Proposed Amended Rule 1401

Public Workshop
July 12, 2017

Rule 1401 Key Requirements

- Rule 1401 is an “umbrella” rule that establishes requirements for all new and modified permits
- Ensures as new or modified equipment or sources are permitted, they meet specific health risk levels for toxic air contaminants
- Permits are not issued unless the permitted equipment or sources meets the following cancer risk thresholds:
  - <1 in a million without T-BACT* (R1401)
  - <10 in a million with T-BACT* (R1401)
  - <1 in a million near a school - regardless of T-BACT* (R1401.1)

* T-BACT is Toxics Best Available Control Technology

Background

- Rule 1401 establishes cancer and non-cancer risk requirements for new, relocated, or modified sources of toxic air contaminants
- Rule 1401 was amended in June 2015 to reference the 2015 OEHHA Health Risk Assessment Guidelines :
  - 2015 OEHHA Guidelines increase the estimated health risk ~2.3 times with no increase in emissions
  - 2015 OEHHA Guidelines are incorporated in the SCAQMD Risk Assessment Procedures 8.0
- June 2015 amendments to Rule 1401 excluded spray booths and gasoline dispensing facilities to:
  - Provide additional time to analyze potential permitting impacts of 2015 OEHHA Guidelines and CARB's gasoline dispensing emission factors and speciation profiles

Objectives of Proposed Amended Rule 1401

- Require spray booths and gasoline dispensing facilities to use most recent version of SCAQMD Risk Assessment Procedures – Rule 1401 (e)(3)
- Update the list of toxic air contaminants subject to Rule 1401 – Table I
- Revise SCAQMD Risk Assessment Procedures to Version 8.1 to include spray booths and gasoline dispensing facilities, revised emission factors and speciation profiles for gasoline dispensing facilities, and updated meteorological data

Updates of SCAQMD Risk Assessment Procedures for Rules 1401 and 212

	SCAQMD Risk Assessment Procedures Version 7.0 (for all permit applications deemed complete after July 1, 2005)	SCAQMD Risk Assessment Procedures Version 8.0 (for all permit applications deemed complete after July 5, 2015 except spray booths and gasoline dispensing facilities)	Proposed SCAQMD Risk Assessment Procedures Version 8.1 (proposed for all permit applications deemed complete after October 1, 2017)
Risk Assessment Guidelines	2003 OEHHA Guidelines	2015 OEHHA Guidelines	2015 OEHHA Guidelines
Gasoline Dispensing Emission Factor and Speciation Profile	Current emission factors and speciation profiles	Current emission factors and speciation profiles	Updated emission factors and gasoline speciation profiles*
Dispersion Modeling	ISCST3 (Industrial Source Complex-Short Term, Version 3)	AERMOD	AERMOD and updated meteorological data

* 2013 CARB emission factors and 2015 speciation profiles, with the exception of refueling emission factors for ORVR

Public Process

- Working Group Meetings
  - June 1, 2017
  - July 6, 2017
  - July 20, 2017 (tentative)
- Set hearing – July 7, 2017
- Public Workshop – July 12, 2017
- Stationary Source Committee – July 21, 2017
- Public Hearing – September 1, 2017

Potential Impacts of 2015 OEHHA Guidelines for New and Modified Spray Booths

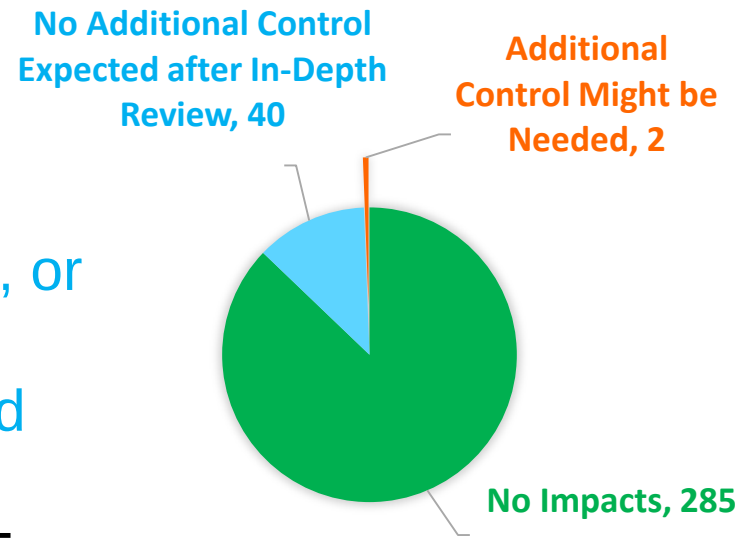
Methodology for Determining Potential Impacts to Spray Booths

- Between 2009 and 2014, about 1,400 permits were issued for spray booths
  - Analyzed a subset of 327 permits
- To estimate potential impacts, staff used the following approach:
  - Multiplied the cancer risk estimated in the permit by 2.3 (or by 6 if the toxic air contaminant had a multi-pathway factor)

Potential Impacts of 2015 OEHHA Guidelines on Spray Booths

Out of 327 spray booth permits analyzed

- No impacts to 285 permits after initial review
- No additional controls expected for 40 permits after in-depth review
  - 30 permits are using much less product than permitted potential to emit, no longer using TAC containing coating, or are no longer operating
  - 10 permits relied on Safety Data Sheets which overstated the amount of TAC in coating
- Additional controls might be needed for 2 permits (with T-BACT)
  - 1% of applicants might be asked to upgrade from HEPA to ULPA to remain under 10 in one million or limit throughput



Potential Impacts of 2015 OEHHA Guidelines for New and Modified Gasoline Dispensing Facilities

Background for Further Analysis of Gasoline Dispensing Facilities

- In 2013, CARB released revised gasoline dispensing emission factors
- In March 2015, SCAQMD staff received new information from CARB regarding gasoline speciation profiles
- Additional time needed to assess permitting impacts with CARB speciation profiles and the 2015 OEHHA Guidelines
- The following analysis assesses permitting impacts on gasoline dispensing facilities when accounting for:
  - 2015 OEHHA Guidelines
  - Proposed gasoline dispensing emission factors and speciation profiles
  - Current air dispersion model (AERMOD) and updated meteorological data
- Approximately 3,300 gasoline dispensing facilities

Proposed Emission Factors and Speciation Profiles

- 2013 CARB Emission Factors
  - SCAQMD staff has been discussing the emission factors with CARB since 2013
  - CARB has agreed to revisit the refueling and spillage emission factors
  - Same emission factors as CARB's recommendation with the exception of Phase II refueling for Onboard Refueling Vapor Recovery (ORVR) vehicles
    - Displaced vapor can either be controlled by ORVR system (0.42 lb/kgal) OR Phase II Enhanced Vapor Recovery (EVR) (0.42 lb/kgal), but not both (0.021 lb/kgal)
- 2015 CARB Speciation Profiles
  - Same speciation profiles as CARB's recommendation

Methodology for Determining Potential Impacts to Gasoline Dispensing Facilities

- For permits that used Tier 2 screening tables, revised cancer risk was estimated using Version 8.1 screening tables
- For permits that used Tier 4 analysis, applied percent increase/decrease based on a comparison of Version 7.0 and Version 8.1 screening tables
- Reviewed all 140 new permits issued between 2009-2016
- Reviewed 300 permit modifications/alternations out of ~1,200 permit modifications/alterations issued between 2009-2014

Potential Impacts on Permits for New Gasoline Dispensing Facilities

- Results for the 140 new permits using Version 8.1
  - 136 facilities had an estimated cancer risk ≤ 10 in a million
  - 4 facilities had an estimated cancer risk > 10 in a million
    - Would need to proceed to a Tier 4 analysis

- Results for the 300 permit modifications using Version 8.1
  - 267 had no emission increase (Rule 1401 exempt)
  - 33 had an emission increase but estimated cancer risks expected to be ≤ 10 in a million

Summary of Potential Permitting Impacts for Gasoline Dispensing Facilities

Based on a review of 173 new or modified permits for gasoline dispensing facilities, ~2% of new gasoline dispensing facilities could be affected by Proposed SCAQMD Risk Assessment Procedures (Version 8.1)*

- It is expected that a Tier 4 analysis would allow these new gasoline dispensing facilities to permit at the requested throughput
- Other options is facility can accept a lower throughput if a Tier 4 analysis is not conducted or if Tier 4 analysis is > 10 in a million

* 2015 OEHHA Guidelines, proposed emission factors & speciation profiles, current dispersion model and meteorological data

Potential Impacts of Updating Table I of Rule 1401

Overview of Updates to Table 1 of Rule 1401

- OEHHA periodically adds toxic air contaminants and revises health values associated with toxic air contaminants
- SCAQMD relies on OEHHA's list of toxic air contaminants and health values
- Table I of Rule 1401 is being updated to reflect revisions by OEHHA
- SCAQMD staff has analyzed potential impacts from adding or revising these toxic air contaminants
- Analysis of toxic air contaminants were grouped based on:
  - New toxic air contaminants
  - Update to toxic air contaminant with added health risk value
  - Update to toxic air contaminant for already regulated compounds

New Toxic Air Contaminants

Substance	Sources	Analysis	Impacts
Caprolactam	Permitted use mostly in resin manufacturing facilities	SCAQMD Rule 1141 – Control of Volatile Organic Compound Emissions from Resin Manufacturing require that volatile organic compound emissions, including caprolactam emissions, be reduced by 95%	Addition of acute and chronic health risk values are not expected to have any additional impacts on resin manufacturing operations
Carbonyl sulfide	• Emitted from some refineries as an end product of sulfur combustion • A potential grain fumigant replacing methyl bromide	Sulfur emissions are regulated as criteria pollutants necessitating the use of control equipment	The inclusion of acute and chronic non-cancer health values for carbonyl sulfide are not expected to require additional pollution controls

Updating Rule 1401 - Table I Compounds with Added Health Risk Values

- Already in Table I with cancer or chronic risk
- OEHHA developed an acute reference exposure level

CAS #	ADDED HEALTH RISK VALUES
106-99-0	1,3-butadiene (acute)
101-68-8	Methylene diphenyl diisocyante (acute)
584-84-9	toluene-2,4-diisocyanate (acute)
91-08-7	toluene-2,6-diisocyanate (acute)

- Cancer or chronic risk is generally orders of magnitude greater than the acute risk
- The inclusion of acute health values are not expected to require additional pollution controls
- Typographical error corrected for methylene diphenyl diisocyanate

Updating Rule 1401 Table I Already Regulated Compounds

- Compounds added for clarification, no impact

CAS #	SUBSTANCE TO BE ADDED	RELATED SUBSTANCE
75-35-4	Dichloroethylene, 1,1-	Already listed as vinylidene chloride
1101	fluorides	hydrogen fluoride
319-85-6	hexachlorocyclohexane, alpha	hexachlorocyclohexane (mixed or technical grade)
319-85-7	hexachlorocyclohexane, beta	hexachlorocyclohexane (mixed or technical grade)
10294-40-3	barium chromate	hexavalent chromium
13765-19-0	calcium chromate	hexavalent chromium
1333-82-0	chromic trioxide	hexavalent chromium
10588-01-9	sodium dichromate	hexavalent chromium
7789-06-2	strontium chromate	hexavalent chromium
13530-65-9	zinc chromate	hexavalent chromium
7440-62-2	vanadium (fume or dust)	vanadium pentoxide

Reference Documents for Risk Assessment Procedures

- SCAQMD Risk Assessment Procedures (Version 8.1) will include spray booths and gasoline dispensing facilities

- Attachment N updated with new values

CEQA and Socioeconomic Analysis

- For spray booths, 1% of permits would need to upgrade HEPA to ULPA.
- For gasoline dispensing facilities, 2% of facilities would be affected. The facilities would either perform a Tier 4 analysis at requested throughput or reduce throughput to stay under 10 in a million or re-orient the emission sources.
- Based on this analysis, SCAQMD staff analyzed the environmental impacts and found that PAR 1401 is exempt from CEQA.
- Socioeconomic impacts are also minimal.

Rule Development Schedule

- Jun 1, 2017 Working Group # 1
- Jul 6, 2017 Working Group # 2
- Jul 7, 2017 Set Hearing
- Jul 12, 2017 Public Workshop
- Jul 20, 2017 Working Group # 3 (tentative)
- Jul 21, 2107 Stationary Source Committee
- Sep 1, 2017 Public Hearing

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