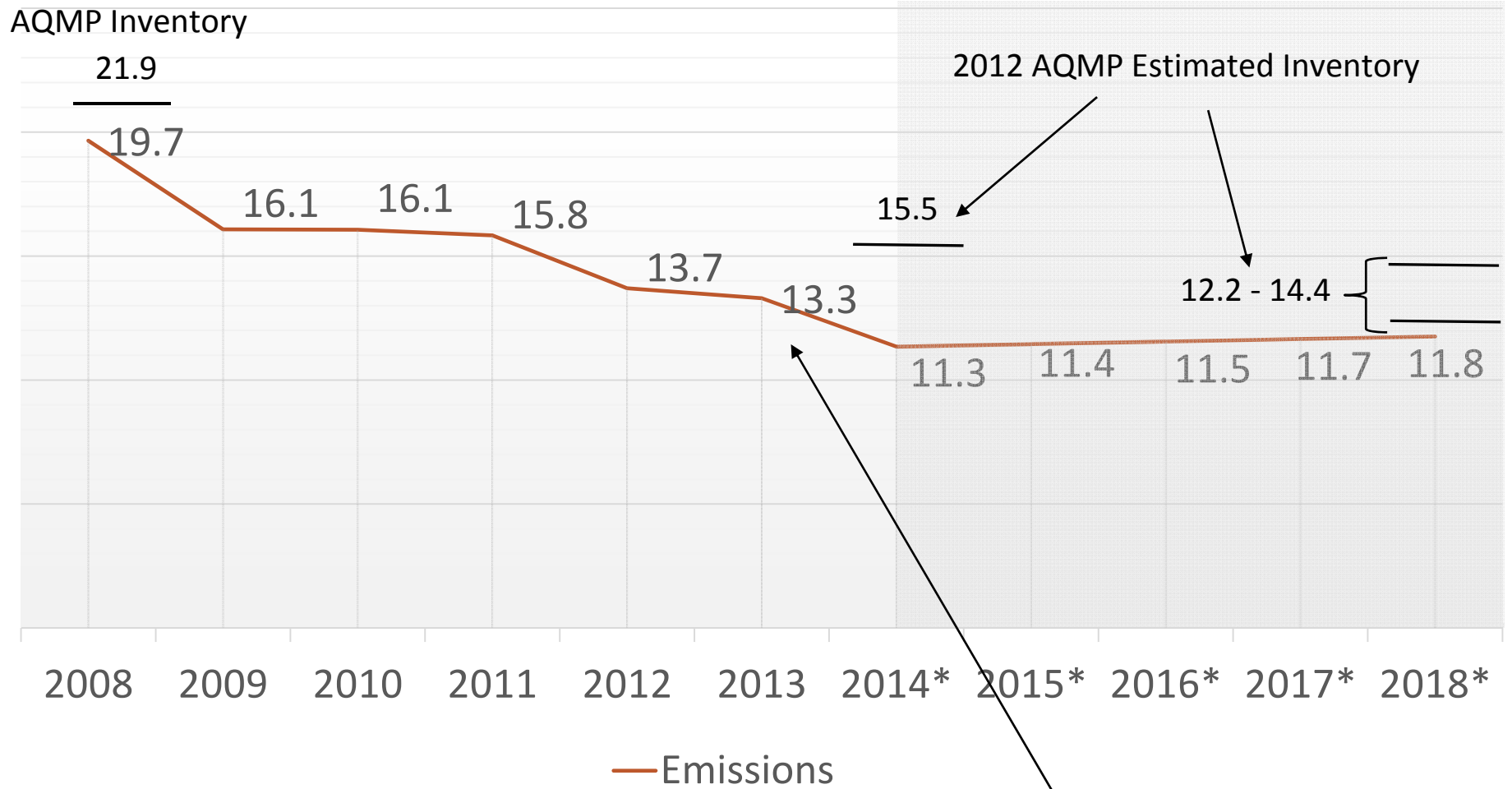
Rule Cleanup



Comments and Responses

Inventory Concept

Rule 314 Emissions Summary (tons/day)



Why Rule amendment/Emission Reductions are Necessary?

INDUSTRY

In general, reductions should be found from other industries.

SCAQMD

Architectural coatings remain one of the largest non-mobile sources of VOC emissions in the SCAQMD. Achievable reductions should be made where possible. Potential rule circumvention should be addressed wherever possible.

Inventory Concept

INDUSTRY

Inventory concept – taking ‘credit’ for reductions that have been demonstrated through Rule 314 reporting

District should wait for draft 2014 Rule 314 data

SCAQMD

Rule 314 data will be used in the 2016 AQMP as the new baseline. The lower emissions will be reflected, but are not enforceable or permanent reductions.

Staff agrees, 2014 data will demonstrate if the current trends (increased volumes/decreased emissions) continue, though audited data is necessary to validate those trends

Proposed Fee Structure
in lieu of 25 g/L Limit for flat,
non-flat, & PSU

Current Fee Rate for all Coatings

Example Fee Structure

- Fee structure to further encourage sales of low-VOC products
- Revenue neutral
- Example For discussion purposes only
- Staff will review alternatives

VOC of Coating (g/L)	Sales Fee (per gallon)	Emission Fee (per ton)
<10*	\$ 0	\$ 0
10 - 24.99	\$ 0.009	\$ 260.54
25 - 49.99	\$ 0.039	\$ 260.54
50 - 99.99	\$ 0.049	\$ 260.54
100 - 274.99	\$ 0.059	\$ 260.54
>275	\$ 0.39	\$ 260.54

* Approximate current ≤ 5 g/L VOC of material exemption

Fee Structure

INDUSTRY

Amended Fee would impact manufacturers that manufacture higher-VOC specialty coatings

Current fee structure is sufficient, 2012 AQMP goals have been met

SCAQMD

In general, specialty coatings are more expensive and labor cost far out weigh the cost of the material. Staff would like examples of these products to evaluate the impact of the suggested fee structure.

Current reductions are not permanent or enforceable, unlike the original proposal of 25 g/L for flat, non-flats and PSU. Proposed alternative based on industry feedback.

Fee Structure

INDUSTRY

If District changes the fee structure, only change it for flat, non-flat and primer sealer undercoaters.

SCAQMD

This approach would not discourage manufacturers from selling higher-VOC products as a business model in the SCAQMD, a practice that is not conducive to improved air quality. This also would not be a revenue neutral approach.

District can revert back to 25g/L VOC limit from control measure.

2013 Sales and Product count

Number of Products

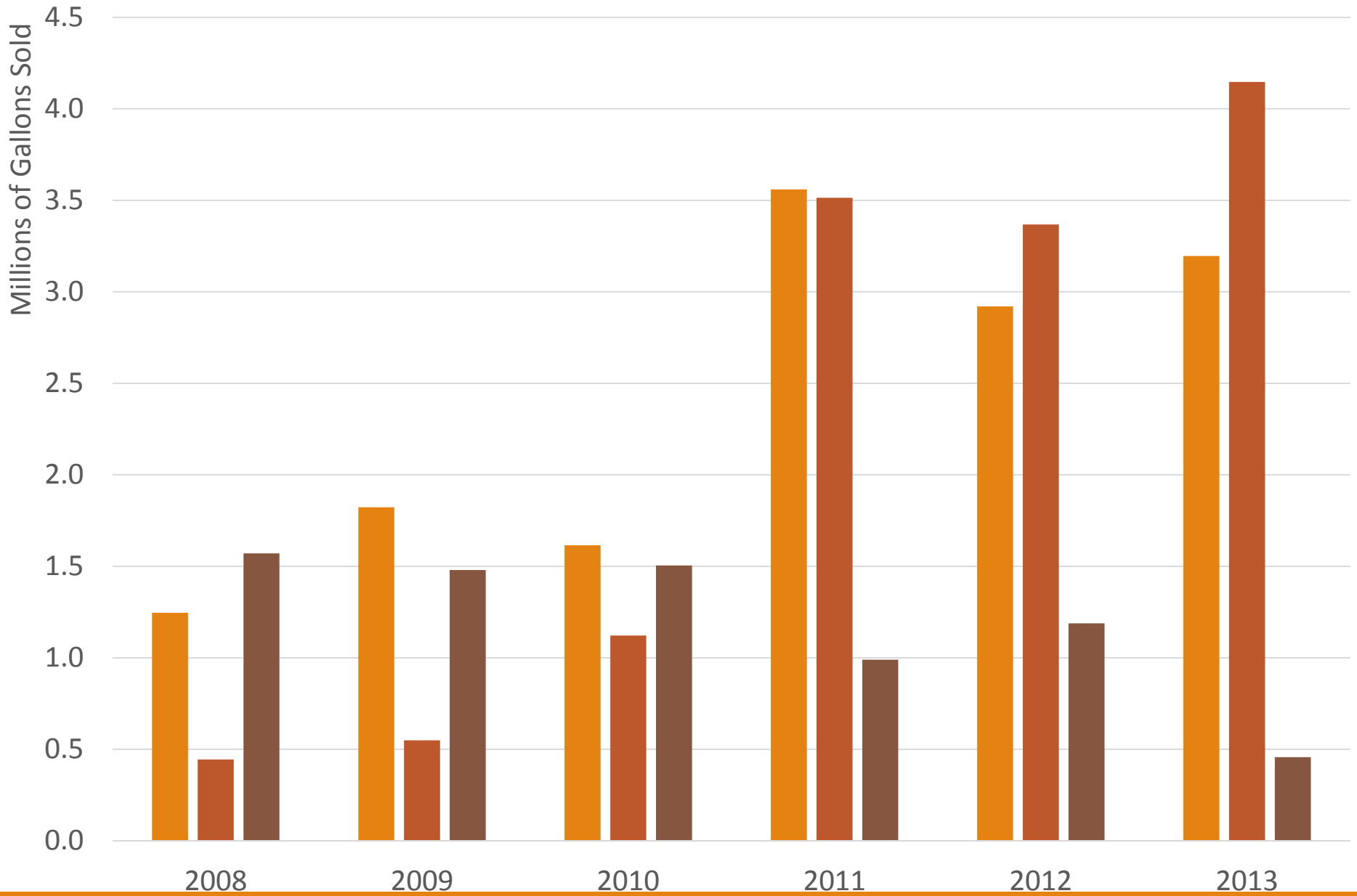
	All Products				≤ 25 g/L			
	Total	Interior	Exterior	Dual	Total	Interior	Exterior	Dual
Flat	2,268	1,165	691	412	573 (25%)	440 (38%)	74 (11%)	59 (14%)
Non-Flat	3,243	1,661	796	786	643 (20%)	500 (30%)	25 (3%)	118 (15%)
PSU*	838	306	167	365	195 (23%)	72 (24%)	28 (17%)	95 (26%)

Sales Volumes (gallons)

	All Products				≤ 25 g/L			
	Total	Interior	Exterior	Dual	Total	Interior	Exterior	Dual
Flat	11,411,136	6,145,642	4,551,943	713,552	3,195,692 (28%)	2,958,800 (48%)	112,410 (2%)	124,483 (17%)
Non-Flat	12,182,540	8,234,218	2,063,236	1,885,086	4,146,513 (34%)	3,595,235 (44%)	152,550 (7%)	398,727 (21%)
PSU*	3,271,648	1,615,106	222,537	1,434,005	457,081 (14%)	219,227 (14%)	4,427 (2%)	233,427 (16%)

* Includes coatings reported as PSU and QD-PSU (not specialty primers)

Flats, Non-Flat, & PSU ≤ 25 g/L



Flat Non-Flat PSU

Fee Structure

INDUSTRY

The fee structure should be used to protect the air as well as the applicator by penalizing coatings that utilize exempt compounds.

Fee structures should penalize high-VOC coatings sold under the SCE.

SCAQMD

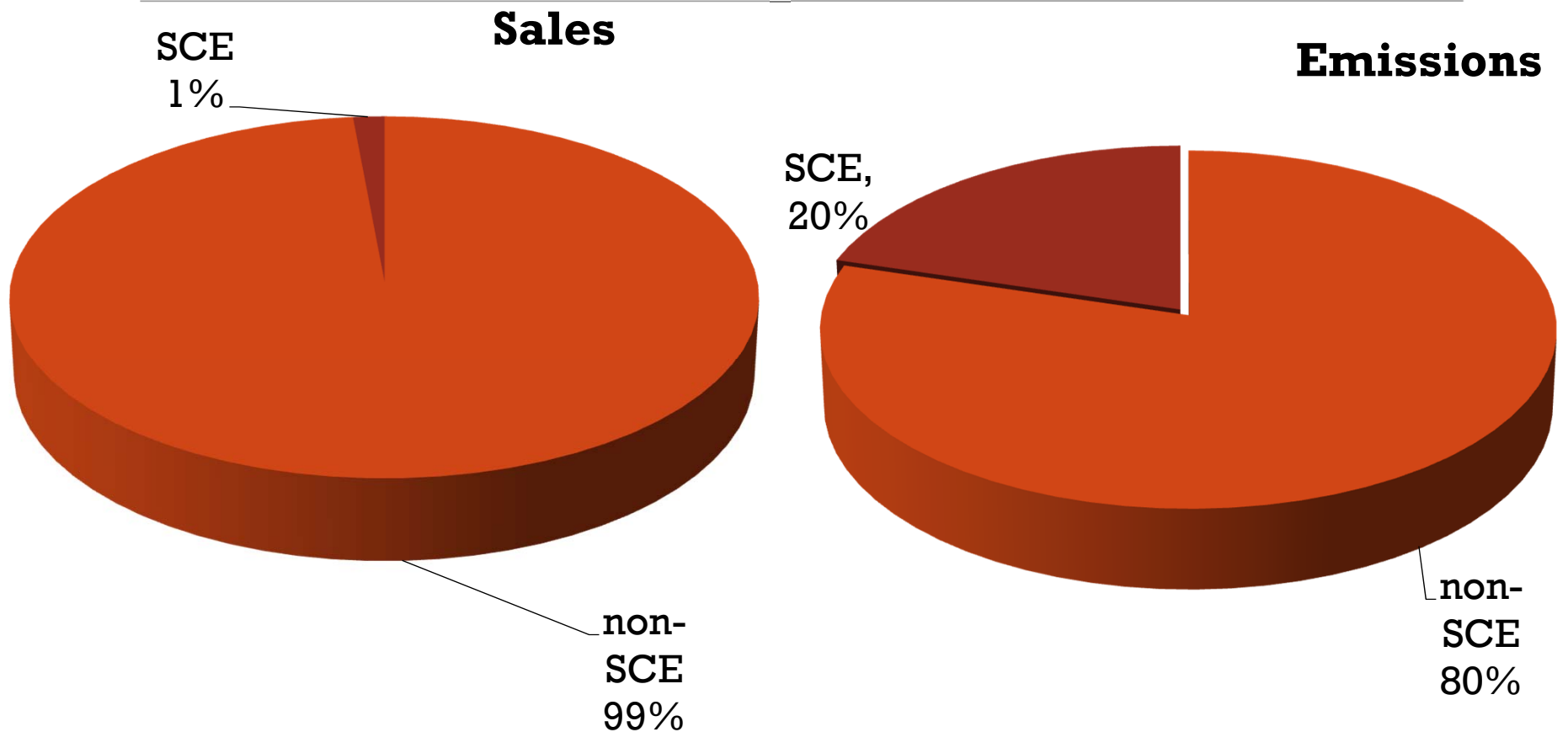
The reporting program does not gather information on the solvent types (e.g. exempt versus non-exempt solvents), but a fee structure with higher fees for solvent based coatings is feasible.

This approach is feasible (higher fee for any coating sold above the VOC limit) and could serve to disincentivize the sale of older, cheaper, high-VOC technologies resulting in a more competitive price for the lower-VOC products.

Small Container Exemption

Coating sold in one-liter or smaller containers above the VOC limit

Small Container Exemption (SCE)



Small Container Exemption (SCE)

INDUSTRY

There is no need to eliminate the small container exemption (SCE) for non-flat or flat coatings.

If the SCE is eliminated for non-flats, a door and trim category must be established.

SCAQMD

Compliant products exist in every category. The SCE is only needed for small niche uses and touch up but is often used to circumvent the VOC limits (e.g. rust preventative coatings). Staff intends to address this by restricting certain categories but will consider breaking out areas where it can be demonstrated that a need for a higher-VOC limit exists.

SCE Industrial Maintenance

INDUSTRY

The SCE is needed for IM coatings to touch up coatings that have been shop applied.

SCAQMD

Staff has acknowledged that touch up can result in lower emissions than a full re-paint. Staff will consider language to restrict IM usage in small containers for touch up only.

SCE Rust Preventative

INDUSTRY

The higher-VOC Rust Preventative Coatings are critical

SCAQMD

Staff feels that rule circumvention is a major issue for rust preventative coatings. There are new technologies that work as well as if not better than the older technologies. Four quarts of higher-VOC rust preventative coating containers typically sell at a lower price than lower-VOC products sold in a one-gallon container.

SCE Circumvention

INDUSTRY

The exemption was to leave open a way to use small quantities of non-complaint coatings where compliant coatings do not work. It does not work, large quantities are used on big jobs.

New resin chemistries have come to market that outperform older resins. The hardships expressed about eliminating the SCE are not the reality.

SCAQMD

Staff agrees.

Staff agrees.

Categories & Definitions

Form/Mold Release

INDUSTRY

Keep concrete mold release and form release in Rule 1113 because of differences in shop and field usage.

SCAQMD

Staff will remove form release compounds and add mold release compounds to the new rule being developed, Rule 1161.

Field use versus shop use can be addressed in that rule as can the test method issues.

GLAZES, which are coatings designed for:

(A) Wet-in-wet techniques, where a wet coating is applied over another wet coating ~~used~~ to create artistic effects, including simulated marble or wood grain, or

(B) Wet-in-dry techniques, where a wet coating is applied over specially prepared pre-painted substrates or base coats and may be subsequently treated with various tools, such as a brush, rag or sponge, during the drying period to create effects such as but not limited to dirt, old age, smoke damage, simulated marble and wood grain finishes, decorative patterns, or color blending, and wet edge techniques.

Wood Coatings

INDUSTRY

Suggests adopting CARBs wood coating definition (see next slide).

SCAQMD

Staff is evaluating the possibility of using a modified version of the CARB definition.

Wood Coatings: Coatings labeled and formulated for application to wood substrates only. The Wood Coatings category includes the following clear and semitransparent coatings: lacquers; varnishes; sanding sealers; penetrating oils; clear stains; wood conditioners used as undercoats; and wood sealers used as topcoats. The Wood Coatings category also includes the following opaque wood coatings: opaque lacquers; and opaque sanding sealers; ~~and opaque lacquer undercoaters~~. *The Wood Coatings category does not include the following: clear sealers that are labeled and formulated for use on concrete/masonry surfaces; or coatings intended for substrates other than wood.*

BUILDING ENVELOPE COATINGS are coatings labeled and formulated to provide air barrier materials which have an air permeance not to exceed 0.004 cubic feet per minute per square foot under a pressure differential of 1.57 pounds per square foot (0.004 cfm/ft² @ 1.57 psf), [0.02 liters per square meter per second under a pressure differential of 75 Pa (0.02 L/(s•m²) @ 75 Pa)] when tested in accordance with ASTM E2178; and/or a coating labeled and formulated to resist liquid water that has penetrated a cladding system. Water resistance shall be tested in accordance with ASTM E331. Water vapor permeance shall be tested in accordance with ASTM E96/E96M-10. **Building Envelope Coatings which form continuous films are regulated under Rule 1113.**

Reactive Penetrating Sealers

INDUSTRY

Suggests utilizing the Caltrans proposal of 60% water vapor transmission

SCAQMD

Staff's proposed definition was based on feedback from Caltrans after they conducted extensive testing.

Colorants

INDUSTRY

Emissions should be further evaluated but wait to propose changes in Rule 314 until after CARB survey.

Require three years to comply with proposed labeling changes (VOC and date code information).

SCAQMD

Staff will likely wait until CARB survey is complete but might add colorants if Rule 314 is amended at this time.

Due to the lower sales volume, staff feels that three years is not necessary.

Low Solids Coatings

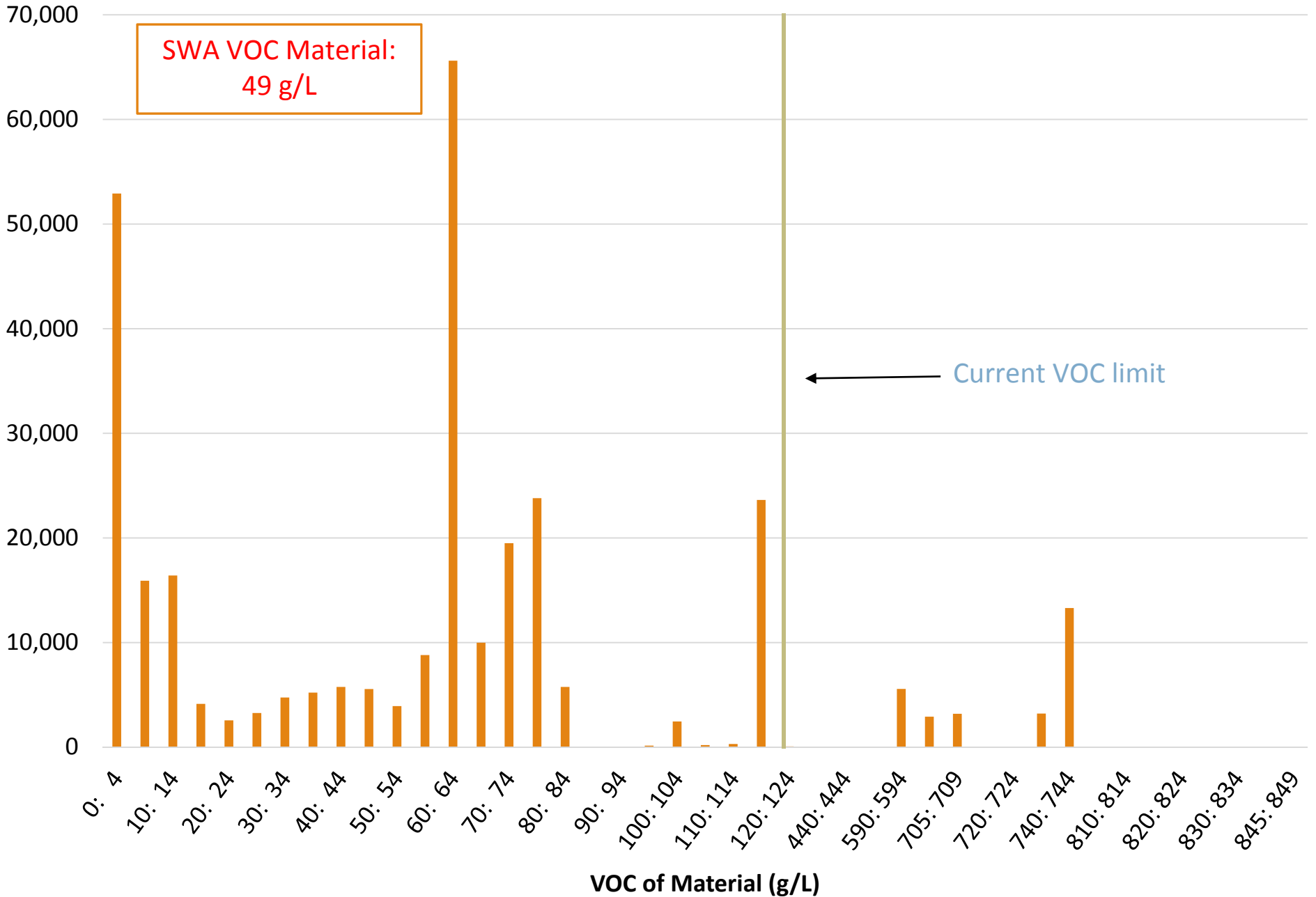
INDUSTRY

Need further discussion regarding VOC reductions in this category.

SCAQMD

A significant number of low solids coatings are well below the 120 g/L VOC of material limit, unless they are significantly over the VOC limit and sold under the SCE.

Low Solids Histogram



Other Concepts

Unused Coatings

INDUSTRY

The District should adjust the AIM inventory to account for unused paint (up to 10%).

SCAQMD

Staff can discuss this concept with U.S. EPA.

Architectural Coating Product Search

Manufacturer Name :

- VEXCON CHEMICALS INC./POLYSAT INC.
- VISIONS PAINT RECYCLING INC
- VISTA PAINT CORP
- W R GRACE & CO CONN, CONSTRUCTION PROD
DV
- W R MEADOWS INC

Brand Name :

Product Name :

Coating Category :
Flats

Regulatory VOC (g/L) :
From To

Product Summary (Click the column header to sort)

Total: 78

Items per Page: [25](#) | [100](#) | [200](#) | [500](#)

Manufacturer	Product Code	Category	Brand	Product Name	Type (1)	Use (2)	VOC Limit (g/L)	VOC (g/L)	Low Solids	SCE (3)
VISTA PAINT CORP	.013	Flats	Vista	ACOUSTIC KOTE WHITE	WB	I	50	33		
VISTA PAINT CORP	.1000	Flats	Vista	DURAGLIDE FLAT P BASE FACTORY TINT	WB	D	50	47		
VISTA PAINT CORP	.1023	Flats	Vista	DURAGLIDE FLAT SWISS COFFEE	WB	D	50	47		
VISTA PAINT CORP	.1032	Flats	Vista	DURAGLIDE FLAT SHELL WHITE	WB	D	50	47		
VISTA PAINT CORP	.1037	Flats	Vista	DURAGLIDE FLAT WHITE SHADOW	WB	D	50	47		

Publically Searchable Database

INDUSTRY

Allow a mechanism for manufacturers to correct their data

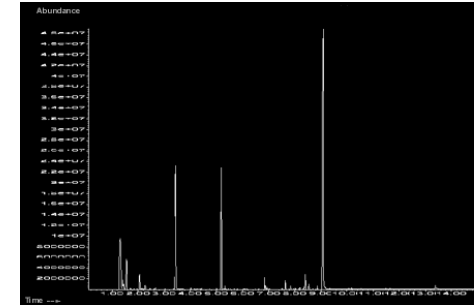
Allow companies to opt out

SCAQMD

The database will pull data directly from the Rule 314 reporting program. Anything that is incorrectly reported **must** be corrected as soon as possible.

The intent is to have a near complete list of coatings available in the SCAQMD. Compelling reasons would have to be presented in order to opt out.

VOC Test Methodology



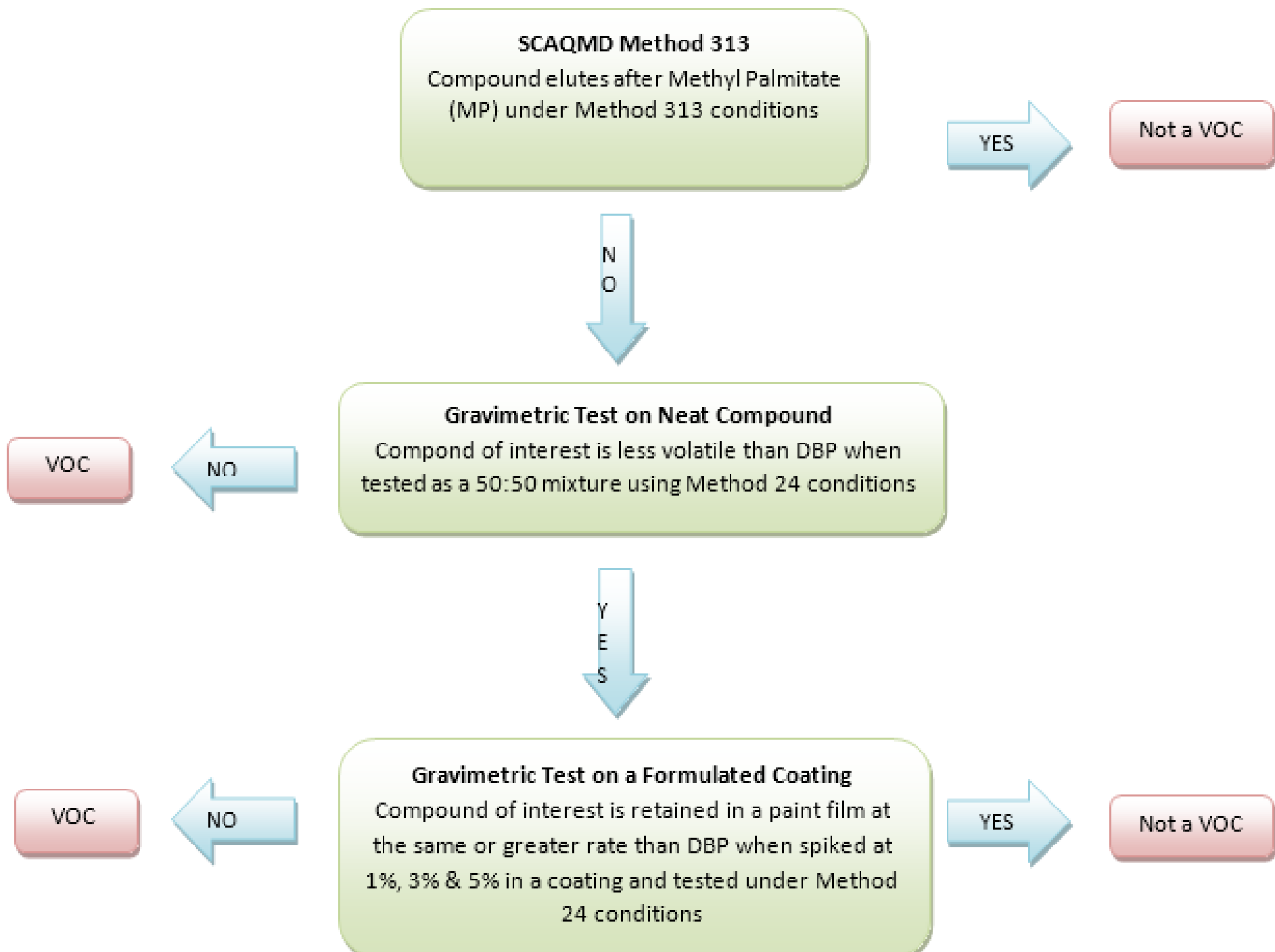
Include SCAQMD Laboratory
Method 313

**Need industry support
to further analyze
exclusion principle**

Considering Cal Poly approach:

- Neat Compounds evaluation
(analyte + MP in pan)
- Spike a near-Zero VOC coating





Method 313

INDUSTRY

Provide flexibility in the exclusion pathway (e.g. Method 24, TGA, evaporation).

Include error band language in the method.

SCAQMD

US EPA has stated that they want to stick with Method 24 parameters. Industry is welcome to develop, vet, and round robin other approaches and make their case to the US EPA.

Staff concurs.

Error Bands

For samples below 50 g /L VOC material, precision of this method has been estimated at no worse than 5 g/L material absolute. This value may be used to estimate the error in the final VOC g/L (coating) value first by adding the estimated error to the final VOC g/L (material) and calculating the VOC g/L (coating), then subtracting the estimated error and performing the same calculations. If the VOC material value is less than zero after subtraction, just substitute the value zero into the equation. See equations (next slide):

Error Bands

To estimate the maximum VOC coating value for an analysis, $VOC_{g/L}(coating)_{max}$:

$$VOC_{g/L}(coating)_{max} = \frac{\left(VOC_{\%wt} + \left[\frac{5}{D * 10} \right] \right) \times 1000}{\left(\frac{100}{D} - \frac{W_{\%wt}}{0.997} \right)}$$

To estimate the minimum VOC coating value for an analysis, $VOC_{g/L}(coating)_{min}$:

$$VOC_{g/L}(coating)_{min} = \frac{\left(VOC_{\%wt} - \left[\frac{5}{D * 10} \right] \right) \times 1000}{\left(\frac{100}{D} - \frac{W_{\%wt}}{0.997} \right)}$$

Method 313

INDUSTRY

Industry would like commitment that a second pathway for reactive compounds, including Amines, will be developed in the future.

SCAQMD

Staff will consider an alternate pathway, *developed by industry*, that offers compelling evidence that a reactive compound should not be measured as a VOC and does not promote the release of other VOCs. The method will have to be rigorous and be repeatable (e.g. round robin tested). Industry will need to seek US EPA approval.

Concept similar to current solvents proposal for exemption as a VOC.

Method 313

INDUSTRY

It is important that the District consider testing compounds in formulated coatings products.

The formal inclusion of Method 313 in Rule 1113 will set a precedent for air pollution control agencies.

SCAQMD

Staff concurs. See step three of the flow chart.

Method 313 is already used for compliance and has been for almost a decade. Method 313 is already included in other District rules and approved by US EPA.

Method 313

INDUSTRY

Industry is concerned about the timing of including Method 313 in Rule 1113 without a workable exclusion pathway.

SCAQMD

Staff proposed including the method in 2011 and 2013 rule amendments.

Staff repeatedly requested that industry develop a method for early eluting compounds. Every request has been met with further requests:

- Set an endpoint - **MP**
- Work on film extraction – **industry did not like the results**
- Develop a pathway for 100 compounds in every matrix.

Staff is proposing a pathway that will address non-reactive solvents in a common matrix only.

Method 313

INDUSTRY

Scope. Limit the scope to coatings which contain <150 g/L of VOC and not for compounds that do not reach a stable weight.

SCAQMD

The non-film forming oils used as form release compounds represent the majority of the Rule 1113 coatings that do not reach a stable weight in the oven. These semi-volatile oils are likely best evaluated by TGA and will be addressed in Rule 1161. The method scope does set a limit of <150 g/L VOC of material. This method is also used for CAS and CACC analysis, those are the non-film formers targeted in the applicability section.

Method 313

INDUSTRY

List of 100 compounds

Evaluate mixtures where certain portions elute before MP but some elute after.

SCAQMD

Staff looks forward to reviewing the results of the tests on these compounds once the protocol is finalized and the methods are validated. Please forward the results of the tests from member companies.

For mixtures, anything that elutes before MP would be counted as a VOC unless the individual chemicals in the mixture can be demonstrated to be less volatile – not the mixture as a whole.

Method 313

INDUSTRY

SCAQMD must establish a defined exclusion pathway that specifies the criteria for excluding compounds and mixtures.

SCAQMD

The exclusion pathway is only for individual chemicals and not for mixtures. The procedures are being refined and will be distributed. Industry laboratories will be needed to vet the methods.

Method 313

INDUSTRY

The District should provide flexibility to allow for TGA.

Amines

SCAQMD

The EPA wants Method 24 as the exclusion pathway.

Industry will have to conduct the work to demonstrate if certain Amines and their reaction products should be excluded.

Method 313

INDUSTRY

The District has the burden to demonstrate that Method 313 is equivalent to Method 24, including testing the early eluting compounds.

SCAQMD

The District has provided copious amounts of data that demonstrates that Method 313 is equivalent to Method 24. **There may be a few compounds used in small quantities that elute prior to MP which are less volatile just as there may be a few compounds used in small quantities that elute after MP but are more volatile. It is not the District's burden to find and characterize all of these potential chemicals.**

Next steps

Finalize and Vet Exclusion Pathway in Test Method

Set date of next Working Group Meeting (4 – 6 weeks)

Set date of Public Workshop

Set date of Public Hearing

