

Proposed Amended Rule 1151

Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations

Working Group Meeting #2

March 7, 2024



Join Zoom Webinar Meeting

<https://scaqmd.zoom.us/j/92823189689>

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Agenda

Summary of WGM#1

Purpose of Rule Amendment

Rule 1401 Background

PAR 1151 Progress Update

Coating Manufacturer Survey Update

pCBtF and tBAc Transition

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Next Steps

Summary of Working Group Meeting #1

Working Group Meeting #1 discussions include:

- South Coast AQMD background
- Rule 1151 background
- tBAc and pCBtF regulatory and toxicity background
- Rule 1151 amendment objectives
- Compliance and enforcement issues with reducers/thinners
- Coating manufacturer survey



Purpose of Proposed Rule Amendment

Address two Exempt Solvents

- Office of Environmental Health Hazard Assessment (OEEHA) confirmed two solvents to have toxic endpoints:
 - para-Chlorobenzotrifluoride (pCBtF or Oxsol) - fully exempted as a VOC
 - tert-Butyl Acetate (tBAc) - partially exempted as VOC

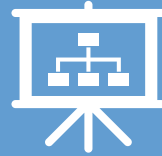
Solvents used in Automotive Coatings

- Manufacturer's utilize these two exempt compounds to comply with 1151 VOC limits

Toxicity Priority

- South Coast AQMD Stationary Source Committee directed staff in 2017 to prioritize lowering toxicity even if it results in higher VOC emissions

Purpose of Proposed Rule Amendment (continued)



Rule 1151 amendment is also needed to address upcoming permitting challenges for new automotive paint spray booths, which will result from the pending amendment to Rule 1401 - New Source Review of Toxic Air Contaminants



South Coast AQMD periodically amends Rule 1401 to add compounds designated as carcinogens to the Table of Toxic Air Contaminants



Rule 1401 is currently being amended to include tBAc and pCBtF as Toxic Air Contaminants

- Will impact South Coast AQMD's ability to permit new automotive paint spray booths

Rule 1401 – New Source Review of Toxic Air Contaminants

Rule 1401 Background

- Rule 1401 is an “umbrella” rule that establishes requirements to ensure that new, modified, or relocated equipment or sources meet specific health risk levels for Toxic Air Contaminants
- Rule 1401 Table 1 lists Toxic Air Contaminants which are based on those identified by the California Office of Environmental Health Hazard Assessment (OEHHA)

TABLE I TOXIC AIR CONTAMINANTS				
CAS #	SUBSTANCE	EFFECTIVE DATE CANCER	EFFECTIVE DATE CHRONIC	EFFECTIVE DATE ACUTE
108-39-4 95-48-7 106-44-5	cresol, m- cresol, o- cresol, p-		June 15, 2001 June 15, 2001 June 15, 2001	
135-20-6	cupferron	January 8, 1999		
	dialkylnitrosamines			
924-16-3	nitrosodi-n-butylamine, n-	December 7, 1990		
621-64-7	nitrosodi-n-propylamine, n-	September 8, 1998		
55-18-5	nitrosodiethylamine, n-	December 7, 1990		
62-75-9	nitrosodimethylamine, n-	December 7, 1990		
10595-95-6	nitrosomethylethylamine, n-	September 8, 1998		
615-05-4	diaminoanisole, 2,4- (sulfate)	January 8, 1999		
95-80-7	diaminotoluene, 2,4-	January 8, 1999		
	dibenzo-p-dioxins (chlorinated)			
1746-01-6	tetrachlorodibenzo-p-dioxin, 2,3,7,8-	June 1, 1990	August 18, 2000	
40321-76-4	pentachlorodibenzo-p-dioxin, 1,2,3,7,8-	June 1, 1990	August 18, 2000	
39227-28-6	hexachlorodibenzo-p-dioxin, 1,2,3,4,7,8-	June 1, 1990	August 18, 2000	
57653-85-7	hexachlorodibenzo-p-dioxin, 1,2,3,6,7,8-	June 1, 1990	August 18, 2000	
19408-74-3	hexachlorodibenzo-p-dioxin, 1,2,3,7,8,9-	June 1, 1990	August 18, 2000	
35822-46-9	heptachlorodibenzo-p-dioxin, 1,2,3,4,6,7,8-	June 1, 1990	August 18, 2000	
3268-87-9	octachlorodibenzo-p-dioxin, 1,2,3,4, 6,7,8,9-	June 1, 1990	August 18, 2000	

California Office of Environmental Health Hazard Assessment (OEHHA)

- Lead state agency for the assessment of health risks posed by environmental contaminants
- Develops health-protective exposure levels as guidance for regulatory agencies and the public
 - Cancer risks: Cancer Potency Factors
 - Noncancer risks: Acute, 8-hour, and chronic Reference Exposure Levels (RELs)
 - Most updated list can be found on California Air Resources Board's (CARB) website*
- Rule 1401 is periodically updated to reflect new compounds identified by OEHHA as Toxic Air Contaminants
 - Example: In October 2023, OEHHA adopted RELs for trimethylbenzene. This compound will subsequently be added into Rule 1401 Table 1, and the associated RELs will be used as part of Rule 1401 risk assessment

*<https://ww2.arb.ca.gov/resources/documents/consolidated-table-oehha-carb-approved-risk-assessment-health-values>

Rule 1401 Requirements

- Rule 1401 specifies health risk limits for new permitted units, relocated units, or modified units which emit Toxic Air Contaminants listed in Table 1
- Permit applications shall be denied unless the applicant demonstrates that the health risks do not exceed the following thresholds:

Cancer Risk Threshold	Noncancer Risk Threshold
1 in a million without T-BACT*	Acute hazard index of 1
10 in a million with T-BACT*	Chronic hazard index of 1

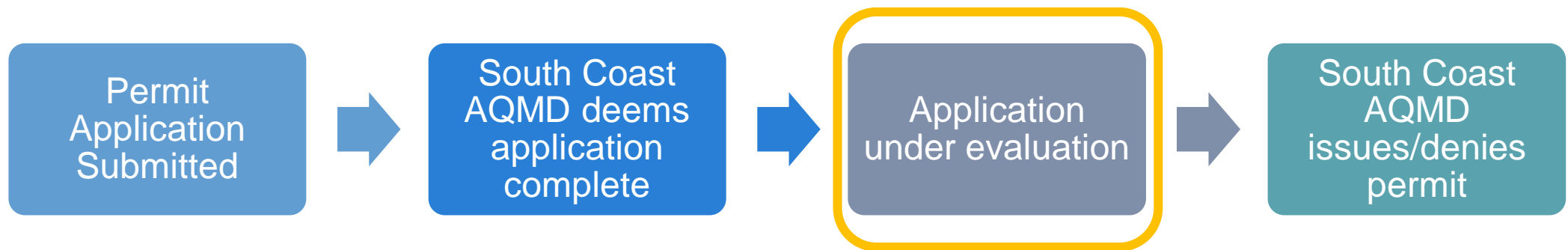
- South Coast AQMD currently uses risk assessment procedures based on the 2015 OEHHA Guidelines**
 - Describes the methodology used when evaluating health risks
 - Updated periodically

*Best Available Control Technology for Toxics

** <https://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf>

Rule 1401 Impacted Universe

- Rule 1401 applies to facilities that submit a new permit application
 - Existing permits with no further permit action are not impacted by Rule 1401
- Applications submitted **before** the adoption of PAR 1401 will be evaluated under the current version of Rule 1401
 - PAR 1401 Table 1 applies for new, modified, or relocated permit applications deemed complete after PAR 1401 is adopted



Proposed Amendments to Rule 1401

Table 1 will be updated to include new compounds identified by OEHHA

New compounds to be added include:

Compound Name	CAS Number
1-bromopropane	106-94-5
Trivalent chromium	16065-83-1
Parachlorobenzotrifluoride (PCBTF)	98-56-6
Tertiary Butyl Acetate (TBAc)	540-88-5
Hexamethylene Diisocyanate (HDI) (Monomer)	822-06-0
Polymeric Hexamethylene Diisocyanate	1221
Cobalt	7440-48-4
Trimethylbenzenes	25551-13-7

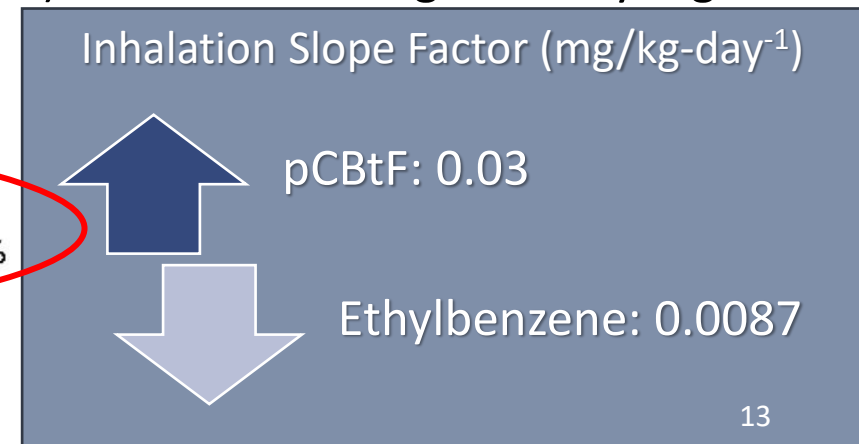
PAR 1401 Regulatory Impacts on Automotive Refinishing Facilities

- New compounds can increase health risk, making it more difficult to operate below cancer and noncancer risk thresholds
- Staff will analyze past applications as a surrogate for future applications
 - Gathering information to better understand potential impacts of new compounds designated as Toxic Air Contaminants
- New, modified, or relocated automotive refinishing operations using pCBtF-containing coatings will be impacted by PAR 1401
 - Permit will likely have to be granted with a significant restriction on pCBtF-containing material, by usage and/or weight percentage

PAR 1401 Regulatory Impacts on Automotive Refinishing Facilities (continued)

- Other California air districts already facing challenges permitting new automotive spray booths due to pCBtF
- In South Coast AQMD, the use of ethylbenzene-containing coatings can cause a permit application to exceed cancer risk thresholds, even at low weight percentages
 - Coatings are restricted in usage and Ethyl Benzene percentage
 - pCBtF has significantly higher cancer risk (inhalation slope factor) and is used at significantly higher concentrations (up to 60% of the coating)

10. THE TOTAL QUANTITY OF MATERIALS CONTAINING ETHYL BENZENE USED IN THIS EQUIPMENT SHALL NOT EXCEED 311 GALLONS, AS SUPPLIED, IN ANY ONE CALENDAR YEAR, AND THE CONCENTRATION OF ETHYL BENZENE IN THE MATERIALS SHALL NOT EXCEED 1.9% BY WEIGHT, AS SUPPLIED.



Considerations to Minimize Permit Restrictions

Goal

- Provide path for manufacturers to quickly replace pCBtF-containing coatings
- Lower toxicity and minimize health risk

Challenge

- No other exempt compounds suitable as drop-in solvent replacements
- Exempt solvents such as acetone or methyl acetate evaporate too quickly

PAR 1151 Update



Progress Since Working Group Meeting #1

Conducted four site visits to auto body shops

Distributed coating manufacturer survey

Held 13 individual meetings with stakeholders



PAR 1151 Site Visits

- Conducted four site visits
 - Single- and multi-location autobody shops
 - Focused on AB 617 community of South Los Angeles
- Observed a variety of coatings, including:
 - Compliant non-pCBtF coatings, including primers and clear coatings
 - Water-based color coatings
 - Non-compliant reducer/thinner
- Facilities are commonly located very close to residential areas



PAR 1151 Survey Update



Distributed the manufacturer survey to industry stakeholders on December 22, 2023



Manufacturer's requested extension for survey submittal until March 1, 2024



Staff has received three survey responses and has begun analyzing survey data



PAR 1151 Stakeholder Meetings



Met with coating manufacturers and American Coatings Association to discuss:

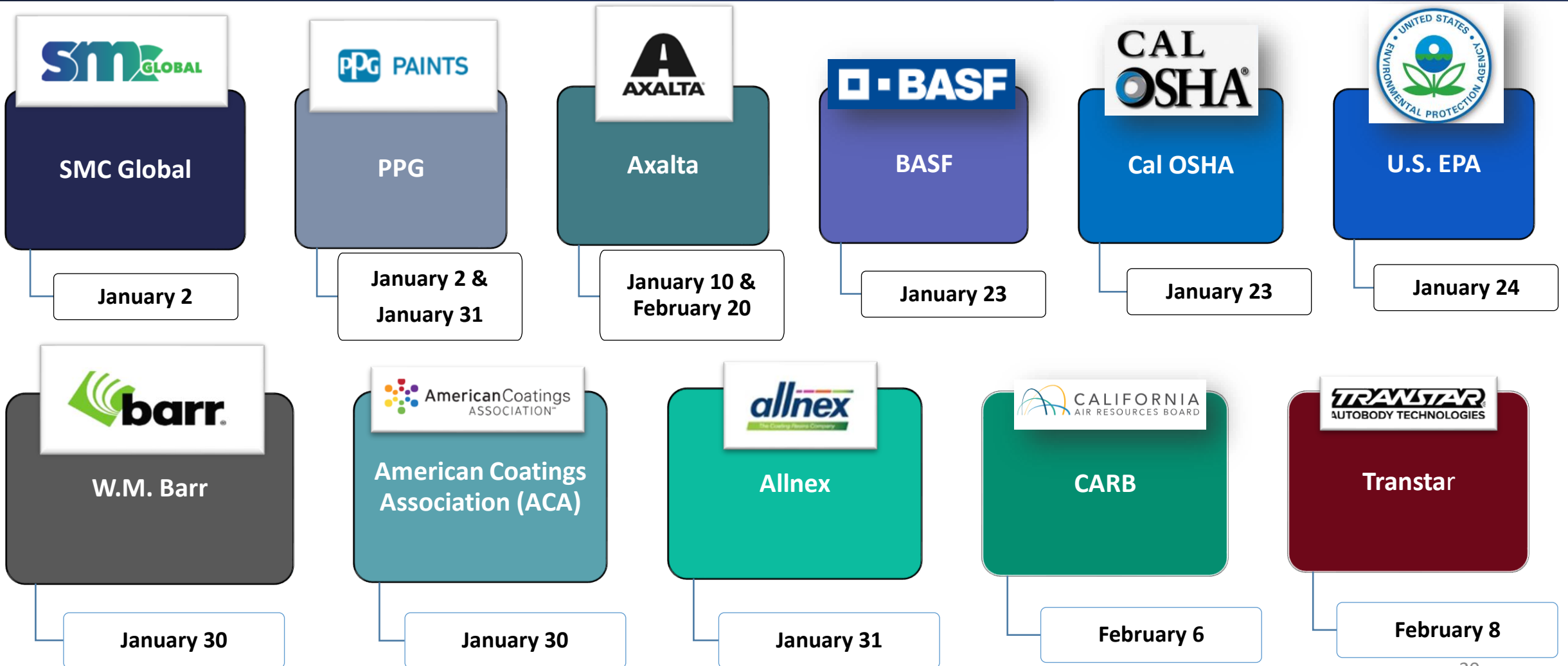
- Clarifications on the coating manufacturer survey
- Potential compliance options
- Non-pCBtF/tBAc coatings sold outside South Coast AQMD
- pCBtF and tBAc phase out and timeline



Met with other regulatory agencies to discuss potential path forward

- Potential interagency conflicts
- Recommendations

Manufacturer and Other Agency Meetings



Manufacturer Meetings Take-Aways

Initial findings:

- tBAc not widely used in autobody coatings
 - Only found in adhesion promoters
 - Small niche category
- pCBtF used extensively in primers and clearcoats
- Most manufacturer's have:
 - Waterborne option for color basecoats
 - Product lines sold outside of South Coast AQMD that do not contain tBAc or pCBtF
 - European and national lines with higher VOC content

pCBtF and tBAc Transition

Initial Considerations

- Staff seeking options to quickly transition away from tBAC and pCBtF
 - Address the upcoming permitting issues for new autobody shops
 - Quickly reduce use of toxic solvents in the South Coast AQMD and reduce community exposure
- Staff considering allowing products formulated to comply with National and/or European standards for use in South Coast AQMD
 - May be a feasible interim solution
 - Would allow for a relatively fast transition away from pCBtF and tBAC
 - Higher VOC limits would be needed resulting in temporary foregone emission reductions

VOC Limits for Autobody Coatings in Other Jurisdictions

- Table shows VOCs limits in other jurisdictions
 - Most manufacturers currently produce non-pCBtF and non-tBAC coatings that meet these limits
- Staff considering if lower VOC limit for color coatings is feasible
 - Most manufacturers already offer waterborne color coats
 - Concerns regarding smaller autobody shops that predominantly use solvent-based color coatings

Automotive Coating Categories	South Coast AQMD (g/L)	European Standards (g/L)	National Rule (g/L)
Primer	250	540	550-580
Color coating	420	420	~750
Clear coating	250	420	~525
Adhesion promoter	540	Not Regulated	840
Pretreatment coating	660	780	780
Single-stage coating	340	420	600
Truck Bed Liner coating	310	840	420
Uniform Finishing coating	540	-	840
Any Other Coating Type	250		840

Potential Timeline for pCBtF and tBAc Phase-Out

Potential timeline to phase out pCBtF and tBAc

- If VOC content limits were raised to European- and/or National Rule Limits
 - Manufacturers could shift operations relatively quickly to bring these existing coatings into South Coast
 - Based on feedback from stakeholder meetings, transition can begin in as soon as 18 months after rule adoption
 - Time needed for logistics, relabeling, color-matching

Sell Through provisions

- Rule would allow time for sell- and use-through periods for coatings already in the supply chain
 - Use-through period for autobody shops
 - Sell-through period for distributors

Future Considerations

Interim VOC limits would be an increase from the current VOC limits

- VOC increase will be temporary

Staff intends to propose future effective dates with lower VOC limits, potentially back to current limits in Rule 1151, where feasible

- Time will be need for reformulations

Staff will conduct a full BARCT assessment to establish future limits

- BARCT assessment will be detailed in future Working Group Meeting Presentations

Potential Concerns

Replacement Solvents

- Staff is concerned that pCBtF and tBAc may be replaced with solvents that have similar toxic endpoints
 - Rule 1151 facilities are permitted facilities
 - Coatings used at new facilities will be evaluated under Rule 1401 to assess Health Risks
 - Will pose similar permitting challenges for new automotive paint spray booths as pCBtF-containing coating operations

Staff's Initial Conclusions

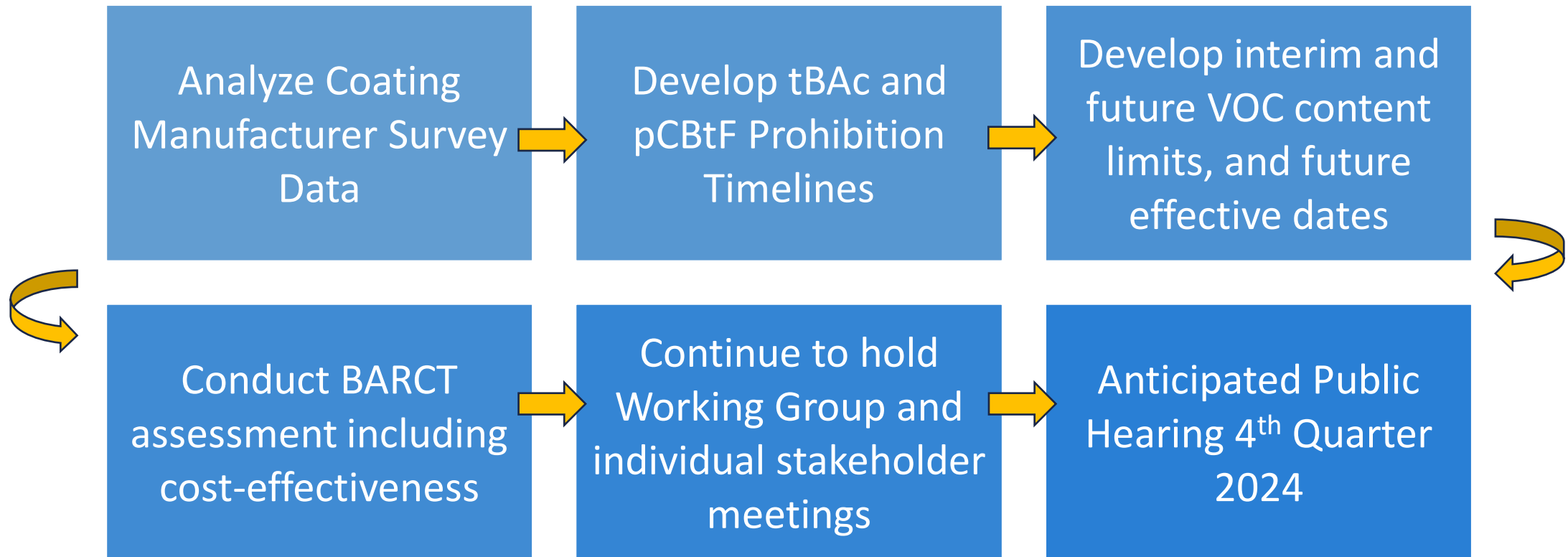
VOC limits may need to be raised for some coating categories to expedite phase out of tBAc and pCBtF

Most manufacturers have existing coating formulations sold into National and European markets that do not contain tBAc and pCBtF

Future effective lower VOC content limits can allow time for coating reformulations

Next Steps

Next Steps



Working Group Materials

- Working group materials for each working group meeting will be made available: <https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules>

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Rule Name	Description
Regulation III	Fee Rules
Rule 218.2 and Rule 218.3	Proposed Rule 218.2 - Continuous Emission Monitoring System: General Provisions Proposed Rule 218.3 - Continuous Emission Monitoring System: Performance Specifications

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<input type="checkbox"/> Rule 1159.1	Control of NOx Emissions from Nitric Acid Tanks

Staff Contacts



Chris Bradley
Air Quality Specialist
cbradley@aqmd.gov
909.396.2185

Heather Farr
Planning and Rules Manager
hfarr@aqmd.gov
909.396.3672

Sarady Ka
Program Supervisor
ska@aqmd.gov
909.396.2331

Michael Krause
Assistant DEO
mkrause@aqmd.gov
909.396.2706