



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

Air Quality Board
Kevin R. Comar
Cassady Kristensen
Randal S. Martin
Alan Matheson
Erin Mendenhall
Arnold W. Reitze Jr
Michael Smith
William C. Stringer
Karma M. Thomson
Bryce C. Bird,
Executive Secretary

DAQ-033-17a

UTAH AIR QUALITY BOARD MEETING

FINAL AGENDA

Wednesday, June 7, 2017 - 1:30 p.m.
195 North 1950 West, Room 1015
Salt Lake City, Utah 84116

- I. Call-to-Order
- II. Board Member Administrative Paperwork and Oath of Office Forms.
- III. Election of Chair and Vice-Chair.
- IV. Date of the Next Air Quality Board Meeting: August 2, 2017
- V. Approval of the Minutes for May 3, 2017, Board Meeting.
- VI. Final Adoption: R307-101-3. Version of Code of Federal Regulations Incorporated by Reference; R307-210. Standards of Performance for New Stationary Sources; R307-214. National Emission Standards for Hazardous Air Pollutants. Presented by Ryan Stephens.
- VII. Propose for Public Comment: Amend R307-101-2. Definitions. Presented by Ryan Stephens.
- VIII. Propose for Public Comment: Amend R307-344. Paper, Film, and Foil Coatings; R307-345. Fabric and Vinyl Coatings; R307-346. Metal Furniture Surface Coatings; R307-347. Large Appliance Surface Coatings; R307-349. Flat Wood Panel Coatings; R307-350. Miscellaneous Metal Parts and Products Coatings; R307-352. Metal Container, Closure, and Coil Coatings; R307-353. Plastic Parts Coatings. Presented by Ryan Stephens.
- IX. Propose for Public Comment: Amend R307-343. Emissions Standards for Wood Furniture Manufacturing Operations. Presented by Ryan Stephens.
- X. Propose for Public Comment: Repeal and Replace R307-351. Graphic Arts. Presented by Ryan Stephens.

- XI. Propose for Public Comment: Amend R307-348. Magnet Wire Coatings. Presented by Ryan Stephens.
- XII. Propose for Public Comment: Amend R307-354. Automotive Refinishing Coatings. Presented by Ryan Stephens.
- XIII. Propose for Public Comment: Amend R307-355. Control of Emissions from Aerospace Manufacture and Rework Facilities. Presented by Ryan Stephens.
- XIV. Propose for Public Comment: Amend R307-335. Degreasing and Solvent Cleaning Operations; Propose New Rule R307-304. Solvent Cleaning. Presented by Ryan Stephens.
- XV. Informational Items.
 - A. Air Toxics. Presented by Robert Ford.
 - B. Compliance. Presented by Jay Morris and Harold Burge.
 - C. Monitoring. Presented by Bo Call.
 - D. Other Items to be Brought Before the Board.

In compliance with the Americans with Disabilities Act, individuals with special needs (including auxiliary communicative aids and services) should contact Larene Wyss, Office of Human Resources at (801) 536-4281, TDD (801) 536-4284 or by email at lwyss@utah.gov.

ITEM 5



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Air Quality Board
Stephen C. Sands II, *Chair*
Kerry Kelly, *Vice-Chair*
Alan Matheson
Erin Mendenhall
Robert Paine III
Arnold W. Reitze Jr
Michael Smith
William C. Stringer
Karma M. Thomson
Bryce C. Bird,
Executive Secretary

UTAH AIR QUALITY BOARD MEETING

May 3, 2017 – 1:30 p.m.

**195 North 1950 West, Room 1015
Salt Lake City, Utah 84116**

DRAFT MINUTES

I. Call-to-Order

Steve Sands called the meeting to order at 1:32 p.m.

Board members present: Steve Sands, Kerry Kelly, Alan Matheson, Robert Paine, Arnold Reitze, William Stringer, and Karma Thomson

Excused: Erin Mendenhall and Michael Smith

Executive Secretary: Bryce Bird

II. Date of the Next Air Quality Board Meeting: June 7, 2017

At this time there are no planned agenda items for a July 2017 meeting.

III. Approval of the Minutes for March 1, 2017, and March 3, 2017, Board Meetings.

- Arnold Reitze motioned to approve the minutes with a spelling correction. Robert Paine seconded. The Board approved unanimously.

IV. Five-Year Review: R307-105. General Requirements: Emergency Controls; R307-214. National Emission Standards for Hazardous Air Pollutants; R307-401. Permit: New and Modified Sources; R307-403. Permits: New and Modified Sources in Nonattainment Areas and Maintenance Areas; R307-406. Visibility; R307-410. Permits: Emissions Impact Analysis; R307-414. Permits: Fees for Approval Orders; R307-415. Permits: Operating Permit Requirements; R307-417. Permits: Acid Rain Sources; R307-420. Permits: Ozone Offset Requirements in Davis and Salt Lake Counties; R307-421. Permits: PM10 Offset Requirements in Salt Lake County and Utah County; R307-424. Permits: Mercury Requirements for Electric Generating Units. Presented by Ryan Stephens.

Ryan Stephens, Rules Coordinator at DAQ, stated that DAQ is required to review and justify each of its rules every five years. This review process is not a time to revise or amend these rules, but

only to verify that the rules are still necessary and allowed under state and federal law. The results of the review determine that each of the listed rules is necessary and allowed under state and federal law. Staff recommends that the Board continue the group of rules as listed under agenda Item 4 by approving the five-year reviews to be submitted to the Office of Administrative Rules.

In discussion, staff was asked how the numbers in the tables listed in R307-105 and R307-403 were established and why air pollution triggers for PM_{2.5} are not included. The tables were copied verbatim from 40 CFR Part 51 Appendix L. When EPA established the PM_{2.5} standard this issue was discussed but at that time they were not establishing emergency and action levels which means there are no federal standards for comparison. Their decision may have been influenced by the fact that after 40 years the levels of pollutant concentrations have not been exceeded and so it did not add value to include new standards.

- Kerry Kelly motioned to approve the five-year reviews. Arnold Reitze seconded. The Board approved unanimously.

V. Propose for Public Comment: Amend R307-122. General Requirements: Heavy Duty Vehicle Tax Credit. Presented by Ryan Stephens.

Ryan Stephens, Rules Coordinator at DAQ, stated that Senate Bill 24 amended the definition of a “qualified heavy duty vehicle” to include heavy duty vehicles that have hydrogen-electric and electric drivetrains for purposes of receiving an income tax credit. The proposed amendments would incorporate these new categories of qualified heavy duty vehicles into the Utah Air Quality Rules. Staff recommends the Board propose the amended R307-122 for public comment.

- Arnold Reitze moved that the Board approve R307-122, General Requirements, Heavy Duty Vehicle Tax Credit, for public comment. Kerry Kelly seconded. The Board approved unanimously.

VI. Propose for Public Comment: R307-230. NO_x Emission Limits for Natural Gas-Fired Water Heaters. Presented by Ryan Stephens.

Ryan Stephens, Rules Coordinator at DAQ, stated that in September 2015 the Board adopted new rule R307-230 (water heater rule) to limit NO_x emissions from natural gas-fired water heaters. After the water heater rule was adopted, the Administrative Rules Review Committee held a hearing to address concerns about the Board’s ability to regulate emissions from water heaters. The Utah Home Builders Association, along with some members of the review committee, held the view that the Board’s rule impermissibly interfered with Utah’s State Construction and Fire Codes Act (building code). They argued that the water heater rule was invalid because it set standards that were more stringent than what was required by the building code. At the time, the building code did not contain any emission standards for water heaters. As a result, during the 2016 Legislative General Session, the water heater rule was not reauthorized under Senate Bill 88.

While the legislature did not reauthorize the water heater rule, it amended the building code to include emission limits for water heaters. The text of the building code now contains essentially all of the original water heater rule text that was adopted by the Board in 2015. Since the building code now contains emission limits, the Board has the authority to write a rule that is equally as stringent as the building code. The new version of R307-230 incorporates the emission limits found in the building code into the Utah Air Quality Rules. By incorporating the emission limits into the rules, the state will be able to take credit for emission reductions in the State

Implementation Plan (SIP). Staff recommends the Board propose new rule R307-230, NO_x Emissions Limits for Natural Gas-Fired Water Heaters, for public comment.

- Karma Thomson moved that the Board propose R307-230, NO_x Emission Limits for Natural Gas-Fired Water Heaters, for public comment. William Stringer seconded. The Board approved unanimously.

VII. Propose for Public Comment: Amend R307-309. Nonattainment and Maintenance Areas for PM₁₀ and PM_{2.5}: Fugitive Emissions and Fugitive Dust. Presented by Ryan Stephens.

Ryan Stephens, Rules Coordinator at DAQ, stated that on February 25, 2016, the DAQ sent a commitment letter to EPA in regard to making changes to the fugitive dust rule no later than one year after EPA's final conditional approval date. EPA has yet to propose a conditional approval but staff worked with EPA on these changes and informed EPA that the DAQ is moving forward with the rule. These changes include: language added to R307-309-3 to emphasize that the rule applies to fugitive dust sources one-quarter acre or greater; language to clarify that the method for observing fugitive emissions allows people to observe emissions at varying lengths of duration, not just six minutes; the compliance schedule found in R307-309-13 was removed because it was out of date; and the requirement to maintain records was amended to include an explicit time period of two years. Staff recommends the Board propose the amended R307-309 for public comment.

Public comment from Joro Walker of Western Resource Advocates (WRA) was introduced. WRA filed an open records request for compliance records through the Government Records Access and Management Act and their request was denied up to the District Court. The court ruled that because the state did not have possession of the records, that the public was not entitled to review them. The state makes its compliance determinations based on those records but the public is not allowed to review those records. Ms. Walker feels this should be of concern to the Board as it relates to accountability and suggests that this proposed rule is inappropriate, in particular as it relates to part of the SIP.

- Kerry Kelly moved that the Board propose R307-309, Nonattainment and Maintenance Areas for PM₁₀ and PM_{2.5}, Fugitive Emissions and Fugitive Dust, for public comment. Robert Paine seconded. The Board approved unanimously.

VIII. Informational Items.

- A. **Air Toxics. Presented by Robert Ford.**
- B. **Compliance. Presented by Jay Morris and Harold Burge.**
- C. **Monitoring. Presented by Bo Call.**

Bo Call, Monitoring Section Manager at DAQ, updated the Board on the monitoring graphs. In response to a question from the public, Mr. Call explained how stratospheric intrusion can impact ground level ozone and how it can increase ozone levels at specific monitoring sites. In addition, the EPA is trying to determine how to measure stratospheric intrusion and its impacts. No exceedances have occurred this year on lands under state jurisdiction but there was one in the Uinta Basin in Indian Country, in which the Ute Tribe has requested a review from EPA for an exceptional event.

D. Other Items to be Brought Before the Board.

Mr. Bird informed the Board that Administrator Pruitt of the EPA signed the reclassification of the Salt Lake and Provo nonattainment areas from moderate classification to a serious classification. The classification becomes effective 30 days after it is published in the Federal Register and will trigger Utah's development of a new SIP by the end of 2017.

Steve Sands, Kerry Kelly, and Robert Paine were recognized for their years of service on the Air Quality Board. Governor Herbert has given recommendations to the Senate to extend terms for Karma Thomson and William Stringer who completed their first term in March 2017. The Governor has also given recommendations to the Senate for replacements for the three outgoing Board members.

In closing, the Board was thanked for the letter they sent to Governor Herbert listing its concerns with House Bill 65.

Meeting adjourned at 2:00 p.m.

ITEM 6



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DAQ-034-17

MEMORANDUM

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

FROM: Ryan Stephens, Environmental Planning Consultant

DATE: May 24, 2017

SUBJECT: FINAL ADOPTION: R307-101-3. Version of Code of Federal Regulations Incorporated by Reference; R307-210. Standards of Performance for New Stationary Sources; and R307-214. National Emission Standards for Hazardous Air Pollutants.

These rules must be updated periodically to reflect changes to the federal air quality regulations as published in Title 40 of the Code of Federal Regulations (40 CFR). All published changes to 40 CFR that are relevant to the Utah Air Quality Rules from July 1, 2015, to July 1, 2016, have been summarized and can be found under this item in the Board packet. The rules have been amended to identify the most recent version of 40 CFR, July 1, 2016, as the version that is referenced in the Utah Air Quality Rules.

A 30-day public comment period was held for each rule. No hearing was requested and no comments were received.

Recommendation: Staff recommends that the Board adopt R307-101-3, R307-210, and R307-214.

1 **R307. Environmental Quality, Air Quality.**

2 **R307-101. General Requirements.**

3

4 ...

5

6 **R307-101-3. Version of Code of Federal Regulations Incorporated by**
7 **Reference.**

8 Except as specifically identified in an individual rule, the
9 version of the Code of Federal Regulations (CFR) incorporated
10 throughout R307 is dated July 1, 2016.

11

12 **KEY: air pollution, definitions**

13 **Date of Enactment or Last Substantive Amendment: 2017**

14 **Notice of Continuation: May 8, 2014**

15 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-210. Standards of Performance for New Stationary Sources.**

3 **R307-210-1. Standards of Performance for New Stationary Sources.**

4 The provisions of 40 Code of Federal Regulations (CFR) Part 60,
5 effective on July 1, 2016, except for Subparts Cb, Cc, Cd, Ce, BBBB,
6 DDDD, and HHHH, are incorporated by reference into these rules with
7 the exception that references in 40 CFR to "Administrator" shall mean
8 "director" unless by federal law the authority referenced is specific
9 to the Administrator and cannot be delegated.

10

11 **KEY: air pollution, stationary sources, new source review**

12 **Date of Enactment or Last Substantive Amendment: 2017**

13 **Notice of Continuation: May 12, 2016**

14 **Authorizing, and Implemented or Interpreted Law: 19-2-104(3)(q);**

15 **19-2-108**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-214. National Emission Standards for Hazardous Air Pollutants.**

3 **R307-214-1. Pollutants Subject to Part 61.**

4 The provisions of Title 40 of the Code of Federal Regulations (40
5 CFR) Part 61, National Emission Standards for Hazardous Air
6 Pollutants, effective as of July 1, 2016, are incorporated into these
7 rules by reference. For pollutant emission standards delegated to the
8 State, references in 40 CFR Part 61 to "the Administrator" shall refer
9 to the director.

10
11 **R307-214-2. Sources Subject to Part 63.**

12 The provisions listed below of 40 CFR Part 63, National Emission
13 Standards for Hazardous Air Pollutants for Source Categories,
14 effective as of July 1, 2016, are incorporated into these rules by
15 reference. References in 40 CFR Part 63 to "the Administrator" shall
16 refer to the director, unless by federal law the authority is specific
17 to the Administrator and cannot be delegated.

18 (1) 40 CFR Part 63, Subpart A, General Provisions.

19 (2) 40 CFR Part 63, Subpart B, Requirements for Control
20 Technology Determinations for Major Sources in Accordance with 42
21 U.S.C. 7412(g) and (j).

22 (3) 40 CFR Part 63, Subpart F, National Emission Standards for
23 Organic Hazardous Air Pollutants from the Synthetic Organic Chemical
24 Manufacturing Industry.

25 (4) 40 CFR Part 63, Subpart G, National Emission Standards for
26 Organic Hazardous Air Pollutants from the Synthetic Organic Chemical
27 Manufacturing Industry for Process Vents, Storage Vessels, Transfer
28 Operations, and Wastewater.

29 (5) 40 CFR Part 63, Subpart H, National Emission Standards for
30 Organic Hazardous Air Pollutants for Equipment Leaks.

31 (6) 40 CFR Part 63, Subpart I, National Emission Standards for
32 Organic Hazardous Air Pollutants for Certain Processes Subject to the
33 Negotiated Regulation for Equipment Leaks.

34 (7) 40 CFR Part 63, Subpart J, National Emission Standards for
35 Polyvinyl Chloride and Copolymers Production.

36 (8) 40 CFR Part 63, Subpart L, National Emission Standards for
37 Coke Oven Batteries.

38 (9) 40 CFR Part 63, Subpart M, National Perchloroethylene Air
39 Emission Standards for Dry Cleaning Facilities.

40 (10) 40 CFR Part 63, Subpart N, National Emission Standards for
41 Chromium Emissions From Hard and Decorative Chromium Electroplating
42 and Chromium Anodizing Tanks.

43 (11) 40 CFR Part 63, Subpart O, National Emission Standards for
44 Hazardous Air Pollutants for Ethylene Oxide Commercial Sterilization
45 and Fumigation Operations.

1 (12) 40 CFR Part 63, Subpart Q, National Emission Standards for
2 Hazardous Air Pollutants for Industrial Process Cooling Towers.

3 (13) 40 CFR Part 63, Subpart R, National Emission Standards for
4 Gasoline Distribution Facilities (Bulk Gasoline Terminals and
5 Pipeline Breakout Stations).

6 (14) 40 CFR Part 63, Subpart T, National Emission Standards for
7 Halogenated Solvent Cleaning.

8 (15) 40 CFR Part 63, Subpart U, National Emission Standards for
9 Hazardous Air Pollutant Emissions: Group I Polymers and Resins.

10 (16) 40 CFR Part 63, Subpart AA, National Emission Standards for
11 Hazardous Air Pollutants for Phosphoric Acid Manufacturing.

12 (17) 40 CFR Part 63, Subpart BB, National Emission Standards for
13 Hazardous Air Pollutants for Phosphate Fertilizer Production.

14 (18) 40 CFR Part 63, Subpart CC, National Emission Standards for
15 Hazardous Air Pollutants from Petroleum Refineries.

16 (19) 40 CFR Part 63, Subpart DD, National Emission Standards for
17 Hazardous Air Pollutants from Off-Site Waste and Recovery Operations.

18 (20) 40 CFR Part 63, Subpart EE, National Emission Standards for
19 Magnetic Tape Manufacturing Operations.

20 (21) 40 CFR Part 63, Subpart GG, National Emission Standards for
21 Aerospace Manufacturing and Rework Facilities.

22 (22) 40 CFR Part 63, Subpart HH, National Emission Standards for
23 Hazardous Air Pollutants for Oil and Natural Gas Production.

24 (23) 40 CFR Part 63, Subpart JJ, National Emission Standards for
25 Wood Furniture Manufacturing Operations.

26 (24) 40 CFR Part 63, Subpart KK, National Emission Standards for
27 the Printing and Publishing Industry.

28 (25) 40 CFR Part 63, Subpart MM, National Emission Standards for
29 Hazardous Air Pollutants for Chemical Recovery Combustion Sources at
30 Kraft, Soda, Sulfitic, and Stand-Alone Semicemical Pulp Mills.

31 (26) 40 CFR Part 63, Subpart OO, National Emission Standards for
32 Tanks - Level 1.

33 (27) 40 CFR Part 63, Subpart PP, National Emission Standards for
34 Containers.

35 (28) 40 CFR Part 63, Subpart QQ, National Emission Standards for
36 Surface Impoundments.

37 (29) 40 CFR Part 63, Subpart RR, National Emission Standards for
38 Individual Drain Systems.

39 (30) 40 CFR Part 63, Subpart SS, National Emission Standards for
40 Closed Vent Systems, Control Devices, Recovery Devices and Routing to
41 a Fuel Gas System or a Process (Generic MACT).

42 (31) 40 CFR Part 63, Subpart TT, National Emission Standards for
43 Equipment Leaks- Control Level 1 (Generic MACT).

44 (32) 40 CFR Part 63, Subpart UU, National Emission Standards for
45 Equipment Leaks-Control Level 2 Standards (Generic MACT).

1 (33) 40 CFR Part 63, Subpart VV, National Emission Standards for
2 Oil-Water Separators and Organic-Water Separators.

3 (34) 40 CFR Part 63, Subpart WW, National Emission Standards for
4 Storage Vessels (Tanks)-Control Level 2 (Generic MACT).

5 (35) 40 CFR Part 63, Subpart XX, National Emission Standards for
6 Ethylene Manufacturing Process Units: Heat Exchange Systems and Waste
7 Operations.

8 (36) 40 CFR Part 63, Subpart YY, National Emission Standards for
9 Hazardous Air Pollutants for Source Categories: Generic MACT.

10 (37) 40 CFR Part 63, Subpart CCC, National Emission Standards
11 for Hazardous Air Pollutants for Steel Pickling-HCl Process Facilities
12 and Hydrochloric Acid Regeneration Plants.

13 (38) 40 CFR Part 63, Subpart DDD, National Emission Standards
14 for Hazardous Air Pollutants for Mineral Wool Production.

15 (39) 40 CFR Part 63, Subpart EEE, National Emission Standards
16 for Hazardous Air Pollutants from Hazardous Waste Combustors.

17 (40) 40 CFR Part 63, Subpart GGG, National Emission Standards for
18 Hazardous Air Pollutants for Pharmaceuticals Production.

19 (41) 40 CFR Part 63, Subpart HHH, National Emission Standards
20 for Hazardous Air Pollutants for Natural Gas Transmission and Storage.

21 (42) 40 CFR Part 63, Subpart III, National Emission Standards
22 for Hazardous Air Pollutants for Flexible Polyurethane Foam
23 Production.

24 (43) 40 CFR Part 63, Subpart JJJ, National Emission Standards
25 for Hazardous Air Pollutants for Group IV Polymers and Resins.

26 (44) 40 CFR Part 63, Subpart LLL, National Emission Standards
27 for Hazardous Air Pollutants for Portland Cement Manufacturing
28 Industry.

29 (45) 40 CFR Part 63, Subpart MMM, National Emission Standards
30 for Hazardous Air Pollutants for Pesticide Active Ingredient
31 Production.

32 (46) 40 CFR Part 63, Subpart NNN, National Emission Standards
33 for Hazardous Air Pollutants for Wool Fiberglass Manufacturing.

34 (47) 40 CFR Part 63, Subpart OOO, National Emission Standards
35 for Hazardous Air Pollutants for Amino/Phenolic Resins Production
36 (Resin III).

37 (48) 40 CFR Part 63, Subpart PPP, National Emission Standards
38 for Hazardous Air Pollutants for Polyether Polyols Production.

39 (49) 40 CFR Part 63, Subpart QQQ, National Emission Standards
40 for Hazardous Air Pollutants for Primary Copper Smelters.

41 (50) 40 CFR Part 63, Subpart RRR, National Emission Standards
42 for Hazardous Air Pollutants for Secondary Aluminum Production.

43 (51) 40 CFR Part 63, Subpart TTT, National Emission Standards
44 for Hazardous Air Pollutants for Primary Lead Smelting.

45 (52) 40 CFR Part 63, Subpart UUU, National Emission Standards

1 for Hazardous Air Pollutants for Petroleum Refineries: Catalytic
2 Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units.

3 (53) 40 CFR Part 63, Subpart VVV, National Emission Standards
4 for Hazardous Air Pollutants: Publicly Owned Treatment Works.

5 (54) 40 CFR Part 63, Subpart AAAA, National Emission Standards
6 for Hazardous Air Pollutants for Municipal Solid Waste Landfills.

7 (55) 40 CFR Part 63, Subpart CCCC, National Emission Standards
8 for Manufacturing of Nutritional Yeast.

9 (56) 40 CFR Part 63, Subpart DDDD, National Emission Standards
10 for Hazardous Air Pollutants for Plywood and Composite Wood Products.

11 (57) 40 CFR Part 63, Subpart EEEE, National Emission Standards
12 for Hazardous Air Pollutants for Organic Liquids Distribution
13 (non-gasoline).

14 (58) 40 CFR Part 63, Subpart FFFF, National Emission Standards
15 for Hazardous Air Pollutants for Miscellaneous Organic Chemical
16 Manufacturing.

17 (59) 40 CFR Part 63, Subpart GGGG, National Emission Standards
18 for Vegetable Oil Production; Solvent Extraction.

19 (60) 40 CFR Part 63, Subpart HHHH, National Emission Standards
20 for Wet-Formed Fiberglass Mat Production.

21 (61) 40 CFR Part 63, Subpart IIII, National Emission Standards
22 for Hazardous Air Pollutants for Surface Coating of Automobiles and
23 Light-Duty Trucks.

24 (62) 40 CFR Part 63, Subpart JJJJ, National Emission Standards
25 for Hazardous Air Pollutants for Paper and Other Web Surface Coating
26 Operations.

27 (63) 40 CFR Part 63, Subpart KKKK, National Emission Standards
28 for Hazardous Air Pollutants for Surface Coating of Metal Cans.

29 (64) 40 CFR Part 63, Subpart MMMM, National Emission Standards
30 for Hazardous Air Pollutants for Surface Coating of Miscellaneous
31 Metal Parts and Products.

32 (65) 40 CFR Part 63, Subpart NNNN, National Emission Standards
33 for Large Appliances Surface Coating Operations.

34 (66) 40 CFR Part 63, Subpart OOOO, National Emission Standards
35 for Hazardous Air Pollutants for Fabric Printing, Coating and Dyeing
36 Surface Coating Operations.

37 (67) 40 CFR Part 63, Subpart PPPP, National Emissions Standards
38 for Hazardous Air Pollutants for Surface Coating of Plastic Parts and
39 Products.

40 (68) 40 CFR Part 63, Subpart QQQQ, National Emission Standards
41 for Hazardous Air Pollutants for Surface Coating of Wood Building
42 Products.

43 (69) 40 CFR Part 63, Subpart RRRR, National Emission Standards
44 for Hazardous Air Pollutants for Metal Furniture Surface Coating
45 Operations.

1 (70) 40 CFR Part 63, Subpart SSSS, National Emission Standards
2 for Metal Coil Surface Coating Operations.

3 (71) 40 CFR Part 63, Subpart TTTT, National Emission Standards
4 for Leather Tanning and Finishing Operations.

5 (72) 40 CFR Part 63, Subpart UUUU, National Emission Standards
6 for Cellulose Product Manufacturing.

7 (73) 40 CFR Part 63, Subpart VVVV, National Emission Standards
8 for Boat Manufacturing.

9 (74) 40 CFR Part 63, Subpart WWWW, National Emissions Standards
10 for Hazardous Air Pollutants for Reinforced Plastic Composites
11 Production.

12 (75) 40 CFR Part 63, Subpart XXXX, National Emission Standards
13 for Tire Manufacturing.

14 (76) 40 CFR Part 63, Subpart YYYY, National Emission Standards
15 for Hazardous Air Pollutants for Stationary Combustion Turbines.

16 (77) 40 CFR Part 63, Subpart ZZZZ, National Emission Standards
17 for Hazardous Air Pollutants for Stationary Reciprocating Internal
18 Combustion Engines.

19 (78) 40 CFR Part 63, Subpart AAAAA, National Emission Standards
20 for Hazardous Air Pollutants for Lime Manufacturing Plants.

21 (79) 40 CFR Part 63, Subpart BBBB, National Emission Standards
22 for Hazardous Air Pollutants for Semiconductor Manufacturing.

23 (80) 40 CFR Part 63, Subpart CCCCC, National Emission Standards
24 for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and
25 Battery Stacks.

26 (81) 40 CFR Part 63, Subpart DDDDD, National Emission Standards
27 for Hazardous Air Pollutants for Industrial, Commercial, and
28 Institutional Boilers and Process Heaters.

29 (82) 40 CFR Part 63, Subpart EEEEE, National Emission Standards
30 for Hazardous Air Pollutants for Iron and Steel Foundries.

31 (83) 40 CFR Part 63, Subpart FFFFF, National Emission Standards
32 for Hazardous Air Pollutants for Integrated Iron and Steel
33 Manufacturing.

34 (84) 40 CFR Part 63, Subpart GGGGG, National Emission Standards
35 for Hazardous Air Pollutants for Site Remediation.

36 (85) 40 CFR Part 63, Subpart HHHHH, National Emission Standards
37 for Hazardous Air Pollutants for Miscellaneous Coating Manufacturing.

38 (86) 40 CFR Part 63, Subpart IIIII, National Emission Standards
39 for Hazardous Air Pollutants for Mercury Emissions from Mercury Cell
40 Chlor-Alkali Plants.

41 (87) 40 CFR Part 63, Subpart JJJJJ, National Emission Standards
42 for Hazardous Air Pollutants for Brick and Structural Clay Products
43 Manufacturing.

44 (88) 40 CFR Part 63, Subpart KKKKK, National Emission Standards
45 for Hazardous Air Pollutants for Clay Ceramics Manufacturing.

1 (89) 40 CFR Part 63, Subpart LLLLLL, National Emission Standards
2 for Hazardous Air Pollutants for Asphalt Processing and Asphalt
3 Roofing Manufacturing.

4 (90) 40 CFR Part 63, Subpart MMMMMM, National Emission Standards
5 for Hazardous Air Pollutants for Flexible Polyurethane Foam
6 Fabrication Operations.

7 (91) 40 CFR Part 63, Subpart NNNNNN, National Emission Standards
8 for Hazardous Air Pollutants for Hydrochloric Acid Production.

9 (92) 40 CFR Part 63, Subpart PPPPPP, National Emission Standards
10 for Hazardous Air Pollutants for Engine Test Cells/Stands.

11 (93) 40 CFR Part 63, Subpart QQQQQQ, National Emission Standards
12 for Hazardous Air Pollutants for Friction Materials Manufacturing
13 Facilities.

14 (94) 40 CFR Part 63, Subpart RRRRRR, National Emission Standards
15 for Hazardous Air Pollutants for Taconite Iron Ore Processing.

16 (95) 40 CFR Part 63, Subpart SSSSSS, National Emission Standards
17 for Hazardous Air Pollutants for Refractory Products Manufacturing.

18 (96) 40 CFR Part 63, Subpart TTTTTT, National Emission Standards
19 for Hazardous Air Pollutants for Primary Magnesium Refining.

20 (97) 40 CFR Part 63, Subpart UUUUUU, National Emission Standards
21 for Hazardous Air Pollutants for Coal- and Oil-Fired Electric Utility
22 Steam Generating Units.

23 (98) 40 CFR Part 63, Subpart WWWW, National Emission Standards
24 for Hospital Ethylene Oxide Sterilizers.

25 (99) 40 CFR Part 63, Subpart YYYYYY, National Emission Standards
26 for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace
27 Steelmaking Facilities.

28 (100) 40 CFR Part 63, Subpart ZZZZZZ, National Emission Standards
29 for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources.

30 (101) 40 CFR Part 63 Subpart BBBB National Emission Standards
31 for Hazardous Air Pollutants for Source Category: Gasoline
32 Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities

33 (102) 40 CFR Part 63 Subpart CCCCCC National Emission Standards
34 for Hazardous Air Pollutants for Source Category: Gasoline Dispensing
35 Facilities.

36 (103) 40 CFR Part 63, Subpart DDDDDD, National Emission
37 Standards for Hazardous Air Pollutants for Polyvinyl Chloride and
38 Copolymers Production Area Sources.

39 (104) 40 CFR Part 63, Subpart EEEEEEE, National Emission
40 Standards for Hazardous Air Pollutants for Primary Copper Smelting
41 Area Sources.

42 (105) 40 CFR Part 63, Subpart FFFFFFF, National Emission
43 Standards for Hazardous Air Pollutants for Secondary Copper Smelting
44 Area Sources.

45 (106) 40 CFR Part 63, Subpart GGGGGG, National Emission

1 Standards for Hazardous Air Pollutants for Primary Nonferrous Metals
2 Area Sources--Zinc, Cadmium, and Beryllium.

3 (107) 40 CFR Part 63, Subpart JJJJJJ, National Emission
4 Standards for Hazardous Air Pollutants for Industrial, Commercial, and
5 Institutional Boilers Area Sources.

6 (108) 40 CFR Part 63, Subpart LLLLLL, National Emission
7 Standards for Hazardous Air Pollutants for Acrylic and Modacrylic
8 Fibers Production Area Sources.

9 (109) 40 CFR Part 63, Subpart MMMMMM, National Emission
10 Standards for Hazardous Air Pollutants for Carbon Black Production
11 Area Sources.

12 (110) 40 CFR Part 63, Subpart NNNNNN, National Emission
13 Standards for Hazardous Air Pollutants for Chemical Manufacturing Area
14 Sources: Chromium Compounds.

15 (111) 40 CFR Part 63, Subpart OOOOOO, National Emission
16 Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam
17 Production and Fabrication Area Sources.

18 (112) 40 CFR Part 63, Subpart PPPPPP, National Emission
19 Standards for Hazardous Air Pollutants for Lead Acid Battery
20 Manufacturing Area Sources.

21 (113) 40 CFR Part 63, Subpart QQQQQQ, National Emission
22 Standards for Hazardous Air Pollutants for Wood Preserving Area
23 Sources.

24 (114) 40 CFR Part 63, Subpart RRRRRR, National Emission
25 Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing
26 Area Sources.

27 (115) 40 CFR Part 63, Subpart SSSSSS, National Emission
28 Standards for Hazardous Air Pollutants for Glass Manufacturing Area
29 Sources.

30 (116) 40 CFR Part 63, Subpart VVVVVV, National Emission
31 Standards for Hazardous Air Pollutants for Chemical Manufacturing Area
32 Sources.

33 (117) 40 CFR Part 63, Subpart TTTTTT, National Emission
34 Standards for Hazardous Air Pollutants for Secondary Nonferrous Metals
35 Processing Area Sources.

36 (118) 40 CFR Part 63, Subpart WWWWWW, National Emission
37 Standards for Hazardous Air Pollutants: Area Source Standards for
38 Plating and Polishing Operations.

39 (119) 40 CFR Part 63, Subpart XXXXXX, National Emission
40 Standards for Hazardous Air Pollutants Area Source Standards for Nine
41 Metal Fabrication and Finishing Source Categories.

42 (120) 40 CFR Part 63, Subpart YYYYYY, National Emission
43 Standards for Hazardous Air Pollutants for Area Sources: Ferroalloys
44 Production Facilities.

45 (121) 40 CFR Part 63, Subpart ZZZZZZ, National Emission

1 Standards for Hazardous Air Pollutants: Area Source Standards for
2 Aluminum, Copper, and Other Nonferrous Foundries.

3 (122) 40 CFR Part 63, Subpart AAAAAAA, National Emission
4 Standards for Hazardous Air Pollutants for Area Sources: Asphalt
5 Processing and Asphalt Roofing Manufacturing.

6 (123) 40 CFR Part 63, Subpart BBBB BBB, National Emission
7 Standards for Hazardous Air Pollutants for Area Sources: Chemical
8 Preparations Industry.

9 (124) 40 CFR Part 63, Subpart CCCCCC, National Emission
10 Standards for Hazardous Air Pollutants for Area Sources: Paints and
11 Allied Products Manufacturing.

12 (125) 40 CFR Part 63, Subpart DDDDDDD, National Emission
13 Standards for Hazardous Air Pollutants for Area Sources: Prepared
14 Feeds Manufacturing.

15 (126) 40 CFR Part 63, Subpart EEEEEEE, National Emission
16 Standards for Hazardous Air Pollutants: Gold Mine Ore Processing and
17 Production Area Source Category.

18
19 **KEY: air pollution, hazardous air pollutant, MACT, NESHAP**

20 **Date of Enactment or Last Substantive Amendment: 2017**

21 **Notice of Continuation: November 8, 2012**

22 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

R307-101-3: Summary of CFR Changes for July 1, 2016, Version

Rule	CFR Section Incorporated	Summary of Changes to CFR
R307-101-2	40 CFR 51.100(s)	<p>40 CFR 51.100(s)(1) was revised by amending the introductory text and removing (s)(5). This final action removed the recordkeeping, emissions reporting, photochemical dispersion modeling and inventory requirements related to the use of tertiary butyl acetate (TBAC) as a VOC.</p> <p>81 Fed. Reg. 9339 (February 25, 2016)</p>
	40 CFR 93, Subpart B	No Change
R307-170-7	40 CFR 75, Appendix A, Section 6.2	No Change
R307-221-2	Definitions 40 CFR 60.751	No Change
R307-221-3	40 CFR 60.752 through 60.759, including Appendix A	No Change
R307-221-4	Section 40 CFR Part 60.18	No Change
R307-222-2	40 CFR 60.31e	No Change
R307-222-2	40 CFR 60.51c	No Change
R307-222-3	40 CFR 60.52c(b), 40 CFR 60.53c, 40 CFR 60.55c, 40 CFR 60.58c(b) excluding (b)(2)(ii) and (b)(7), and 40 CFR 60.58c(c) through (f)	No Change
R307-222-4	Table 2 in 40 CFR Part 60, Subpart Ce (40CFR60.30e-39e)	No Change
R307-222-5(2)	40 CFR 60.36e(a)(1) and (a)(2)	No Change
R307-222-5(3)	Testing requirements of 40 CFR 60.37e(b)(1) through (b)(5)	No Change
R307-222-5(4)	40 CFR 60.37e(d)(1) through (d)(3)	No Change
R307-222-5(5)	40 CFR 60.38e(b)(1) and (b)(2)	No Change
R307-222-5(6)	40 CFR 60.1555(a) through (k)	No Change
R307-223-1(2)	40 CFR 60.1940	No Change
R307-223-2(1)	Equations found in 40 CFR 60.1935	No Change

R307-101-3: Summary of CFR Changes for July 1, 2016, Version

Rule	CFR Section Incorporated	Summary of Changes to CFR
R307-223-2(2)	40 CFR 60.1540 and 60.1585 through 60.1905, and with the requirements and schedules set forth in Tables 2 through 8 that are found following 40 CFR 60.1940 for operator training and certification	No Change
R307-223-3(1)	40 CFR Part 60, subpart HHHH, Sections 60.4101 through 60.4124; (b) Sections 60.4142 paragraph (c)(2) through paragraph (c)(4); (c) Sections 60.4150 through 60.4176.	No Change
R307-224-2	Definitions contained in 40 CFR 93.101	No Change
R307-310-2	40 CFR Parts 63.421, 63.425(e), 63.425(i),	No Change
R307-328	40 CFR Parts 70, 72.2, 720.3(ee)	No Change
R307-415	40 CFR Part 72	No change
R307-417-1	40 CFR Part 75	No Change
R307-417-2	40 CFR Part 76	No Change
R307-417-3	40 CFR 763 Subpart E, and appendices	No Change
R307-801-4		No Change

R307-210: Summary of CFR Changes from July 1, 2015, to July 1, 2016

Federal Register Info	CFR Reference	Summary of Changes to CFR
	60.13 (h)(2)(viii)	No Changes
80 Fed. Reg. 65,410 (October 23, 2015) [EPA-HQ-OAR-2013-0603]	60.17	The Environmental Protection Agency (EPA) finalized new source performance standards (NSPS) under Clean Air Act (CAA) section 111(b) that, for the first time, establish standards for emissions of carbon dioxide (CO ₂) for newly constructed, modified, and reconstructed affected fossil fuel-fired electric utility generating units (EGUs). This action established separate standards of performance for fossil fuel-fired electric utility steam generating units and fossil fuel-fired stationary combustion turbines. This action also addressed related permitting and reporting issues.
81 Fed. Reg. 20172 (April 6, 2016) EPA-HQ-OAR-2011-0044	60.48Da (f)	This action finalized the technical corrections that the Environmental Protection Agency (EPA) proposed on February 17, 2015, to correct and clarify certain text of the EPA's regulations regarding "National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units." The changes to 60.48Da(f) Revised the procedures for calculating compliance with the NSPS daily average particulate matter (PM) emission limit using PM continuous emission monitoring system (CEMS).
80 Fed. Reg. 44,772	40 CFR 60.61-60.64	This action finalized amendments to the National Emission

R307-210: Summary of CFR Changes from July 1, 2015, to July 1, 2016

Federal Register Info	CFR Reference	Summary of Changes to CFR
(July 27, 2015) [EPA-HQ-OAR-2011-0817]		<p>Standards for Hazardous Air Pollutants (NESHAP) for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants. 60.61(f) was revised to clarify the definition of an “operating day.” Definitions were added for “rolling average” and “run average.”</p> <p>60.62 (a)(1)(i), (2), (b)(1)(iii), (iv) and (e) were added to clarify the opacity standards and applicability of the rule.</p> <p>60.63 (c)(1), (2)(i), (iii), (3), (4)(ii), (iii), (iv) and (5) through (8) were revised to clarify the monitoring requirements.</p> <p>60.64 (c) was amended to include revised introductory text; (c)(2) was removed.</p>
80 Fed. Reg. 75,178 (December 1, 2015) [EPA-HQ-OAR-2010-0682]	40 CFR 60.100a-60.107a	This action finalized the residual risk and technology review conducted for the Petroleum Refinery source categories regulated under national emission standards for hazardous air pollutants (NESHAP) Refinery MACT 1 and Refinery MACT 2. It also included revisions to the Refinery MACT 1 and MACT 2 rules in accordance with provisions regarding establishment of MACT standards. This action also finalized technical corrections and clarifications for the new source performance standards (NSPS) for petroleum refineries to improve consistency and clarity and address issues related to a 2008 industry petition for reconsideration.
80 Fed. Reg. 50,386 (August 19, 2015) [EPA-HQ-OAR-2012-0522]	40 CFR 60.200; 60.201; 60.203; 60.205; 60.210; 62.211; 60.213 60.215;	This action finalized the residual risk and technology review conducted for the Phosphoric Acid Manufacturing and Phosphate Fertilizer Production source categories regulated

R307-210: Summary of CFR Changes from July 1, 2015, to July 1, 2016

Federal Register Info	CFR Reference	Summary of Changes to CFR
	60.223-60.225; 60.230; 60.233; 60.235; 60.243; 60.245.	<p>under national emission standards for hazardous air pollutants (NESHAP).</p> <p>The final amendments to the Phosphoric Acid Manufacturing NESHAP include: Numeric emission limits for previously unregulated mercury (Hg) and total fluoride emissions from calciners; work practice standards for hydrogen fluoride (HF) emissions from previously unregulated gypsum dewatering stacks and cooling ponds; clarifications to the applicability and monitoring requirements to accommodate process equipment and technology changes; removal of the exemptions for startup, shutdown, and malfunction (SSM); adoption of work practice standards for periods of startup and shutdown; and revised recordkeeping and reporting requirements for periods of SSM.</p> <p>The final amendments to the Phosphate Fertilizer Production NESHAP include: Clarifications to the applicability and monitoring requirements to accommodate process equipment and technology changes; removal of the exemptions for SSM; adoption of work practice standards for periods of startup and shutdown; and revised recordkeeping and reporting requirements for periods of SSM.</p>
	60.332; 60.543; 60.562-1; 60.614; 60.643; 60.664.	No Changes
	40 CFR 60.2000-60.2265 (Subpart CCCC)	No Changes
	40 CFR 60.4300-60.4420 (Subpart KKKK)	No Changes

R307-210: Summary of CFR Changes from July 1, 2015, to July 1, 2016

Federal Register Info	CFR Reference	Summary of Changes to CFR
80 Fed. Reg. 56,593 (September 18, 2015) [EPA-HQ-OAR-2010-0505]	40 CFR 60.5360-60.5499 (Subpart OOOO)	The heading was revised to read “Subpart OOOO Standards of Performance for Crude Oil and Natural Gas Production Transmission and Distribution for Which Construction Modification or Reconstruction Commenced After August 23 2011 and on or Before September 18 2015.”
81 Fed. Reg. 35,824 (June 3, 2016) [EPA-HQ-OAR-2010-0505]	40 CFR 60.5360a-60.5499a (Subpart OOOOa)	This action finalized amendments to the current new source performance standards (NSPS) and established new standards. Amendments to the current standards were promulgated to improve the implementation of the current NSPS. The new standards for the oil and natural gas source category set standards for both greenhouse gases (GHGs) and volatile organic compounds (VOC). Except for the implementation improvements, and the new standards for GHGs, these requirements do not change the requirements for operations covered by the current standards.
80 Fed. Reg. 65,410 (October 23, 2015) [EPA-HQ-OAR-2013-0603]	40 CFR 60.5508-60.5580 (Subpart TTTT)	The Environmental Protection Agency (EPA) finalized new source performance standards (NSPS) under Clean Air Act (CAA) section 111(b) that, for the first time, establish standards for emissions of carbon dioxide (CO ₂) for newly constructed, modified, and reconstructed affected fossil fuel-fired electric utility generating units (EGUs). This action established separate standards of performance for fossil fuel-fired electric utility steam generating units and fossil fuel-fired stationary combustion turbines. This action also addressed related permitting and reporting issues.
80 Fed. Reg. 64,662 (October 23, 2015)	40 CFR 60.5700-60.5880 (Subpart UUUU)	In this action, the Environmental Protection Agency (EPA) established final emission guidelines for states to follow in

R307-210: Summary of CFR Changes from July 1, 2015, to July 1, 2016

Federal Register Info	CFR Reference	Summary of Changes to CFR
[EPA-HQ-OAR-2013-0602]		developing plans to reduce greenhouse gas (GHG) emissions from existing fossil fuel-fired electric generating units (EGUs). Specifically, the EPA is established: Carbon dioxide (CO ₂) emission performance rates representing the best system of emission reduction (BSER) for two subcategories of existing fossil fuel-fired EGUs—fossil fuel-fired electric utility steam generating units and stationary combustion turbines; state-specific CO ₂ goals reflecting the CO ₂ emission performance rates; and guidelines for the development, submittal and implementation of state plans that establish emission standards or other measures to implement the CO ₂ emission performance rates, which may be accomplished by meeting the state goals.
80 Fed. Reg. 38,628 (July 7, 2015) [EPA-HQ-OAR-2013-0696]	40 CFR 60. Appendix B	Appendix B to part 60 was amended by adding Performance Specification 18. This performance specification provides information on test procedures for gaseous HCl continuous emission monitoring systems at stationary sources.

R307-214: Summary of CFR Changes from July 1, 2015 to July 1, 2016

Federal Register Info	CFR Reference	Summary of Changes to CFR
N/A	40 CFR 61	No changes
<p>80 Fed. Reg. 50,386 (August 19, 2015) [EPA-HQ-OAR-2012-0522]</p>	<p>40 CFR 63.600-63.611 (Subpart AA) 63.620--63.632 (Subpart BB)</p>	<p>This action finalized the residual risk and technology review conducted for the Phosphoric Acid Manufacturing and Phosphate Fertilizer Production source categories regulated under national emission standards for hazardous air pollutants (NESHAP).</p> <p>The final amendments to the Phosphoric Acid Manufacturing NESHAP include: Numeric emission limits for previously unregulated mercury (Hg) and total fluoride emissions from calciners; work practice standards for hydrogen fluoride (HF) emissions from previously unregulated gypsum dewatering stacks and cooling ponds; clarifications to the applicability and monitoring requirements to accommodate process equipment and technology changes; removal of the exemptions for startup, shutdown, and malfunction (SSM); adoption of work practice standards for periods of startup and shutdown; and revised recordkeeping and reporting requirements for periods of SSM.</p> <p>The final amendments to the Phosphate Fertilizer Production NESHAP include: Clarifications to the applicability and monitoring requirements to accommodate process equipment and technology changes; removal of the exemptions for SSM; adoption of work practice standards for periods of startup and shutdown; and revised recordkeeping and reporting requirements for periods of SSM.</p>
<p>80 Fed. Reg. 75,178 (December 1, 2015) [EPA-HQ-OAR-2010-0682]</p>	<p>40 CFR 63.640-63.679 (Subpart CC) 40 CFR 63.1560--63.1579 (Subpart UUU)</p>	<p>This rule finalized the EPA's determinations pursuant CAA section 112 for the Petroleum Refinery source categories and amends the Petroleum Refinery NESHAP based on those determinations. This action also finalized other changes to the NESHAP including revising Refinery MACT 1 and 2 pursuant to CAA section 112 (d)(2) and (3), including revising requirements for flares and pressure relief devices (PRD). This</p>

R307-214: Summary of CFR Changes from July 1, 2015 to July 1, 2016

Federal Register Info	CFR Reference	Summary of Changes to CFR
		<p>action finalized changes to the SSM provisions to ensure that the subparts are consistent with the court decision in <i>Sierra Club v. EPA</i>, 551 F. 3d 1019 (D.C. Cir. 2008), added electronic reporting requirements in Refinery MACT 1 and 2; and updated the General Provisions cross-reference tables.</p>
<p>80 Fed. Reg. 76152 (December 7, 2015) [EPA-HQ-OAR-2014-0830-0033]</p>	<p>40 CFR 63.741-63.759 (Subpart GG)</p>	<p>This action finalized the residual risk and technology review (RTR) and the rule review the Environmental Protection Agency (EPA) conducted for Aerospace Manufacturing and Rework Facilities under the national emissions standards for hazardous air pollutants (NESHAP). The final amendments added limitations to reduce organic and inorganic emissions of hazardous air pollutants (HAP) from specialty coating application operations; remove exemptions for periods of SSM so that affected units would be subject to the emission standards at all times; and revised provisions to address recordkeeping and reporting requirements applicable to periods of SSM. These final amendments included a requirement to report performance testing through the EPA's Compliance and Emissions Data Reporting Interface (CEDRI). This action also made clarifications to the applicability, definitions, and compliance demonstration provisions, and other technical corrections. The EPA estimated that implementation of this rule will reduce annual HAP emissions by 58 tons.</p>
<p>80 Fed. Reg. 45280 (July 29, 2015) [EPA-HQ-OAR-2010-1042-0352]</p>	<p>40 CFR 63.1175--63.1199 (Subpart DDD) 40 CFR 63.1380--63.1399 (Subpart NNN)</p>	<p>This action finalized the residual risk and technology reviews (RTR) conducted for the Mineral Wool Production and Wool Fiberglass Manufacturing source categories regulated under national emission standards for hazardous air pollutants (NESHAP). EPA established pollutant-specific emissions limits for hazardous air pollutants (HAP) that were previously regulated (under a surrogate) and for HAP that were previously unregulated. This action finalized first-time generally available control technologies (GACT) standards for gas-fired glass-</p>

R307-214: Summary of CFR Changes from July 1, 2015 to July 1, 2016

Federal Register Info	CFR Reference	Summary of Changes to CFR
		melting furnaces at wool fiberglass manufacturing facilities that are area sources. EPA also amended regulatory provisions related to emissions during periods of startup, shutdown, and malfunction (SSM); adding requirements for reporting of performance testing through the Electronic Reporting Tool (ERT); and made several minor clarifications and corrections. The revisions in these final rules will increase the level of emissions control and environmental protection provided by the Mineral Wool Production and Wool Fiberglass Manufacturing NESHAP.
81 Fed. Reg. 48356 (July 25, 2016) [EPA-HQ-OAR-2011-0817-0876]	40 CFR 63.1340--63.1359 (Subpart LLL)	This direct final rule provided, for a period of 1 year, an additional compliance alternative for sources that would otherwise be required to use an HCl CEMS to demonstrate compliance with the HCl emissions limit. This compliance alternative was needed due to the current unavailability of a calibration gas used for quality assurance purposes. This direct final rule also restored regulatory text requiring the reporting of clinker production and kiln feed rates that were deleted inadvertently.
80 Fed. Reg. 56700 (September 18, 2015) [EPA-HQ-OAR-2010-0544] 81 Fed. Reg. 38085 (Junw 13, 2016) [EPA-HQ-OAR-2010-0544]	40 CFR 63.1500--63.1520 (Subpart RRR)	This action finalized the residual risk and technology review (RTR), and the rule review, EPA conducted for the Secondary Aluminum Production source category regulated under national emission standards for hazardous air pollutants (NESHAP). In this action, EPA finalized several amendments to the NESHAP based on the rule review. These amendments included a requirement to report performance testing through the Electronic Reporting Tool (ERT); provisions allowing owners and operators to change furnace classifications; requirements to account for unmeasured emissions during compliance testing for group 1 furnaces that do not have add-on control devices; alternative compliance options for the operating and monitoring requirements for sweat furnaces; compliance provisions for hydrogen fluoride; provisions addressing emissions during periods of SSM; and other corrections and clarifications to the applicability, definitions, operating, monitoring and

R307-214: Summary of CFR Changes from July 1, 2015 to July 1, 2016

Federal Register Info	CFR Reference	Summary of Changes to CFR
		<p>performance testing requirements. These amendments will improve the monitoring, compliance and implementation of the rule.</p> <p>This rule was later amended again on June 13, 2016, to correct inadvertent errors, clarify rule requirements for initial performance tests and submittal of malfunction reports, providing an additional option for new round top furnaces to account for unmeasured emissions during compliance testing, and clarify what constitutes a change in furnace operating mode.</p>
80 Fed. Reg. 72790 [EPA-HQ-OAR-2002-0058]	63.7480--63.7575 (Subpart DDDDD)	<p>This action set forth the Environmental Protection Agency's (EPA's) final decision on the issues for which it granted reconsideration on January 21, 2015, that pertained to certain aspects of the January 31, 2013, final amendments to the “National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters” (Boiler MACT).</p> <p>The EPA retained a minimum carbon monoxide (CO) limit of 130 parts per million (ppm) and the particulate matter (PM) continuous parameter monitoring system (CPMS) requirements, consistent with the January 2013 final rule.</p> <p>The EPA also made minor changes to the proposed definitions of startup and shutdown and work practices during these periods, based on public comments received. Among other things, this final action addressed a number of technical corrections and clarifications of the rule. These corrections will clarify and improve the implementation of the January 2013 final Boiler MACT, but do not have any effect on the environmental, energy, or economic impacts associated with the proposed action.</p>

R307-214: Summary of CFR Changes from July 1, 2015 to July 1, 2016

Federal Register Info	CFR Reference	Summary of Changes to CFR
80 Fed. Reg. 65470 (October 26, 2015) [EPA-HQ-OAR-2013-0291]	63.8380--63.8515 (Subpart JJJJ) 63.8530--63.8665 (Subpart KKKKK)	EPA finalized national emission standards for hazardous air pollutants (NESHAP) for Brick and Structural Clay Products (BSCP) Manufacturing and NESHAP for Clay Ceramics Manufacturing. All major sources in these categories must meet maximum achievable control technology (MACT) standards for mercury (Hg), non-mercury (non-Hg) metal hazardous air pollutants (HAP) (or particulate matter (PM) surrogate) and dioxins/furans (Clay Ceramics only); health-based standards for acid gas HAP; and work practice standards, where applicable. The final rule protects air quality and promotes public health by reducing emissions of HAP listed in section 112 of the Clean Air Act (CAA).
81 Fed. Reg. 20172 (April 6, 2016) EPA-HQ-OAR-2011-0044	63.9980--63.10042 (Subpart UUUUU)	This action finalized the technical corrections that the Environmental Protection Agency (EPA) proposed on February 17, 2015, to correct and clarify certain text of the EPA's regulations regarding "National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units". EPA also took final action to remove the rule provision establishing an affirmative defense for malfunction.

ITEM 7



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQ-030-17

MEMORANDUM

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

FROM: Ryan Stephens, Environmental Planning Consultant

DATE: May 23, 2016

SUBJECT: PROPOSE FOR PUBLIC COMMENT: Amend R307-101-2. Definitions.

The area source rules for coatings currently contain a different definition for “coating” in each rule. This rule amendment will add a single definition of “coating” to the Utah Air Quality Rules. The new definition will apply to all of the area source coatings rules. The language of the new definition was taken from an Environmental Protection Agency guidance document on volatile organic compound (VOC) emissions from coatings used on plastic parts and products.

This rule amendment also adds a definition for “VOC content.” This definition is being added in response to requests from industry for clarification on how to calculate the weight of VOC per volume of material.

Recommendation: Staff recommends that the Board propose the amendments to R307-101-2 for public comment.

1 **R307. Environmental Quality, Air Quality.**2 **R307-101. General Requirements.**

3

4 **R307-101-2. Definitions.**

5 Except where specified in individual rules, definitions in
6 R307-101-2 are applicable to all rules adopted by the Air Quality
7 Board.

8

...

9

10 "Coating" means a material that can be applied to a substrate
11 and which cures to form a continuous solid film for protective,
12 decorative, or functional purposes. Such materials include, but
13 are not limited to, paints, varnishes, sealants, adhesives,
14 caulks, maskants, inks, and temporary protective coatings.

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18 "Composite vapor pressure" means the sum of the partial
19 pressures of the compounds defined as VOCs.

20

21

...

22

23 "VOC content" means the weight of VOC per volume of material
24 and is calculated by the following equation in gram/liter (or
25 alternately in pound/gallon):

26

27

$$28 \quad \text{Grams of VOC per Liter of Material} = \frac{W_s - W_w - W_{es}}{V_m}$$

29

30

31

32 Where:

33

34 Ws = weight of volatile organic compounds

35

36 Ww = weight of water

37

38 Wes = weight of exempt compounds

39

40 Vm = volume of material

41

42

43 **KEY: air pollution, definitions**

44 **Date of Enactment or Last Substantive Amendment:** [~~August 4,~~
45 ~~2016]~~2017

46 **Notice of Continuation:** May 8, 201447 **Authorizing, and Implemented or Interpreted Law:** 19-2-104(1)(a)

ITEM 8



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQ-035-17

MEMORANDUM

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

FROM: Joel Karmazyn, Environmental Scientist

DATE: May 23, 2017

SUBJECT: PROPOSE FOR PUBLIC COMMENT: Amend R307-344. Paper, Film, and Foil Coatings; R307-345. Fabric and Vinyl Coatings; R307-346. Metal Furniture Surface Coatings; R307-347. Large Appliance Surface Coatings; R307-349. Flat Wood Panel Coatings; R307-350. Miscellaneous Metal Parts and Products Coatings; R307-352. Metal Container, Closure, and Coil Coatings; R307-353. Plastic Parts Coatings.

Introduction

Staff is proposing these rule amendments to strengthen the area source coatings rules. These amendments will help further reduce Volatile Organic Compound (VOC) emissions and will be part of the upcoming Serious PM_{2.5} State Implementation Plan (SIP).

BACM Analysis Process

A PM_{2.5} Serious nonattainment SIP includes an analysis of the best available control measures (BACM) that can be feasibly and cost effectively implemented for all PM_{2.5} precursors. BACM is more stringent than the Moderate area standard of reasonably available control measures (RACM), but less stringent than the lowest achievable emission rate (LAER), which does not take into consideration the cost effectiveness of implementing a particular control measure. The BACM analysis for these rules was conducted based on:

- A comparison of existing rules to the EPA VOC Control Techniques Guideline (CTG) to assure that all appropriate CTGs have been addressed in rulemaking
- A comparison of Utah's air quality rules to rules in air districts that previously had areas reclassified from Moderate to Serious nonattainment for ozone and/or PM_{2.5}. The other air districts with Serious nonattainment areas are all located in California and include:

- San Joaquin Valley (SJ) – PM_{2.5}
 - South Coast Air District (SC) – PM_{2.5}
 - Ventura County, CA – ozone
 - Sacramento Metro, CA – ozone
- An evaluation of the technological/economic feasibility for newly identified controls and the enhancement of existing controls

Rule Comparative Analysis

The following provides a summary of the rule comparative analysis.

Utah Rule	Other Air District Rule	Difference Between Rules	BACM Recommended Action
R307-344 Paper, Film, and Foil Coatings	SJ Rule 4607 and SC Rule 1128 Ventura County Rule 74.3	Coating limits comparable to R307-344. CA rule applicability is lower. Rule 74.3 applies to all sources, but the coating limits in Rule 74.3 are an order of magnitude higher	Lower rule applicability
R307-345 Fabric and Vinyl Coatings	SJ Rule 4607 and SC Rule 1128	Coating limits comparable to R307-344. CA rule applicability is lower.	Lower rule applicability
R307-346 Metal Furniture Surface Coatings	SJ Rule 4603, SC Rule 1107 and Sacramento Rule 451	Comparable except that the applicability of R307-346 is stricter than Sacramento Rule 451	Lower rule applicability
R307-347 Large Appliance Surface Coatings	SJ Rule 4603 and SC Rule 1107	Coating limits comparable to R307-344. CA rule applicability is lower.	Lower rule applicability
R307-349 Flat Wood Panel Coatings	SJ Rule 4606 and SC Rule 1104	Coating limits comparable to R307-344. CA rule applicability is lower.	Lower rule applicability
R307-350 Miscellaneous Metal Parts and Products Coatings	SC Rule 1107, Sacramento Rule 451 and Ventura Rule 74.12	Coating limits comparable to R307-344. CA rule applicability is lower.	Lower rule applicability
R307-352 Metal Container, Closure, and Coil Coatings	SJ Rule 4604, SC Rule 1125 and Sacramento Rule 452	Coating limits comparable to R307-344. CA rule applicability is lower.	Lower rule applicability
R307-353 Plastic Parts Coatings	SJ Rule 4603	Coating limits comparable to R307-344. CA rule applicability is lower.	Lower rule applicability

BACM Conclusions

1. The Utah rule coating limits are already at BACM;
2. The California rules have lower applicability thresholds than those in Utah’s current rules. The California rule applicability thresholds range from applying to all sources but with many exemptions, to applying to sources whose coating and solvent usage levels are well below those included in the current Utah rules.

Proposed Rulemaking

The proposed rule revisions are summarized below:

- The applicability thresholds are reduced from 2.7 tons per year (tpy) potential to emit to 20 gallons or more of VOC-containing coatings and solvent usage combined. The new applicability level will discriminate between homeowners and hobbyists who conduct coating operations from commercial/industrial sources.
- The definition of a coating is removed from each rule and added to the definitions in R307-101. General Requirements.
- Canned aerosol coating products are exempted for miscellaneous metal and plastic coating, as per EPA guidance recommendations and consistent with comparable rules. This exemption is expected to be a de minimis emission.
- The form of the solvent cleaning limit is changed from a lb/gal limit to a composite vapor pressure limit.

Changing the Form of the Cleaning Solvent Limit

These coatings rules contain a cleaning solvent VOC limit of 0.21 lb/gallon. This limit was adopted from certain California air district rules for the Moderate PM_{2.5} SIP in an aggressive attempt to attain the standard. This extreme VOC content limit for cleaning solutions precludes the use of any organic solvent but acetone. Acetone is not a universal solvent and is incompatible with many coating formulations. That is to say that acetone does not uniformly dissolve all coating materials; therefore, it does not meet all industrial cleaning requirements. An example of this limitation is explained in EPA's guidance (EPA 453/R-07-003) for coating on paper, film and foil, where EPA states that "little information is available regarding the types of low-VOC or VOC-free cleaning materials that could be used in the paper, film, and foil surface coating industry." Similarly, EPA states in its miscellaneous metals and plastic coating guidance (EPA-453/R-08-003), "Cleaning materials with low VOC content would generate less VOC emissions than materials with high VOC content, but may not be feasible with the broad range of coatings used in the miscellaneous metal product and plastic parts surface coating facilities."

Additional concerns have been raised regarding possible equipment damage, such as rusting, by using aqueous based solutions. The most serious concern is the fire hazard caused by the extremely low flash point of acetone. Related to this is the rapid evaporation of acetone that limits its use in many cleaning operations.

Setting a solvent cleaning limit based on vapor pressure is a more appropriate form than using a density limit (lb/gal) approach and is consistent with options offered in some EPA guidance documents. Vapor pressure is a measure of the tendency of particles to escape from the liquid form of a chemical to an airborne vapor, at room temperature. It is also an indicator of a liquid's evaporation rate. Substances with a high vapor pressure readily release vapors into the air. Consequently, it is desirable for sources to use chemicals with low vapor pressure when possible in order to reduce VOC evaporation. The advantages of low vapor pressure solvent formulations include:

- Low solvent evaporation rate reduces product wastage. Surface cleaning solvents are only effective in their liquid state. This means that the more they evaporate, the more solvent is needed to complete the task. Using less solvent saves cost.
- Low solvent evaporation reduces emissions to air.
- Low solvent evaporation reduces emissions in the work place which improves worker safety.
- Using low vapor pressure solvent formulations avoids the use of hazardous air pollutant chemicals like methylene chloride.

A Vapor Pressure Limit Provides More Cleaning Options

Excellent cleaning solvents like xylene have a high vapor pressure. If the vapor pressure of a xylene solution can be suppressed, xylene could be used for cleaning while reducing emissions. This can be done by applying a physical-chemical phenomenon known as Raoult’s Law. Raoult’s Law states that when a substance is dissolved in a solution, the vapor pressure of the solution will decrease. Finding ways to formulate salts (the substance) for example, into a xylene solution will dramatically reduce the vapor pressure of the solution. Changing the form of the limit will permit formulation chemists to come up with more cleaning options while reducing VOC emissions.

Selecting the Vapor Pressure Limit

EPA approved these coating rules as part of the Moderate PM_{2.5} SIP; therefore, revisions to them must not be relaxed. Consequently, the 0.21 lb/gallon VOC cleaning limit must be converted to a comparable vapor pressure limit.

EPA determined that the “cleaning materials with VOC composite vapor pressure less than 10 millimeters of mercury (mm Hg) at 20°C when used in conjunction with good work practices achieve a comparable emission reduction to cleaning materials containing 30 weight percent VOC (EPA-453/R-06-002, pg 12).” This ratio means that the 0.21 lb/gallon is comparable to 1 mm Hg as follows:

Assuming VOC average solution weighs 7 lb/gallon, 0.21 lb/gallon is equal to 3% VOC;

If 10 mm Hg vapor pressure is equal to 30% VOC, then 1 mm Hg is equal to 3% VOC.

Cost

The rule implementation costs presented in the Moderate SIP have been updated to account for inflation.

Rules	Cost/Ton VOC Removed Based on 2016 Inflation Indicator
R307-344. Paper, Film & Foil Coating	\$1,878
R307-345. Fabric & Vinyl Coating	\$3,658
R307-346. Metal Furniture Surface Coating	\$2,482
R307-347. Large Appliance Surface Coating	\$2,482
R307-349. Flat Wood Panel Coating	\$2,680
R307-350. Miscellaneous Metal Parts & Products Coating	\$2,111
R307-352. Metal Containers, Closure & Coil Coating	\$3,369
R307-353. Plastic Parts Coating	\$2,111

Recommendation: Staff recommends the Board propose the amendments to the included coatings rules for a 45-day public comment period.

1 **R307. Environmental Quality, Air Quality.**

2 **R307-344. Paper, Film, and Foil Coatings.**

3 **R307-344-1. Purpose.**

4 The purpose of this rule is to limit volatile organic compound
5 (VOC) emissions from ~~[roll, knife, and rotogravure coaters and drying~~
6 ~~ovens of]~~ paper, film, and foil coating operations.

7
8 **R307-344-2. Applicability.**

9 R307-344 applies to ~~[sources]~~paper, film, and foil coating
10 operations and related cleaning activities that use a combined 20
11 gallons or more of coating products and associated solvents per year
12 and are located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah
13 and Weber counties ~~[that have the potential to emit 2.7 tons per year~~
14 ~~or more of VOC, including related cleaning activities].~~

15
16 **R307-344-3. Definitions.**

17 The following additional definitions apply to R307-344:

18 "As applied" means the VOC and solids content of the finishing
19 material that is actually used for coating the substrate. It includes
20 the contribution of materials used for in-house dilution of the
21 finishing material.

22 ~~["Coating" means a protective, functional, or decorative film~~
23 ~~applied in a thin layer to a surface. This term often applies to~~
24 ~~paints such as lacquers or enamels. It is also used to refer to films~~
25 ~~applied to paper, plastics, or foil.]~~

26 "Film coating" means any coating applied in a web coating process
27 on any film substrate other than paper or fabric, including, but not
28 limited to, typewriter ribbons, photographic film, magnetic tape,
29 and metal foil gift wrap.

30 "Foil coating" means a coating applied in a web coating process
31 on any foil substrate other than paper or fabric, including, but not
32 limited to, typewriter ribbons, photographic film, magnetic tape,
33 and metal foil gift wrap, but excluding coatings applied to packaging
34 used exclusively for food and health care products for human and animal
35 consumption.

36 ~~["Knife coating" means the application of a coating material~~
37 ~~to a substrate by means of drawing the substrate beneath a blade that~~
38 ~~spreads the coating evenly over the width of the substrate.]~~

39 "Paper coating" means uniform distribution of coatings put on
40 paper, film, foils and pressure sensitive tapes regardless of
41 substrate. Related web coating processes on plastic film and
42 decorative coatings on metal foil are included in this definition.
43 Paper coating covers saturation operations as well as coating
44 operations.

45 ~~["Roll coating" means the application of a coating material to~~
46 ~~a substrate by means of hard rubber or steel rolls.~~

47 ~~"Roll printing" means the application of words, designs and~~
48 ~~pictures to a substrate usually by means of a series of hard rubber~~
49 ~~or steel rolls each with only partial coverage.~~

50 ~~—"Rotogravure coating" means the application of a uniform layer~~
51 ~~of material across the entire width of the web to substrate by means~~
52 ~~of a roll coating technique in which the pattern to be applied is~~
53 ~~etched on the coating roll. The coating material is picked up in~~
54 ~~these recessed areas and is transferred to the substrate.]~~

1 "Saturation" means dipping the web into a bath.

2 "Web" means a continuous sheet of substrate.

3

4 **R307-344-4. VOC Content Limits.**

5 ~~[Each owner or operator shall not]~~ No owner or operator shall
6 apply coatings with a VOC content [in excess of] greater than the
7 amounts specified in Table 1 [or shall use], unless the owner or
8 operator uses an add-on control device as specified in R307-344-6.

9

10 TABLE 1

11 Paper, Film, and Foil Coating Limitations

12 (values in pounds VOC per pound of coating, minus water and
13 exempt solvents (compounds not classified as VOC as defined in
14 R307-101-2), as applied)

15

17 C[OATING]oating	18 C[ATEGORY]ategory	19 VOC	20 [EMISSION RATES]Content
21 Limits (lb/lb)			
22 Paper, film and foil			0.08
23 Pressure sensitive tape			0.067
24 and label			

25 **R307-344-5. Work Practices [and Recordkeeping].**

26 (1) Control techniques and work practices are to be implemented
27 at all times to reduce VOC emissions. Control techniques and work
28 practices include:

- 29 ~~[(a) Using tight fitting covers for open tanks;]~~
30 ~~[(b)a) Using covered containers for solvent wiping cloths;~~
31 ~~[(e)b) Using collection hoods for areas where solvent is used~~
32 ~~for cleanup;~~
33 ~~[(d)c) Minimizing spills of VOC-containing cleaning materials;~~
34 ~~[(e)d) Conveying VOC-containing materials from one location~~
35 ~~to another in closed containers or pipes; and~~
36 ~~[(f)e) Cleaning spray guns in enclosed systems[; and~~
37 ~~(g) Using recycled solvents for cleaning].~~

38 ~~[(2) All sources subject to R307-344 shall maintain records~~
39 ~~demonstrating compliance with R307-344-4 and R307-344-5.~~

40 ~~—(a) Records shall include, but not limited to, inventory and~~
41 ~~product data sheets of all coatings and solvents subject to R307-344.~~

42 ~~—(b) These records shall be available to the director upon~~
43 ~~request.]~~

44 ~~[(3)2) No person shall apply coatings unless these materials~~
45 ~~are applied with equipment operated according to the manufacturer's~~
46 ~~specifications, and by the use of one of the following methods:~~

- 47 (a) Flow coater;
48 (b) Roll coater;
49 (c) Dip coater;
50 (d) Foam coater;
51 (e) Die coater;
52 (f) Hand application methods;
53 (g) High-volume, low pressure (HVLV) spray; or
54 (h) Other application method capable of achieving [at least]

1 65% or greater transfer efficiency, as certified by the manufacturer.
2 ~~([4]3) [All persons shall perform s]Solvent cleaning operations~~
3 ~~[with]shall be performed using cleaning materials having a VOC~~
4 ~~[content (excluding water and solvents exempt from the definition~~
5 ~~of volatile organic compounds found in R307-101-2) of 0.21 pounds~~
6 ~~per gallon or less]composite vapor pressure no greater than 1 mm Hg~~
7 ~~at 20 degrees Celsius, unless an add-on control device is used as~~
8 ~~specified in R307-344-6.~~
9

10 **R307-344-6. Add-On Controls Systems Operations.**

11 (1) ~~If an add-on control system is used, [F]the owner or operator~~
12 ~~shall install and maintain [an incinerator, carbon adsorption, or~~
13 ~~any other]the add-on emission control system[, provided that the~~
14 ~~emission control system is operated and maintained] in accordance~~
15 ~~with the manufacturer recommendations [in order to]and maintain [at~~
16 ~~least] 90% or greater capture and control efficiency. [Determination~~
17 ~~of]The overall capture and control efficiency shall be determined~~
18 ~~using EPA approved methods, as follows.~~

19 (a) The capture efficiency of a VOC emission control system's
20 VOC collection device shall be determined according to EPA's
21 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
22 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

23 (b) The control efficiency of a VOC emission control system's
24 VOC control device shall be determined using test methods in Appendices
25 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
26 gaseous organic concentrations, or emissions of exempt compounds,
27 as applicable.

28 (c) An alternative test method may be substituted for the
29 preceding test methods after review and approval by the EPA
30 Administrator.

31 ~~[(2) The owner or operator of a control system shall provide~~
32 ~~documentation that the emission control system will attain the~~
33 ~~requirements of R307-344-6(1).~~

34 ~~(3) The owner or operator shall maintain records of key system~~
35 ~~parameters necessary to ensure compliance with R307-344-6. Key system~~
36 ~~parameters may include, but are not limited to, temperature, pressure~~
37 ~~and flow rates. Operator inspection schedule, monitoring,~~
38 ~~recordkeeping, and key parameters shall be in accordance with the~~
39 ~~manufacturer's recommendations, and as required to demonstrate~~
40 ~~operations are providing continuous emission reduction from the source~~
41 ~~during all periods that the operations cause emissions from the source.~~

42 ~~(4) The owner or operator shall maintain for a minimum of two~~
43 ~~years records of operating and maintenance sufficient to demonstrate~~
44 ~~that the equipment is being operated and maintained in accordance~~
45 ~~with the manufacturer recommendations.]~~
46

47 **R307-344-7. Recordkeeping.**

48 (1) The owner or operator shall maintain records of the following:

49 (a) Records that demonstrate compliance with R307-344. Records
50 shall include, but are not limited to, inventory and product data
51 sheets of all coatings and solvents subject to R307-344.

52 (b) If an add-on control device is used, records of key system
53 parameters necessary to ensure compliance with R307-344-6.

54 (i) Key system parameters shall include, but are not limited

1 to, temperature, pressure, flow rates, and an inspection schedule.

2 (ii) Key inspection parameters shall be in accordance with the
3 manufacturer's recommendations, and as required to demonstrate
4 operations are providing continuous emission reduction from the source
5 during all periods that the operations cause emissions from the source.

6 (2) All records shall be maintained for a minimum of 2 years.

7 (3) Records shall be made available to the director upon request.

8

9

10 **KEY: VOC emission, paper coating, film coating, foil coating**

11 **Date of Enactment or Last Substantive Amendment: [~~December 1,~~**
12 **2014]2017**

13 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-345. Fabric and Vinyl Coatings.**

3 **R307-345-1. Purpose.**

4 The purpose of this rule is to limit volatile organic compound
5 (VOC) emissions from fabric and vinyl coating operations~~[, which use~~
6 ~~roll, knife, or rotogravure coaters and drying ovens].~~

7
8 **R307-345-2. Applicability.**

9 R307-345 applies to ~~[sources]~~vinyl coating operations and
10 related cleaning activities that use a combined 20 gallons or more of
11 coating products and associated solvents per year and are located in
12 Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber counties
13 ~~[that have the potential to emit 2.7 tons per year or more of VOC,~~
14 ~~including related cleaning activities].~~

15
16 **R307-345-3. Definitions.**

17 The following additional definitions apply to R307-345:

18 "As applied" means the VOC and solids content of the finishing
19 material that is actually used for coating the substrate. It includes
20 the contribution of materials used for in-house dilution of the
21 finishing material.

22 ~~["Coating" means a protective, functional, or decorative film~~
23 ~~applied in a thin layer to a surface.]~~

24 "Fabric coating" means the coating or saturation of a textile
25 substrate with a knife, roll or rotogravure coater to impart
26 characteristics that are not initially present, such as strength,
27 stability, water or acid repellency, or appearance. Fabric coatings
28 can include, but are not limited to, industrial and electrical tapes,
29 tie cord, utility meter seals, imitation leathers, tarpaulins, shoe
30 material, and upholstery fabrics.

31 "Knife coating" means the application of a coating material to
32 a substrate by means of drawing the substrate beneath a blade that
33 spreads the coating evenly over the width of the substrate.

34 "Roller coating" the coating material is applied to the moving
35 fabric, in a direction opposite to the movement of the substrate, by
36 hard rubber or steel rolls.

37 "Rotogravure coating" means the application of a uniform layer
38 of material across the entire width of the web to substrate by means
39 of a roll coating technique in which the pattern to be applied is etched
40 on the coating roll. The coating material is picked up in these
41 recessed areas and is transferred to the substrate.

42 ~~["Vinyl coating" means applying a decorative or protective top~~
43 ~~coat, or printing on vinyl coated fabric or vinyl sheets.]~~

44
45 **R307-345-4. VOC Content Limits.**

46 (1) ~~[Each]~~No owner or operator shall ~~[not]~~ apply fabric or

1 vinyl coatings with a VOC content [~~in excess of the amounts specified~~
 2 ~~in Table 1 or shall use an add-on control device as specified in~~
 3 ~~R307-345-6.~~]greater than 2.2 pounds of VOC per gallon of coating, minus
 4 water and exempt solvents (compounds not classified as VOC as defined
 5 in R307-101-2), as applied, unless the owner or operator uses an add-on
 6 device as specified in R307-345-6.

7 [TABLE 1

8
9 ~~Fabric and Vinyl Coating Limitations~~

10 ~~(values in pounds VOC per gallon of coating, minus water and~~
 11 ~~exempt solvents (compounds not classified as VOC), as applied)~~

13 COATING CATEGORY	VOC	VOC
14	CONTENT LIMITS	CONTENT LIMITS
15	Effective Through	Effective Beginning
16	December 31, 2014	January 1, 2015
17 Fabric	2.9	2.2
18		
19 Vinyl	3.8	2.2]
20		

21 (2) Organosol and plastisol coatings shall not be used to bubble
 22 emissions from vinyl printing and top coating.

23
24 **R307-345-5. Work Practices[~~and Recordkeeping~~].**

25 (1) Control techniques and work practices are to be implemented
 26 at all times to reduce VOC emissions. Control techniques and work
 27 practices include:

- 28 [~~(a) Tight fitting covers for open tanks or drums;~~
- 29 ~~([b]a) Covered containers for solvent wiping cloths;~~
- 30 ~~([e]b) Collection hoods for areas where solvent is used for~~
 31 ~~cleanup;~~
- 32 ~~([d]c) Covered mixing tanks; and~~
- 33 ~~([e]d) Covered hoods and oven routed to add-on control devices,~~
 34 ~~which may include, but are not limited to, after burners, thermal~~
 35 ~~incinerators, catalytic oxidation, or carbon adsorption.~~

36 (2) No person shall apply any coating unless the coating
 37 application method achieves a demonstrated 65% transfer efficiency.

38 The following applications achieve a minimum of 65% transfer
 39 efficiency and must be operated in accordance with the manufacturers
 40 specifications:

- 41 (a) Foam coat;
- 42 (b) Flow coat;
- 43 (c) Roll coat;
- 44 (d) Dip coat;
- 45 (e) Die coat;
- 46 (e) High-volume, low-pressure (HVLP) spray;

1 (f) Hand application methods; or
2 (g) Other application method capable of achieving [at least]
3 65% or greater transfer efficiency, as certified by the manufacturer.

4 (3) ~~[All persons shall perform s]~~ Solvent cleaning operations
5 ~~[with]~~ shall be performed using cleaning materials having a VOC
6 ~~[content (excluding compounds not classified as VOC) of 0.21 pounds~~
7 ~~per gallon or less]~~ composite vapor pressure no greater than 1 mm Hg
8 at 20 degrees Celsius, unless an add-on control device is used as
9 specified in R307-345-6.

10 ~~[(4) All sources subject to R307-345 shall maintain records~~
11 ~~demonstrating compliance with R307-345-4 and R307-345-5.]~~

12 ~~(a) Records shall include, but not be limited to, inventory and~~
13 ~~product data sheets of all coatings and solvents subject to R307-345.~~

14 ~~(b) These records shall be available to the director upon~~
15 ~~request.]~~

16

17 **R307-345-6. Add-On Controls Systems Operations.**

18 (1) If an add-on control system is used, [F]the owner or operator
19 shall install and maintain ~~[an incinerator, carbon adsorption, or any~~
20 ~~other]~~the add-on emission control system~~[-, provided that the emission~~
21 ~~control system is operated and maintained]~~ in accordance with the
22 manufacturer recommendations ~~[in order to]~~and maintain [at least]
23 90% or greater capture and control efficiency. ~~[Determination of]~~The
24 overall capture and control efficiency shall be determined using EPA
25 approved methods, as follows.

26 (a) The capture efficiency of a VOC emission control system's
27 VOC collection device shall be determined according to EPA's
28 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
29 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

30 (b) The control efficiency of a VOC emission control system's
31 VOC control device shall be determined using test methods in Appendices
32 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
33 gaseous organic concentrations, or emissions of exempt compounds, as
34 applicable.

35 (c) An alternative test method may be substituted for the
36 preceding test methods after review and approval by the EPA
37 Administrator.

38 ~~[(2) The owner or operator of a control system shall provide~~
39 ~~documentation that the emission control system will attain the~~
40 ~~requirements of R307-345-6(1).]~~

41 ~~(3) The owner or operator shall maintain records of key system~~
42 ~~parameters necessary to ensure compliance with R307-345-6. Key system~~
43 ~~parameters may include, but are not limited to, temperature, pressure~~
44 ~~and flow rates. Operator inspection schedule, monitoring,~~
45 ~~recordkeeping, and key parameters shall be in accordance with the~~
46 ~~manufacturer's recommendations, and as required to demonstrate~~

1 operations are providing continuous emission reduction from the source
2 during all periods that the operations cause emissions from the source.
3 ~~_____ (4) The owner or operator shall maintain for a minimum of two~~
4 ~~years records of operating and maintenance sufficient to demonstrate~~
5 ~~that the equipment is being operated and maintained in accordance with~~
6 ~~the manufacturer recommendations.]~~

7
8 **R307-345-7. Recordkeeping.**

9 (1) The owner or operator shall maintain records of the following:

10 (a) Records that demonstrate compliance with R307-345. Records
11 shall include, but are not limited to, inventory and product data
12 sheets of all coatings and solvents subject to R307-345.

13 (b) If an add-on control device is used, records of key system
14 parameters necessary to ensure compliance with R307-345-6.

15 (i) Key system parameters shall include, but are not limited to,
16 temperature, pressure, flow rates, and an inspection schedule.

17 (ii) Key inspection parameters shall be in accordance with the
18 manufacturer's recommendations, and as required to demonstrate
19 operations are providing continuous emission reduction from the source
20 during all periods that the operations cause emissions from the source.

21 (2) All records shall be maintained for a minimum of 2 years.

22 (3) Records shall be made available to the director upon request.

23
24 **KEY: air pollution, emission controls, fabric coating, vinyl coating**
25 **Date of Enactment or Last Substantive Amendment: [~~December 1,~~**
26 **2014]2017**

27 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-346. Metal Furniture Surface Coatings.**

3 **R307-346-1. Purpose.**

4 The purpose of this rule is to limit volatile organic compound
5 (VOC) emissions from metal furniture surface coating operations in
6 application areas, flash-off areas, and ovens of metal furniture
7 coating lines involved in prime and top-coat or single coat operations.

8
9 **R307-346-2. Applicability.**

10 R307-346 applies to ~~[sources]~~metal furniture surface coating
11 operations and related cleaning activities that use a combined 20
12 gallons or more of coating products and associated solvents per year
13 and are located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah
14 and Weber counties~~[that have the potential to emit 2.7 tons per year~~
15 ~~or more of VOC, including related cleaning activities].~~

16
17 **R307-346-3. Exemptions.**

- 18 (1) The requirements of R307-346 do not apply to the following:
19 (a) Stencil coatings;
20 (b) Safety-indicating coatings;
21 (c) Solid-film lubricants;
22 (d) Electrical-insulating and thermal-conducting coatings;
23 (e) Touch-up and repair coatings; or
24 (f) Coating applications utilizing hand-held aerosol cans.

25
26 **R307-346-4. Definitions.**

27 The following additional definitions apply to R307-346:

28 "Air dried coating" means coatings that are dried by the use
29 of air or a forced warm air at temperatures up to 194 degrees
30 Fahrenheit.

31 "Application area" means the area where the coating is applied
32 by spraying, dipping, or flow coating techniques.

33 "As applied" means the VOC and solids content of the finishing
34 material that is actually used for coating the substrate. It includes
35 the contribution of materials used for in-house dilution of the
36 finishing material.

37 "Baked coating" means a coating that is cured at a temperature
38 at or above 194 degrees Fahrenheit.

39 ~~["Coating" means a protective, functional, or decorative film~~
40 ~~applied in a thin layer to a surface. This term applies to paints,~~
41 ~~sealants, caulks, inks, adhesives, and maskants.]~~

42 "Extreme performance coatings" means coatings designed for harsh
43 exposure or extreme environmental conditions.

44 ~~["Maskants" means a material that protects a metal surface during~~
45 ~~the etching process.]~~

46 "Metal furniture surface coating" means the surface coating of
47 any furniture made of metal or any metal part that will be assembled
48 with other metal, wood fabric, plastic, or glass parts to form a
49 furniture piece.

50
51
52 **R307-346-5. VOC Content Limits.**

53 ~~[Each]~~No owner or operator shall ~~[not]~~ apply coatings with a
54 VOC content ~~[in excess of]~~greater than the amounts specified in Table

1 ~~1 [or shall]~~, unless the owner or operator uses an add-on control
2 device as specified in R307-346-7.

3
4 TABLE 1

5
6 METAL FURNITURE SURFACE COATING VOC LIMITS
7 (values in pounds of VOC per gallon of coating, minus water and
8 exempt solvents (compounds not classified as VOC as defined in
9 R307-101-2), as applied)

10
11 C[OATING]oating C[ATEGORY]ategory VOC C[ONTENT]ontent L[IMITS]imits
12 (lb/gal)

	Baked	Air Dried
16 General, One Component	2.3	2.3
18 General, Multi-Component	2.3	2.8
20 Extreme High Gloss	3.0	2.8
22 Extreme Performance	3.0	3.5
24 Heat Resistant	3.0	3.5
26 Metallic	3.5	3.5
28 Pretreatment Coatings	3.5	3.5
30 Solar Absorbent	3.0	3.5

31
32 **R307-346-6. Work Practices.**

33 (1) The owner or operator shall:

34 (a) Store all VOC-containing coatings, thinners, and cleaning
35 materials in closed containers;

36 (b) Minimize spills of VOC-containing coatings, thinners, and
37 cleaning materials;

38 (c) Clean up spills immediately;

39 (d) Convey any coatings, thinners, and cleaning materials in
40 closed containers or pipes;

41 (e) Close mixing vessels that contain VOC coatings and other
42 materials except when specifically in use; and

43 (f) Minimize usage of solvents during cleaning of storage,
44 mixing, and conveying equipment.

45 (2) No person shall apply any coating unless the coating
46 application method achieves a demonstrated 65% transfer efficiency.

47 The following applications achieve a minimum of 65% transfer
48 efficiency and shall be operated in accordance with the manufacturers
49 specifications:

50 (a) Electrostatic application;

51 (b) Electrodeposition;

52 (c) Brush coat;

53 (d) Flow coat;

54 (e) Roll coat;

1 (f) Dip coat;
2 (g) Continuous coating;
3 (h) High-volume, low-pressure (HVL) spray; or
4 (i) Other application method capable of achieving ~~[at least]~~
5 65% or greater transfer efficiency, as certified by the manufacturer.

6 ~~(3) [All persons shall perform s]Solvent cleaning operations~~
7 ~~[with]shall be performed using cleaning materials having a VOC~~
8 ~~[content (excluding water and solvents exempt from the definition~~
9 ~~of volatile organic compounds found in R307-101-2) of 0.21 pounds~~
10 ~~per gallon or less]composite vapor pressure no greater than 1 mm Hg~~
11 ~~at 20 degrees Celsius, unless [such cleaning operations are performed~~
12 ~~within the control of the emission control system of]an add-on control~~
13 ~~device is used as specified in R307-346-7.~~

14 ~~[(4) All sources subject to R307-346 shall maintain records~~
15 ~~demonstrating compliance with R307-346-5 and R307-346-6.~~

16 ~~—(a) Records shall include, but not be limited to, inventory~~
17 ~~and product data sheets of all coatings and solvents subject to~~
18 ~~R307-346.~~

19 ~~—(b) These records shall be available to the director upon~~
20 ~~request.]~~

21 22 **R307-346-7. Add-On Controls Systems Operations.**

23 (1) If an add-on control system is used, ~~[F]the~~ owner or operator
24 shall install and maintain ~~[an incinerator, carbon adsorption, or~~
25 ~~any other]the~~ add-on emission control system~~[, provided that the~~
26 ~~emission control system is operated and maintained]~~ in accordance
27 with the manufacturer recommendations ~~[in order to]~~and maintain ~~[at~~
28 ~~least]~~ 90% or greater capture and control efficiency. Determination
29 of overall capture and control efficiency shall be determined using
30 EPA approved methods, as follows.

31 (a) The capture efficiency of a VOC emission control system's
32 VOC collection device shall be determined according to EPA's
33 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
34 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

35 (b) The control efficiency of a VOC emission control system's
36 VOC control device shall be determined using test methods in Appendices
37 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
38 gaseous organic concentrations, or emissions of exempt compounds,
39 as applicable.

40 (c) An alternative test method may be substituted for the
41 preceding test methods after review and approval by the EPA
42 Administrator.

43 ~~[(2) The owner or operator of a control system shall provide~~
44 ~~documentation that the emission control system will attain the~~
45 ~~requirements of R307-346-7(1).~~

46 ~~—(3) The owner or operator shall maintain records of key system~~
47 ~~parameters necessary to ensure compliance with R307-346-7. Key system~~
48 ~~parameters may include, but are not limited to, temperature, pressure~~
49 ~~and flow rates. Operator inspection schedule, monitoring,~~
50 ~~recordkeeping, and key parameters shall be in accordance with the~~
51 ~~manufacturer's recommendations, and as required to demonstrate~~
52 ~~operations are providing continuous emission reduction from the source~~
53 ~~during all periods that the operations cause emissions from the source.~~

54 ~~—(4) The owner or operator shall maintain for a minimum of two~~

1 ~~years records of operating and maintenance sufficient to demonstrate~~
2 ~~that the equipment is being operated and maintained in accordance~~
3 ~~with the manufacturer recommendations.]~~

4
5 **R307-346-8. Recordkeeping.**

6 (1) The owner or operator shall maintain records of the following:

7 (a) Records that demonstrate compliance with R307-346. Records
8 shall include, but are not limited to, inventory and product data
9 sheets of all coatings and solvents subject to R307-346.

10 (b) If an add-on control device is used, records of key system
11 parameters necessary to ensure compliance with R307-346-7.

12 (i) Key system parameters shall include, but are not limited
13 to, temperature, pressure, flow rates, and an inspection schedule.

14 (ii) Key inspection parameters shall be in accordance with the
15 manufacturer's recommendations, and as required to demonstrate
16 operations are providing continuous emission reduction from the source
17 during all periods that the operations cause emissions from the source.

18 (2) All records shall be maintained for a minimum of 2 years.

19 (3) Records shall be made available to the director upon request.

20
21
22 **KEY: air pollution, emission controls, surface coating, metal**
23 **furniture**

24 **Date of Enactment or Last Substantive Amendment: [~~December 1,~~**
25 **2014]2017**

26 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-347. Large Appliance Surface Coatings.**

3 **R307-347-1. Purpose.**

4 The purpose of this rule is to reduce volatile organic compound
5 (VOC) emissions from large appliance surface coating operations.
6

7 **R307-347-2. Applicability.**

8 (1) R307-347 applies to [~~sources~~] large appliance surface coating
9 operations and related cleaning activities that use a combined 20
10 gallons or more of coating products and associated solvents per year
11 and are located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah
12 and Weber counties [~~that have the potential to emit 2.7 tons per year~~
13 ~~or more of VOC, including related cleaning activities~~].
14

15 **R307-347-3. Exemptions.**

- 16 (1) The requirements of R307-347 do not apply to the following:
17 (a) Stencil coatings;
18 (b) Safety-indicating coatings;
19 (c) Solid-film lubricants;
20 (d) Electric-insulating and thermal-conducting coatings;
21 (e) Touch-up and repair coatings; or
22 (f) Coating applications utilizing hand-held aerosol cans.
23

24 **R307-347-4. Definitions.**

25 The following additional definitions apply to R307-347:

26 "Air dried coating" means coatings that are dried by the use
27 of air or a forced warm air at temperatures up to 194 degrees
28 Fahrenheit.

29 "As applied" means the VOC and solids content of the finishing
30 material that is actually used for coating the substrate. It includes
31 the contribution of materials used for in-house dilution of the
32 finishing material.

33 "Baked coating" means a coating that is cured at a temperature
34 at or above 198 degrees Fahrenheit.

35 [~~"Coating" means a protective, functional, or decorative film~~
36 ~~applied in a thin layer to a surface. This term often applies to~~
37 ~~paints such as lacquers or enamels. It is also used to refer to films~~
38 ~~applied to paper, plastics, or foil.]~~

39 "Extreme performance coatings" means coatings designed for harsh
40 exposure or extreme environmental conditions.

41 "Large appliances" means doors, cases, lids, panels, and interior
42 support parts of residential and commercial washers, dryers, ranges,
43 refrigerators, freezers, water heaters, dishwashers, trash
44 compactors, air conditioners, and other similar products.
45

46 **R307-347-5. VOC Content Limits.**

47 [~~Each~~] No owner or operator shall [~~not~~] apply coatings with a
48 VOC content [~~in excess of~~] greater than the amounts specified in Table
49 1 [~~or shall use~~], unless the owner or operator uses an add-on control
50 device as specified in R307-347-7.
51

52 TABLE 1

53
54 Large Appliance Surface Coating Limitations

1 (values in pounds VOC per gallon of coating, minus water and
 2 exempt solvents (compounds not classified as VOC as defined in
 3 R307-101-2), as applied)

4
 5 C[~~OATING~~]oating C[~~ATEGORY~~]category VOC C[~~ONTENT~~]ontent
 6 L[~~IMITS~~]imits (lb/gal)

	Baked	Air Dried
10 General, one component	2.3	2.3
11		
12 General, multi-component	2.3	2.8
13		
14 Extreme high gloss	3.0	2.8
15		
16 Extreme performance	3.0	3.5
17		
18 Heat resistance	3.0	3.5
19		
20 Solar absorbent	3.0	3.5
21		
22 Metallic	3.5	3.5
23		
24 Pretreatment coatings	3.5	3.5
25		

26 **R307-347-6. Work Practices [~~and Recordkeeping~~].**

27 (1) The owner or operator shall:

28 (a) Store all VOC-containing coatings, thinners, and cleaning
 29 materials in closed containers;

30 (b) Minimize spills of VOC-containing coatings, thinners, and
 31 cleaning materials;

32 (c) Clean up spills immediately;

33 (d) Convey any coatings, thinners, and cleaning materials in
 34 closed containers or pipes;

35 (e) Close mixing vessels that contain VOC coatings and other
 36 materials except when specifically in use; and

37 (f) Minimize usage of solvents during cleaning of storage,
 38 mixing, and conveying equipment.

39 [~~(2) All sources subject to R307-347 shall maintain records
 40 demonstrating compliance with R307-347-5 and R307-347-6.~~

41 [~~(a) Records shall include, but not be limited to, inventory
 42 and product data sheets of all coatings and solvents subject to
 43 R307-347.~~

44 [~~(b) These records shall be made available to the director upon
 45 request.~~]

46 ([3]2) No person shall apply any coating unless the coating
 47 application method achieves a [~~demonstrated~~] 65% or greater transfer
 48 efficiency. The following applications achieve a minimum of 65%
 49 transfer efficiency and shall be operated in accordance with the
 50 manufacturers specifications:

51 (a) Electrostatic application;

52 (b) Electrodeposition;

53 (c) Brush coat;

54 (d) Flow coat;

1 (e) Roll coat;
2 (f) Dip coat;
3 (g) High-volume, low-pressure (HVLV) spray; or
4 (h) Other application method capable of achieving [at least]
5 65% or greater transfer efficiency, as certified by the manufacturer.
6 ~~([4]3) [All persons shall perform s]Solvent cleaning operations~~
7 ~~[with]shall be performed using cleaning materials having a VOC~~
8 ~~[content (excluding water and solvents exempt from the definition~~
9 ~~of volatile organic compounds found in R307-101-2) of 0.21 pounds~~
10 ~~per gallon or less]composite vapor pressure no greater than 1 mm Hg~~
11 ~~at 20 degrees Celsius, unless an add-on control device is used as~~
12 ~~specified in R307-347-7.~~
13

14 **R307-347-7. Add-On Controls Systems Operations.**

15 (1) ~~If an add-on control system is used, [F]the owner or operator~~
16 ~~shall install and maintain [an incinerator, carbon adsorption, or~~
17 ~~any other]the add-on emission control system[, provided that the~~
18 ~~emission control system is operated and maintained] in accordance~~
19 ~~with the manufacturer recommendations [in order to]and maintain [at~~
20 ~~least] 90% or greater capture and control efficiency. [Determination~~
21 ~~of]The overall capture and control efficiency shall be determined~~
22 ~~using EPA approved methods, as follows.~~

23 (a) The capture efficiency of a VOC emission control system's
24 VOC collection device shall be determined according to EPA's
25 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
26 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

27 (b) The control efficiency of a VOC emission control system's
28 VOC control device shall be determined using test methods in Appendices
29 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
30 gaseous organic concentrations, or emissions of exempt compounds,
31 as applicable.

32 (c) An alternative test method may be substituted for the
33 preceding test methods after review and approval by the EPA
34 Administrator.

35 ~~[(2) The owner or operator of a control system shall provide~~
36 ~~documentation that the emission control system will attain the~~
37 ~~requirements of R307-347-7(1).~~

38 ~~-(3) The owner or operator shall maintain records of key system~~
39 ~~parameters necessary to ensure compliance with R307-347-7. Key system~~
40 ~~parameters may include, but are not limited to, temperature, pressure~~
41 ~~and flow rates. Operator inspection schedule, monitoring,~~
42 ~~recordkeeping, and key parameters shall be in accordance with the~~
43 ~~manufacturer's recommendations, and as required to demonstrate~~
44 ~~operations are providing continuous emission reduction from the source~~
45 ~~during all periods that the operations cause emissions from the source.~~

46 ~~(4) The owner or operator shall maintain for a minimum of two~~
47 ~~years records of operating and maintenance sufficient to demonstrate~~
48 ~~that the equipment is being operated and maintained in accordance~~
49 ~~with the manufacturer recommendations.]~~
50

51 **R307-347-8. Recordkeeping.**

52 ((1) The owner or operator shall maintain records of the
53 following:

54 (a) Records that demonstrate compliance with R307-347. Records

1 shall include, but are not limited to, inventory and product data
2 sheets of all coatings and solvents subject to R307-347.

3 (b) If an add-on control device is used, records of key system
4 parameters necessary to ensure compliance with R307-347-7.

5 (i) Key system parameters shall include, but are not limited
6 to, temperature, pressure, flow rates, and an inspection schedule.

7 (ii) Key inspection parameters shall be in accordance with the
8 manufacturer's recommendations, and as required to demonstrate
9 operations are providing continuous emission reduction from the source
10 during all periods that the operations cause emissions from the source.

11 (2) All records shall be maintained for a minimum of 2 years.

12 (3) Records shall be made available to the director upon request.

13
14 **KEY: air pollution, emission controls, large appliance, surface**
15 **coating**

16 **Date of Enactment or Last Substantive Amendment: [~~December 1,~~**
17 **2014]2017**

18 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-349. Flat Wood Paneling Coatings.**

3 **R307-349-1. Purpose.**

4 The purpose of R307-349 is to limit volatile organic compound
5 (VOC) emissions from flat wood paneling coating sources.
6

7 **R307-349-2. Applicability.**

8 R307-349 applies to ~~[sources]~~flat wood panel coating operations
9 and related cleaning activities that use a combined 20 gallons or
10 more of coating products and associated solvents per year and are
11 located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber
12 counties~~[that have the potential to emit 2.7 tons per year or more~~
13 ~~of VOC, including related cleaning activities]~~.
14

15 **R307-349-3. Definitions.**

16 The following additional definitions apply to R307-349:

17 ~~["Coating" means a protective, decorative, or functional~~
18 ~~material applied in a thin layer to a surface. Such materials may~~
19 ~~include paints, topcoats, varnishes, sealers, stains, washcoats,~~
20 ~~basecoats, inks, and temporary protective coatings.]~~

21 "As applied" means the VOC and solids content of the finishing
22 material that is actually used for coating the substrate. It includes
23 the contribution of materials used for in-house dilution of the
24 finishing material.

25 "Finishing material" means a coating used in the flat wood panel
26 industry, including basecoats, stains, washcoats, sealers, and
27 topcoats.

28 "Flat wood paneling" means wood paneling products that are any
29 decorative interior, exterior or tileboard (class I hardboard) panel
30 to which a protective, decorative, or functional material or layer
31 has been applied.

32 ~~["Sealer" means a finishing material used to seal the pores of~~
33 ~~a wood substrate before additional coats of finishing material are~~
34 ~~applied. A washcoat used to optimize aesthetics is not a sealer.]~~

35 "Strippable booth coating" means a coating that is applied to
36 a booth wall to provide a protective film to receive overspray during
37 finishing and that is subsequently peeled and disposed. Strippable
38 booth coatings are intended to reduce or eliminate the need to use
39 organic solvents to clean booth walls.

40 ~~["Tileboard" means a premium interior wall paneling product made~~
41 ~~of hardboard that meets the specifications for Class I given by the~~
42 ~~standard ANSI/AHA A135.4-1995.]~~
43

44 **R307-349-4. VOC Content Limit.**

45 (1) ~~[Each]~~No owner or operator shall ~~[not]~~ apply coatings with
46 a VOC content ~~[in excess of]~~greater than 2.1 pounds of VOC per gallon,
47 excluding water and exempt solvents (compounds not classified as VOC as
48 defined in R307-101-2)~~[. The equivalent content limit shall be 2.9~~
49 ~~pounds VOCs per gallon solids coating; or]~~, unless an add-on control
50 device is used as specified in R307-349-6.

51 (2) ~~[Each owner or operator shall use an add-on control device~~
52 ~~as specified in R307-349-6.]~~No owner or operator shall use a strippable
53 booth coating with a VOC content greater than 3.8 pounds VOC per gallon,
54 excluding water and exempt solvents (compounds that are not defined

1 as VOC), unless an add-on control device is used as specified in
2 R307-349-6.

3
4 **R307-349-5. Work Practice~~[-and Recordkeeping]~~.**

5 (1) The owner or operator shall:

6 (a) Store all VOC-containing coatings, thinners, and cleaning
7 materials in closed containers;

8 (b) Minimize spills of VOC-containing coatings, thinners, and
9 cleaning materials;

10 (c) Clean up spills immediately;

11 (d) Convey any coatings, thinners, and cleaning materials in
12 closed containers or pipes;

13 (e) Close mixing vessels that contain VOC coatings and other
14 materials except when specifically in use; and

15 (f) Minimize usage of solvents during cleaning of storage,
16 mixing, and conveying of equipment.

17 (2) No person shall apply any coating unless the coating
18 application method achieves a demonstrated 65% transfer efficiency.

19 The following applications achieve a minimum of 65% transfer
20 efficiency and shall be operated in accordance with the manufacturers
21 specifications:

22 (a) Paint brush;

23 (b) Flow coat;

24 (c) Roll coat;

25 (d) Dip coat;

26 (e) Detailing or touch-up guns;

27 (e) High-volume, low-pressure (HVLV) spray;

28 (f) Hand application methods; or

29 (g) Other application method capable of achieving ~~[at least]~~
30 65% or greater transfer efficiency, as certified by the manufacturer.

31 ~~(3) [No person shall use organic solvents for cleaning~~
32 ~~operations that exceed a VOC content (excluding water and solvents~~
33 ~~exempt from the definition of volatile organic compounds found in~~
34 ~~R307-101-2) of 0.21 pounds per gallon and a strippable booth coating~~
35 ~~with a VOC content in excess of 3.8 pounds per gallon, excluding water~~
36 ~~and exempt solvents (compounds that are not defined as VOC).]No owner~~
37 ~~or operator shall perform solvent cleaning operations using materials~~
38 ~~with a VOC composite vapor pressure greater than 1 mm Hg at 20 degrees~~
39 ~~Celsius, unless an add-on control device is used as specified in~~
40 R307-349-6.

41 ~~[(4) All sources subject to R307-349 shall maintain records~~
42 ~~demonstrating compliance with R307-349-4 and R307-349-5~~

43 ~~_____ (a) Records should include, but not be limited to, inventory~~
44 ~~and products data sheets of all coatings and solvents subject to~~
45 ~~R307-349.~~

46 ~~_____ (b) These records shall be available to the Director upon~~
47 ~~request.]~~

48
49
50 **R307-349-6. Add-On Controls Systems Operations.**

51 (1) If an add-on control system is used, [F]the owner or operator
52 shall install and maintain [an incinerator, carbon adsorption, or
53 any other]the add-on emission control system[~~, provided that the~~
54 emission control system is operated and maintained] in accordance

1 with the manufacturer recommendations [~~in order to~~] and maintain [at
2 least] 90% or greater capture and control efficiency. [~~Determination~~
3 ~~of~~] The overall capture and control efficiency shall be determined
4 using EPA approved methods, as follows.

5 (a) The capture efficiency of a VOC emission control system's
6 VOC collection device shall be determined according to EPA's
7 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
8 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

9 (b) The control efficiency of a VOC emission control system's
10 VOC control device shall be determined using test methods in Appendices
11 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
12 gaseous organic concentrations, or emissions of exempt compounds,
13 as applicable.

14 (c) An alternative test method may be substituted for the
15 preceding test methods after review and approval by the EPA
16 Administrator.

17 [~~(2) The owner or operator of a control system shall provide~~
18 ~~documentation that the emission control system will attain the~~
19 ~~requirements of R307-349-6(1).~~

20 [~~(3) The owner or operator shall maintain records of key system~~
21 ~~parameters necessary to ensure compliance with R307-349-6. Key system~~
22 ~~parameters may include, but are not limited to, temperature, pressure~~
23 ~~and flow rates. Operator inspection schedule, monitoring,~~
24 ~~recordkeeping, and key parameters shall be in accordance with the~~
25 ~~manufacturer's recommendations, and as required to demonstrate~~
26 ~~operations are providing continuous emission reduction from the source~~
27 ~~during all periods that the operations cause emissions from the source.~~

28 [~~(4) The owner or operator shall maintain for a minimum of two~~
29 ~~years records of operating and maintenance sufficient to demonstrate~~
30 ~~that the equipment is being operated and maintained in accordance~~
31 ~~with the manufacturer recommendations.]~~

32 **R307-349-7. Recordkeeping.**

33 (1) The owner or operator shall maintain records of the following:

34 (a) Records that demonstrate compliance with R307-349. Records
35 shall include, but are not limited to, inventory and product data
36 sheets of all coatings and solvents subject to R307-349.

37 (b) If an add-on control device is used, records of key system
38 parameters necessary to ensure compliance with R307-349-6.

39 (i) Key system parameters shall include, but are not limited
40 to, temperature, pressure, flow rates, and an inspection schedule.

41 (ii) Key inspection parameters shall be in accordance with the
42 manufacturer's recommendations, and as required to demonstrate
43 operations are providing continuous emission reduction from the source
44 during all periods that the operations cause emissions from the source.

45 (2) All records shall be maintained for a minimum of 2 years.

46 (3) Records shall be made available to the director upon request.

47
48
49
50 **KEY: air pollution, emission controls, flat wood paneling, coatings**
51 **Date of Enactment or Last Substantive Amendment: [December 1,**
52 **2014]2017**

53 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-350. Miscellaneous Metal Parts and Products Coatings.**

3 **R307-350-1. Purpose.**

4 The purpose of R307-350 is to limit volatile organic compound
5 (VOC) emissions from miscellaneous metal parts and products coating
6 operations.

7
8 **R307-350-2. Applicability.**

9 R307-350 applies to ~~[sources]~~miscellaneous metal parts and
10 products coating operations and related cleaning activities that use
11 a combined 20 gallons or more of coating products and associated
12 solvents per year and are located in Box Elder, Cache, Davis, Salt
13 Lake, Tooele, Utah and Weber counties ~~[where the potential to emit~~
14 ~~VOC emissions from all miscellaneous metal product parts surface~~
15 ~~coating operations, including related cleaning activities, is 2.7~~
16 ~~tons per year or more].~~

17 (2) R307-350 applies to, but is not limited to, the following
18 ~~[industries]:~~

19 (a) Large farm machinery (harvesting, fertilizing, planting,
20 tractors, combines, etc.);

21 (b) Small farm machinery (lawn and garden tractors, lawn mowers,
22 rototillers, etc.)

23 (c) Small appliance (fans, mixers, blenders, crock pots, vacuum
24 cleaners, etc.);

25 (d) Commercial machinery (computers, typewriters, calculators,
26 vending machines, etc.);

27 (e) Industrial machinery (pumps, compressors, conveyor
28 components, fans, blowers, transformers, etc.);

29 (f) Fabricated metal products (metal covered doors, frames,
30 trailer frames, etc.); and

31 (g) Any other industrial category that coats metal parts or
32 products under the standard Industrial Classification Code of major
33 group 33 (primary metal industries), major group 34 (fabricated metal
34 products), major group 35 (nonelectric machinery), major group 36
35 (electrical machinery), major group 37 (transportation equipment)
36 major group 38 (miscellaneous instruments), and major group 39
37 (miscellaneous manufacturing industries).

38
39 **R307-350-3. Exemptions.**

40 (1) The requirements of R307-350 do not apply to the following:

41 (a) The surface coating of automobiles regulated under
42 R307-354 and light-duty trucks;

43 (b) Flat metal sheets and strips in the form of rolls or coils;

44 (c) Surface coating of aerospace vehicles and
45 components regulated under R307-355;

46 ~~[(d) Automobile refinishing;]~~

47 ~~[(e)]~~ (d) The exterior of marine vessels;

48 ~~[(f)]~~ (e) Customized top coating of automobiles and trucks if
49 production is less than 35 vehicles per day;

50 ~~[(g)]~~ (f) Military munitions manufactured by or for the Armed
51 Forces of the United States;

52 ~~[(h)]~~ (g) Operations that are exclusively covered by Department
53 of Defense military technical data and performed by a Department of
54 Defense contractor and/or on site at installations owned and/or

1 operated by the United States Armed Forces; or
2 ([i]h) Stripping of cured coatings and adhesives[-];
3 ([j]i) Canned aerosol coating products up to 22 fl. oz. used
4 exclusively for touch-up and repairs.

5 (2) The requirements of R307-350-5 do not apply to the
6 following:

- 7 (a) Stencil and hand lettering coatings;
- 8 (b) Safety-indicating coatings;
- 9 (c) Solid-film lubricants;
- 10 (d) Electric-insulating and thermal-conducting coatings;
- 11 (e) Magnetic data storage disk coatings; or
- 12 (f) Plastic extruded onto metal parts to form a coating.

13 (3) The requirements of R307-350-6 do not apply to the
14 following:

- 15 (a) Touch-up coatings;
- 16 (b) Repair coatings; or
- 17 (c) Textured finishes.

18 19 **R307-350-4. Definitions.**

20 The following additional definitions apply to R307-350:

21 "Aerospace vehicles and components" means any fabricated part,
22 processed part, assembly of parts, or completed unit, with the
23 exception of electronic components, of any aircraft including but
24 not limited to airplanes, helicopters, missiles, rockets and space
25 vehicles.

26 "Air dried coating" means coatings that are dried by the use
27 of air or a—forced warm air at temperatures up to 194 degrees
28 Fahrenheit.

29 "As applied" means the VOC and solids content of the finishing
30 material that is actually used for coating the substrate. It includes
31 the contribution of materials used for in-house dilution of the
32 finishing material.

33 "Baked coating" means coatings that are cured at a temperature
34 at or above 194 degrees Fahrenheit.

35 "Camouflage coating" means coatings that are used, principally
36 by the military, to conceal equipment from detection.

37 [~~"Coating" means a material applied to a substrate for~~
38 ~~decorative, protective, or functional purposes.~~

39 ~~—(1) Such materials include, but are not limited to, paints,~~
40 ~~sealants, liquid plastic coatings, caulks, inks, adhesives, and~~
41 ~~maskants.~~

42 ~~—(2) Decorative, protective, or functional materials that~~
43 ~~consist only of protective oils for metal, acids, bases, or any~~
44 ~~combination of these substances, or paper film or plastic film which~~
45 ~~may be pre-coated with an adhesive by the film manufacturer, are not~~
46 ~~considered coatings.~~

47 ~~"Coating application System" means all operations and equipment~~
48 ~~that applies, conveys, and dries a surface coating, including, but~~
49 ~~not limited to, spray booths, flow coaters, flash off areas, air dryers~~
50 ~~and ovens.]~~

51 "Cured coating or adhesive" means a coating or adhesive, which
52 is dry to the touch.

53 "Department of Defense military technical data" means a
54 specification that specifies design requirements, such as materials

1 to be used, how a requirement is to be achieved, or how an item is
2 to be fabricated or constructed.

3 "Dip coating" means a method of applying coatings to a substrate
4 by submersion into and removal from a coating bath.

5 "Electric-insulating varnish" means a non-convertible-type
6 coating applied to electric motors, components of electric motors,
7 or power transformers, to provide electrical, mechanical, and
8 environmental protection or resistance.

9 "Electric-insulating and thermal-conducting" means a coating
10 that [displays]is characterized as having an electrical insulation
11 of at least 1000 volts DC per mil on a flat test plate and an average
12 thermal conductivity of at least 0.27 BTU per
13 hour-foot-degree-Fahrenheit.

14 "Electrostatic application" means a method of applying coating
15 particles or coating droplets to a grounded substrate by electrically
16 charging them.

17 "Etching filler" mean a coating that contains less than 23% solids
18 by weight and at least 0.5% acid by weight, and is used instead of
19 applying a pretreatment coating followed by a primer.

20 "Extreme high-gloss coating" means a coating which, when tested
21 by the American Society for Testing Material (ASTM) Test Method D-523
22 adopted in 1980, shows a reflectance of 75 or more on a 60 degree
23 meter.

24 "Extreme performance coatings" means coatings designed for harsh
25 exposure or extreme environmental conditions.

26 "Flow coat" means a non-atomized technique of applying coatings
27 to a substrate with a fluid nozzle in a fan pattern with no air supplied
28 to the nozzle.

29 "Heat-resistant coating" means a coating that must withstand
30 a temperature of at least 400 degrees Fahrenheit during normal use.

31 "High-performance architectural coating" means a coating used
32 to protect architectural subsections and which meets the requirements
33 of the Architectural Aluminum Manufacturer Association's publication
34 number AAMA 605.2-1980.

35 "High-temperature coating" means a coating that is certified
36 to with[-]stand a temperature of 1,000 degrees Fahrenheit for 24 hours.

37 "High-volume, low-pressure (HVLP) spray" means a coating
38 application system which is designed to be operated and which is
39 operated between 0.1 and 10 pounds per square inch gauge (psig) air
40 pressure, measured dynamically at the center of the air cap and the
41 air horns.

42 "Magnetic data storage disk coating" means a coating used on
43 a metal disk which stores data magnetically.

44 "Metallic coating" means a coating which contains more than 5
45 grams of metal particles per liter of coating, as applied.

46 "Military specification coating" means a coating applied to metal
47 parts and products and which has a formulation approved by a United
48 States military agency for use on military equipment.

49 "Mold-seal coating" means the initial coating applied to a new
50 mold or repaired mold to provide a smooth surface which, when coated
51 with a mold release coating, prevents products from sticking to the
52 mold.

53 "Multi-component coating" means a coating requiring the addition
54 of a separate reactive resin, commonly known as a catalyst or hardener,

1 before application to form an acceptable dry film.

2 "One-component coating" means a coating that is ready for
3 application as it comes out of its container to form an acceptable
4 dry film. A thinner, necessary to reduce the viscosity of the coating,
5 is not considered a component.

6 "Pan backing coating" means a coating applied to the surface
7 of pots, pans, or other cooking implements that are exposed directly
8 to a flame or other heating elements.

9 "Prefabricated architectural component coatings" means coatings
10 applied to metal parts and products that are to be used as an
11 architectural structure or their appurtenances including, but not
12 limited to, hand railings, cabinets, bathroom and kitchen fixtures,
13 fences, rain-gutters and down-spouts, window screens, lamp-posts,
14 heating and air conditioning equipment, other mechanical equipment,
15 and large fixed stationary tools.

16 "Pretreatment coating" means a coating which contains no more
17 than 12% solids by weight, and at least 0.5% acid, by weight, is used
18 to provide surface etching, and is applied directly to metal surfaces
19 to provide corrosion resistance, adhesion, and ease of stripping.

20 "Primer" means a coating applied to a surface to provide a firm
21 bond between the substrate and subsequent coats.

22 "Repair coating" means a coating used to recoat portions of a
23 part or product which has sustained mechanical damage to the coating.

24 "Safety-indicating coating" means a coating which changes
25 physical characteristics, such as color, to indicate unsafe condition.

26 "Silicone release coating" means any coating which contains
27 silicone resin and is intended to prevent food from sticking to metal
28 surfaces.

29 "Solar-absorbent coating" means a coating which has as its prime
30 purpose the absorption of solar radiation.

31 "Solid-film lubricant" means a very thin coating consisting of
32 a binder system containing as its chief pigment material one or more
33 of molybdenum disulfide, graphite, polytetrafluoroethylene (PTFE)
34 or other solids that act as a dry lubricant between faying surfaces.

35 "Stencil and hand lettering coating" means an ink or a coating
36 which is rolled or brushed onto a template or stamp in order to add
37 identifying letters or numbers to metal parts and products.

38 "Textured finish" means a rough surface produced by spraying
39 and splattering large drops of coating onto a previously applied
40 coating. The coatings used to form the appearance of the textured
41 finish are referred to as textured coatings.

42 "Repair and touch-up coating" means a coating used to cover minor
43 coating imperfections appearing after the main coating operation.

44 "Vacuum-metalizing coating" means the undercoat applied to the
45 substrate on which the metal is deposited or the overcoat applied
46 directly to ~~the~~ a metal film.

47 48 **R307-350-5. VOC Content Limits.**

49 (1) ~~Each~~ No owner or operator shall ~~not~~ apply coatings with
50 a VOC content ~~[in excess of]~~ greater than the amounts specified in
51 Table 1 ~~[or shall]~~, unless the owner or operator uses an add-on control
52 device as specified in R307-350-8.

1
 2 METAL PARTS AND PRODUCTS VOC CONTENT LIMITS
 3 (values in pounds of VOC per gallon of coating, minus water and
 4 exempt solvents (compounds not classified as VOC as defined in
 5 R307-101-2), as applied)
 6

7 C[OATING]oating C[ATEGORY]category VOC C[ONTENT]ontent L[IMITS]imits
 8 (lb/gal)

	Air Dried	Baked
10		
11		
12	General One Component	2.8 2.3
13		
14	General Multi Component	2.8 2.3
15		
16	Camouflage	3.5 3.5
17		
18	Electric-Insulating	3.5 3.5
19	varnish	
20		
21	Etching Filler	3.5 3.5
22		
23	Extreme High-Gloss	3.5 3.0
24		
25	Extreme Performance	3.5 3.0
26		
27	Heat-Resistant	3.5 3.0
28		
29	High-Performance	6.2 6.2
30	architectural	
31		
32	High-Temperature	3.5 3.5
33		
34	Metallic	3.5 3.5
35		
36	Military Specification	2.8 2.3
37		
38	Mold-Seal	3.5 3.5
39		
40	Pan Backing	3.5 3.5
41		
42	Prefabricated Architectural	3.5 2.3
43	Multi-Component	
44		
45	Prefabricated Architectural	3.5 2.3
46	One-Component	
47		
48	Pretreatment Coatings	3.5 3.5
49		
50	Repair and Touch Up	3.5 3.0
51		
52	Silicone Release	3.5 3.5
53		
54	Solar-Absorbent	3.5 3.0

1			
2	Vacuum-Metalizing	3.5	3.5
3			
4	Drum Coating, New, Exterior	2.8	2.8
5			
6	Drum Coating, New, Interior	3.5	3.5
7			
8	Drum Coating, Reconditioned,	3.5	3.5
9	Exterior		
10			
11	Drum Coating, Reconditioned,	4.2	4.2
12	Interior		
13			

14 (2) If more than one content limit indicated in this section
 15 applies to a specific coating, then the most stringent content limit
 16 shall apply.

18 **R307-350-6. Application Methods.**

19 No owner or operator [~~of a facility~~] shall apply VOC containing
 20 coatings to metal parts and products unless the coating is applied
 21 with equipment operated according to the equipment manufacturer
 22 specifications, and by the use of one of the following methods:

- 23 (1) Electrostatic application;
- 24 (2) Flow coat;
- 25 (3) Dip/electrodeposition coat;
- 26 (4) Roll coat;
- 27 (5) Hand Application Methods;
- 28 (~~[5]~~6) High-volume, low-pressure (HVL) spray; or
- 29 [~~(6)~~ Hand Application Methods;
- 30 ~~(7) Airless or air-assisted airless spray may also be used for~~
- 31 ~~metal coatings with a viscosity of 15,000 centipoise or greater, as~~
- 32 ~~supplied; or]~~
- 33 (~~[8]~~7) [~~An~~—e]Other application method capable of
- 34 achieving 65% or greater transfer efficiency equivalent or better
- 35 to HVL spray, as certified by the manufacturer.

37 **R307-350-7. Work Practices [~~and Recordkeeping.~~]**

38 (1) Control techniques and work practices shall be implemented
 39 at all times to reduce VOC emissions. Control techniques and work
 40 practices shall include~~[, but are not limited to]~~:

- 41 (a) Storing all VOC-containing coatings, thinners, and
- 42 coating-related waste materials in closed containers;
- 43 (b) Ensuring that mixing and storage containers used for
- 44 VOC-containing coatings, thinners, and coating-related waste material
- 45 are kept closed at all times except when depositing or removing these
- 46 materials;
- 47 (c) Minimizing spills of VOC-containing coatings, thinners,
- 48 and coating-related waste materials; and
- 49 (d) Conveying VOC-containing coatings, thinners, and
- 50 coating-related waste materials from one location to another in closed
- 51 container or pipes; and
- 52 (e) Minimizing VOC emission from cleaning of application,
- 53 storage, mixing, and conveying equipment by ensuring that equipment
- 54 cleaning is performed without atomizing the cleaning solvent and all

1 spent solvent is captured in closed containers.

2 ~~(2) [All persons shall perform solvent cleaning operations with~~
3 ~~cleaning material having VOC content (excluding water and solvents~~
4 ~~exempt from the definition of volatile organic compounds found in~~
5 ~~R307-101-2) of 0.21 pounds per gallon or less.] Solvent cleaning~~
6 operations shall be performed using cleaning materials having a VOC
7 composite vapor pressure no greater than 1 mm Hg at 20 degrees Celsius,
8 unless an add-on control device is used as specified in R307-350-8.

9 ~~[(3) All sources subject to R307-350 shall maintain records for~~
10 ~~two years demonstrating compliance with R307-350-5, R307-350-6, and~~
11 ~~R307-350-7(2).]~~

12 ~~(a) Records shall include, but not be limited to, inventory~~
13 ~~and product data sheets of all coatings and solvents subject to~~
14 ~~R307-350.~~

15 ~~(b) These records shall be available to the director upon~~
16 ~~request.]~~

18 **R307-350-8. Add-On Controls Systems Operations.**

19 (1) If an add-on control system is used, [F]the owner or operator
20 shall install and maintain [an incinerator, carbon adsorption, or
21 any other]the add-on emission control system[, provided that the
22 emission control system is operated and maintained] in accordance
23 with the manufacturer recommendations [in order to]and maintain [at
24 least] 90% or greater capture and control efficiency. [Determination
25 of]The overall capture and control efficiency shall be determined
26 using EPA approved methods, as follows.

27 (a) The capture efficiency of a VOC emission control system's
28 VOC collection device shall be determined according to EPA's
29 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
30 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

31 (b) The control efficiency of a VOC emission control system's
32 VOC control device shall be determined using test methods in Appendices
33 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
34 gaseous organic concentrations, or emissions of exempt compounds,
35 as applicable.

36 (c) An alternative test method may be substituted for the
37 preceding test methods after review and approval by the EPA
38 Administrator.

39 ~~[(2) The owner or operator of a control system shall provide~~
40 ~~documentation that the emission control system will attain the~~
41 ~~requirements of R307-350-8(1).]~~

42 ~~(3) The owner or operator shall maintain records of key system~~
43 ~~parameters necessary to ensure compliance with R307-350-8. Key system~~
44 ~~parameters may include, but are not limited to, temperature, pressure~~
45 ~~and flow rates. Operator inspection schedule, monitoring,~~
46 ~~recordkeeping, and key parameters shall be in accordance with the~~
47 ~~manufacturer's recommendations, and as required to demonstrate~~
48 ~~operations are providing continuous emission reduction from the source~~
49 ~~during all periods that the operations cause emissions from the source.~~

50 ~~(4) The owner or operator shall maintain for a minimum of two~~
51 ~~years records of operating and maintenance sufficient to demonstrate~~
52 ~~that the equipment is being operated and maintained in accordance~~
53 ~~with the manufacturer recommendations.]~~

1 **R307-350-9. Recordkeeping.**

2 (1) The owner or operator shall maintain records of the following:

3 (a) Records that demonstrate compliance with R307-350. Records
4 shall include, but are not limited to, inventory and product data
5 sheets of all coatings and solvents subject to R307-350.

6 (b) If an add-on control device is used, records of key system
7 parameters necessary to ensure compliance with R307-350-8.

8 (i) Key system parameters shall include, but are not limited
9 to, temperature, pressure, flow rates, and an inspection schedule.

10 (ii) Key inspection parameters shall be in accordance with the
11 manufacturer's recommendations, and as required to demonstrate
12 operations are providing continuous emission reduction from the source
13 during all periods that the operations cause emissions from the source.

14 (2) All records shall be maintained for a minimum of 2 years.

15 (3) Records shall be made available to the director upon request.

16
17
18
19 **KEY: air pollution, emission controls, coatings, miscellaneous metal**
20 **parts**

21 **Date of Enactment or Last Substantive Amendment: [~~December 1,~~**
22 **2014]2017**

23 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-352. Metal Container, Closure, and Coil Coatings.**

3 **R307-352-1. Purpose.**

4 The purpose of this rule is to reduce volatile organic compound
5 (VOC) emissions from the coating of metal containers, closures
6 and coils~~[, cans, pails, and lids]~~ in the manufacturing or
7 reconditioning process.

8
9 **R307-352-2. Applicability.**

10 R307-352 applies to ~~[sources]~~metal container, closure and coil
11 coating operations and related cleaning activities that use a combined
12 20 gallons or more of coating products and associated solvents per
13 year and are located in Box Elder, Cache, Davis, Salt Lake, Tooele,
14 Utah and Weber counties ~~[that have the potential to emit 2.7 tons~~
15 ~~per year or more of VOC, including related cleaning activities].~~

16
17 **R307-352-3. Definitions.**

18 The following additional definitions apply to R307-352:

19 ~~["Coating" means a protective, functional or decorative film~~
20 ~~applied in a thin layer to a surface.]~~"As applied" means the volatile
21 organic compound and solids content of the finishing material that
22 is actually used for coating the substrate. It includes the
23 contribution of materials used for in-house dilution of the finishing
24 material.

25 "End sealing compound" means a compound which is coated onto
26 can ends and which functions as a gasket when the end is assembled
27 onto the can.

28 "Exterior body spray" means a coating sprayed on the exterior
29 of the container body to provide a decorative or protective finish.

30 "Interior body spray" means a coating sprayed on the interior
31 of the ~~[can]~~container body to provide a protective film between the
32 product and the can.

33 "Metal container or closure coating" means any coating applied
34 to either the interior or exterior of formed metal cans, pails, lids
35 or crowns or flat metal sheets which are intended to be formed into
36 cans, pails, lids or crowns.

37 "Overvarnish" means a coating applied directly over a design
38 coating to reduce the coefficient of friction, to provide gloss, and
39 to protect the finish against abrasion and corrosion.

40 "Reconditioned ~~[pails or lids]~~" means any metal container which
41 is reused, recycled or remanufactured.

42 "Three-piece can ~~side-seam~~ coating" means a coating sprayed on
43 the exterior and/or interior of a welded, cemented or soldered seam
44 to protect the exposed metal.

45 "Two-piece can exterior-~~end~~ coating" means a coating applied
46 to the exterior bottom end of a can to reduce the coefficient of
47 friction and to provide protection to the metal.

48
49 **R307-352-4. VOC Content Limits.**

50 ~~[Each]~~No owner or operator shall ~~[not]~~ apply coatings with a
51 VOC content ~~[in excess of]~~greater than the amounts specified in Table
52 1 ~~[or shall]~~, unless the owner or operator uses an add-on control
53 device as specified in R307-352-6.

54

TABLE 1

METAL CONTAINER AND CLOSURE COIL COATING LIMITATIONS

(values in pounds VOC per gallon of coating, minus water and exempt solvents (compounds not classified as VOC as defined in R307-101-2), as applied)

C[OATING]oating C[ATEGORY]ategory VOC C[ONTENT]ontent L[IMITS]imits
(lb/gal)

CANS

Sheet basecoat (interior and exterior) and overvarnish	1.9
Two-piece can exterior basecoat, overvarnish, and end coating	2.1
Interior body spray	
Two-piece cans	3.5
Three-piece cans	3.0
Three-piece can side seam spray	5.5
End sealing compound: Food cans, non-food cans, and beverage cans	0.1
Exterior body spray	3.5

PAILS AND LIDS

Body spray	
Reconditioned interior	4.2
Reconditioned exterior	3.5
New interior	3.5
New exterior	2.8
End sealing compound	0.5
Inks, all applications	2.5
Coil	
Coil coating	1.7

R307-352-5. Work Practices [~~and Recordkeeping~~].

- (1) The owner or operator shall:
- (a) Store all VOC-containing coatings, thinners, and cleaning materials in closed containers;
 - (b) Minimize spills of VOC-containing coatings, thinners, and

1 cleaning materials;

2 (c) Clean up spills immediately;

3 (d) Convey any coatings, thinners, and cleaning materials in
4 closed containers or pipes;

5 (e) Close mixing vessels that contain VOC coatings and other
6 materials except when specifically in use; and

7 (f) Minimize usage of solvents during cleaning of storage,
8 mixing, and conveying equipment.

9 (2) No person shall apply any coating unless the coating
10 application method [~~achieves a demonstrated~~] has a transfer efficiency
11 of at least 65% [transfer efficiency].

12 The following applications achieve a minimum of 65% transfer
13 efficiency and shall be operated in accordance with the manufacturers
14 specifications:

15 (a) Electrostatic application;

16 (b) Flow coat;

17 (c) Roll coat;

18 (d) Dip coat;

19 (e) High-volume, low-pressure (HVL) spray;

20 (f) Hand application methods;

21 (g) Printing techniques; or

22 (h) Other application method capable of achieving at least 65%
23 transfer efficiency, as certified by the manufacturer.

24 (3) [~~All persons shall perform solvent cleaning operations with~~
25 ~~cleaning material having VOC content (excluding water and solvents~~
26 ~~exempt from the definition of volatile organic compounds found in~~
27 ~~R307-101-2) of 0.21 lb/gallon or less.]~~ Solvent cleaning operations
28 shall be performed using cleaning materials having a VOC composite
29 vapor pressure no greater than 1 mm Hg at 20 degrees Celsius, unless
30 an add-on control device is used as specified in R307-352-6.

31 [~~(4) All sources subject to R307-352 shall maintain records~~
32 ~~demonstrating compliance with R307-352-4 and R307-352-5.~~

33 [~~(a) Records shall include, but not be limited to, inventory and~~
34 ~~product data sheets of all coatings and solvents subject to R307-352.~~

35 [~~(b) These records shall be made available to the director upon~~
36 ~~request.]~~

37 38 **R307-352-6. Add-On Controls Systems Operations.**

39 (1) If an add-on control system is used, [F]the owner or operator
40 shall install and maintain [an incinerator, carbon adsorption, or
41 any other]the add-on emission control system[, provided that the
42 emission control system is operated and maintained] in accordance
43 with the manufacturer recommendations [in order to]and maintain [at
44 least] 90% or greater capture and control efficiency. [Determination
45 of]The overall capture and control efficiency shall be determined
46 using EPA approved methods, as follows.

47 (a) The capture efficiency of a VOC emission control system's
48 VOC collection device shall be determined according to EPA's
49 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
50 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

51 (b) The control efficiency of a VOC emission control system's
52 VOC control device shall be determined using test methods in Appendices
53 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
54 gaseous organic concentrations, or emissions of exempt compounds,

1 as applicable.

2 (c) An alternative test method may be substituted for the
3 preceding test methods after review and approval by the EPA
4 Administrator.

5 ~~[(2) The owner or operator of a control system shall provide
6 documentation that the emission control system will attain the
7 requirements of R307-352-6(1)].~~

8 ~~_____ (3) The owner or operator shall maintain records of key system
9 parameters necessary to ensure compliance with R307-352-6. Key system
10 parameters may include, but are not limited to, temperature, pressure
11 and flow rates. Operator inspection schedule, monitoring,
12 recordkeeping, and key parameters shall be in accordance with the
13 manufacturer's recommendations, and as required to demonstrate
14 operations are providing continuous emission reduction from the source
15 during all periods that the operations cause emissions from the source.~~

16 ~~_____ (4) The owner or operator shall maintain for a minimum of two
17 years records of operating and maintenance sufficient to demonstrate
18 that the equipment is being operated and maintained in accordance
19 with the manufacturer recommendations.]~~

20]

21 **R307-352-7. Recordkeeping.**

22 (1) The owner or operator shall maintain records of the following:

23 (a) Records that demonstrate compliance with R307-352. Records
24 shall include, but are not limited to, inventory and product data
25 sheets of all coatings and solvents subject to R307-352.

26 (b) If an add-on control device is used, records of key system
27 parameters necessary to ensure compliance with R307-352-6.

28 (i) Key system parameters shall include, but are not limited
29 to, temperature, pressure, flow rates, and an inspection schedule.

30 (ii) Key inspection parameters shall be in accordance with the
31 manufacturer's recommendations, and as required to demonstrate
32 operations are providing continuous emission reduction from the source
33 during all periods that the operations cause emissions from the source.

34 (2) All records shall be maintained for a minimum of 2 years.

35 (3) Records shall be made available to the director upon request.

36

37

38

39 **KEY: air pollution, emission controls, metal containers, coil**
40 **coatings**

41 **Date of Enactment or Last Substantive Amendment: [December 1,**
42 **2014]2017**

43 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

1 **R307. Environmental Quality, Air Quality.**

2 **R307-353. Plastic Parts Coatings.**

3 **R307-353-1. Purpose.**

4 The purpose of this rule is to limit volatile organic compound
5 (VOC) emissions from the application of coatings to any plastic
6 product.

7
8 **R307-353-2. Applicability.**

9 R307-353 applies to plastic parts coating operations and related
10 cleaning activities that use a combined 20 gallons or more of coating
11 products and associated solvents per year and are located in Box Elder,
12 Cache, Davis, Salt Lake, Tooele, Utah and Weber counties [that have
13 the potential to emit 2.7 tons per year or more of VOC, including
14 related cleaning activities].

15
16 **R307-353-3. Exemptions.**

17 (1) The provisions of this rule shall not apply to any of the
18 following:

- 19 (a) Stencil coatings;
20 (b) Safety-indicating coatings;
21 (c) Electric-insulating and thermal-conducting coatings;
22 (d) Magnetic data storage disk coatings;
23 (e) Plastic extruded onto metal parts to form a coating; and
24 (f) Textured finishes.

25 (2) If a coating line is subject to the requirements for existing
26 automobile, light-duty truck, and other product and material coatings
27 or for existing metallic surface coating lines, the coating line shall
28 be exempt from this rule.

29 (3) Canned aerosol coating products up to 22 fl. oz. that are
30 used exclusively for touch-up and repairs.

31
32 **R307-353-4. Definitions.**

33 The following additional definitions apply to R307-353:

34 "Air dried coating" means coatings that are dried by the use
35 of air or a forced warm air at temperatures up to 194 degrees
36 Fahrenheit.

37 "As applied" means the volatile organic compound and solids
38 content of the finishing material that is actually used for coating
39 the substrate. It includes the contribution of materials used for
40 in-house dilution of the finishing material.

41 "Baked coating" means coatings that are cured at a temperature
42 at or above 194 degrees Fahrenheit.

43 [~~"Coating" means a protective, functional, or decorative film~~
44 ~~applied in a thin layer to a surface. This term often applies to~~
45 ~~paints such as lacquers or enamels. It is also used to refer to films~~
46 ~~applied to paper, plastics, or foil.]~~

47 "Electric-insulating and thermal-conducting" means a coating
48 that displays an electrical insulation of at least 1000 volts DC per
49 mil on a flat test plate and an average thermal conductivity of at
50 least 0.27 BTU per hour-foot-degree-Fahrenheit.

51 "Magnetic data storage disk coating" means a coating used on
52 a metal disk which stores data magnetically.

53 "Metallic coating" means a coating which contains more than 5
54 grams of metal particles per liter of coating as applied.

1 "Military specification coating" means a coating which has a
2 formulation approved by a United States military agency for use on
3 military equipment.

4 "Mirror backing" means the coating applied over the silvered
5 surface of a mirror.

6 "Mold-seal coating" means the initial coating applied to a new
7 mold or a repaired mold to provide a smooth surface which, when coated
8 with a mold release coating, prevents products from sticking to the
9 mold.

10 "Multi-colored coating" means a coating which exhibits more than
11 one color when applied, and which is packaged in a single container
12 and applied in a single coat.

13 "Multi-component coating" means a coating requiring the addition
14 of a separate reactive resin, commonly known as a catalyst, before
15 application to form an acceptable dry film.

16 "One-component coating" means a coating that is ready for
17 application as it comes out of its container to form an acceptable
18 dry film. A thinner necessary to reduce the viscosity is not
19 considered a component.

20 "Optical coating" means a coating applied to an optical lens.

21 "Plastic" means a substrate containing one or more resins that
22 may be solid, porous, flexible, or rigid, and includes fiber reinforced
23 plastic composites.

24 "Primer" means a coating applied to a surface to provide a firm
25 bond between the substrate and subsequent coats.

26 "Repair coating" means a coating used to recoat portions of a
27 part or product which has sustained mechanical damage to the coating.

28 "Roller Coated" means a type of coating application equipment
29 that utilizes a series of mechanical rollers to form a thin coating
30 film on the surface of a roller, which is then applied to a substrate
31 by moving the substrate underneath the roller.

32 "Safety-indicating coating" means a coating which changes
33 physical characteristics, such as color, to indicate unsafe condition.

34 "Stencil coating" means an ink or a coating which is rolled or
35 brushed onto a template or stamp in order to add identifying letters
36 or numbers to metal parts and products.

37 "Textured finish" means a rough surface produced by spraying
38 and splattering large drops of coating onto a previously applied
39 coating. The coatings used to form the appearance of the textured
40 finish are referred to as textured coatings.

41 "Touch-up coating" means a coating used to cover minor coating
42 imperfections appearing after the main coating operation.

43 "Topcoat" means the last film-building finishing material
44 applied in a finishing system. Non-permanent final finishes are not
45 topcoats.

46 47 **R307-353-5. VOC Content Limits.**

48 (1) For automobile and truck plastic parts coating lines:

49 (a) ~~[Each]~~No owner or operator shall ~~[not]~~ apply coatings with
50 a VOC content ~~[in excess of]~~ greater than the amounts specified in
51 Table 1 ~~[or shall]~~, unless the owner or operator uses an add-on control
52 device as specified in R307-353-8.

53 (b) For red and black coatings, the ~~[emission]~~ content
54 limitation shall be determined by multiplying the appropriate limit

1 in Table 1 by 1.15.

2 (c) When EPA Method 24 is used to determine the VOC content
3 of a high bake coating, the applicable ~~[emission]~~content limitation
4 shall be determined by adding 0.5 to the appropriate limit in Table
5 1.

6 (d) When EPA Method 24 is used to determine the VOC content
7 of an air-dried coating, the applicable ~~[emission]~~content limitation
8 shall be determined by adding 0.1 to the appropriate limit in Table
9 1.

10
11 TABLE 1

12
13 AUTOMOBILE AND TRUCK PLASTIC PARTS COATING LINES

14 (values in pounds of VOC per gallon of coating, minus water and
15 exempt solvents (compounds not classified as VOC as defined in
16 R307-101-2), as applied)

17
18 C[OATING]oating C[ATEGORY]ategory VOC C[ONTENT]ontent L[IMITS]imits
19 (lb/gal)

20
21 High bake coating - exterior and
22 interior parts

23
24 Prime

25
26 Flexible coating 4.5

27
28 Nonflexible coating 3.5

29
30 Topcoat

31
32 Basecoat 4.3

33
34 Clearcoat 4.0

35
36 Non-basecoat/clearcoat 4.3

37
38 Air-dried coating - exterior parts

39
40 Prime 4.8

41
42 Topcoat

43
44 Basecoat 5.0

45
46 Clearcoat 4.5

47
48 Non-basecoat/clearcoat 5.0

49
50 Air-dried coating - interior parts 5.0

51
52 Touch-up and repair 5.2

53
54 (2) ~~[Each]~~No owner or operator of a business machine plastic

1 parts coating line shall ~~not~~ apply coatings with a VOC content ~~in~~
 2 ~~excess of~~ greater than the amounts specified in Table 2 ~~or shall~~,
 3 unless the owner or operator uses an add-on control device as specified
 4 in R307-353-8.

TABLE 2

BUSINESS MACHINE PLASTIC PARTS COATING LINES

9 (values in pounds of VOC per gallon of
 10 coating, minus water and exempt solvents (compounds not
 11 classified as VOC as defined in R307-101-2), as applied)

13 C[OATING]oating	C[ATEGORY]ategory	VOC	Content
14 Limi[tation]ts (lb/gal)			
16 Prime		2.9	
18 Topcoat		2.9	
20 Texture coat		2.9	
22 Fog coat		2.2	
24 Touch-up and repair		2.9	

26 (3) ~~Each~~ No owner or operator engaged in the other plastic
 27 product coating operations listed in Table 3 shall ~~not~~ apply coatings
 28 with a VOC content ~~in excess of~~ greater than the amounts specified
 29 in Table 3 ~~or shall~~, unless the owner or operator uses an add-on
 30 control device as specified in R307-353-8.

TABLE 3

OTHER PLASTIC PRODUCT COATING CATEGORIES

35 (values in pounds of VOC per gallon of
 36 coating, minus water and exempt solvents (compounds not
 37 classified as VOC as defined in R307-101-2), as applied)

39 C[OATING]oating	C[ATEGORY]ategory	VOC	Content
40 Limi[tation]ts (lb/gal)			
42 General One-Component		2.3	
44 General Multi-Component		3.5	
46 Electric Dissipating Coatings 47 And Shock-Free Coatings		3.0	
49 Extreme Performance		3.5	(2-pack coatings)
52 Metallic		3.5	
54 Military Specification		2.8	(1 pack)

1		3.5 (2 pack)
2		
3	Mold-Seal	6.3
4		
5	Multi-colored Coatings	5.7
6		
7	Optical Coatings	6.7
8		
9	Vacuum-Metalizing	6.7
10		
11	Mirror Backing	
12	Curtain Coated	4.2
13	Roll Coated	3.6
14		

15 (4) If a part consists of both plastic and metal surfaces [~~and~~
 16 ~~is exempted from the requirements for existing metallic surface~~
 17 ~~coating lines], then the [part shall be subject to] coatings applied
 18 to the part must comply with the content limits of this rule.~~

21 **R307-353-6. Application Methods.**

22 No person shall apply VOC containing coatings unless the coating
 23 is applied with equipment operated according to the manufacturer
 24 specifications, and by use of one of the following methods:

- 25 (1) Electrostatic application;
- 26 (2) Flow coat;
- 27 (3) Roller coat;
- 28 (4) Dip/electrodeposition coat;
- 29 (5) Airless Spray;
- 30 (6) High-volume, low-pressure (HVLV) spray; or
- 31 (7) Other application method equal to or better than HVLV, as
 32 certified by the manufacturer.

34 **R307-353-7. Work Practices[~~and Recordkeeping~~].**

- 35 (1) The owner or operator shall:
 - 36 (a) Store all VOC-containing coatings, thinners, and cleaning
 37 materials in closed containers;
 - 38 (b) Minimize spills of VOC-containing coatings, thinners, and
 39 cleaning materials;
 - 40 (c) Clean up spills immediately;
 - 41 (d) Convey any coatings, thinners, and cleaning materials in
 42 closed containers or pipes;
 - 43 (e) Close mixing vessels that contain VOC coatings and other
 44 materials except when specifically in use; and
 - 45 (f) Minimize usage of solvents during cleaning of storage,
 46 mixing, and conveying equipment.

47 (2) [~~All persons shall perform s~~]Solvent cleaning operations
 48 [~~with~~]shall be performed using cleaning material having a VOC [~~content~~
 49 ~~(excluding water and solvents exempt from the definition of volatile~~
 50 ~~organic compounds found in R307-101-2)~~ of 0.21 pounds per gallon or
 51 ~~less,~~ composite vapor pressure no greater than 1 mm Hg at 20 degrees
 52 Celsius, unless an add-on control device is used as specified in
 53 R307-353-8.

54 [~~(3) All sources subject to R307-353 shall maintain records~~

1 ~~demonstrating compliance with R307-353-5, R307-353-6 and~~
2 ~~R307-353-7(2).~~

3 ~~(a) Records shall include, but not be limited to, inventory~~
4 ~~and product data sheets of all coatings and solvents subject to~~
5 ~~R307-350.~~

6 ~~(b) These records shall be made available to the director upon~~
7 ~~request.]~~

9 **R307-353-8. Add-On Controls Systems Operations.**

10 (1) ~~If an add-on control system is used, [F]the owner or operator~~
11 ~~shall install and maintain [an incinerator, carbon adsorption, or~~
12 ~~any other add-on emission control system, provided that the emission~~
13 ~~control system is operated and maintained] in accordance with the~~
14 ~~manufacturer recommendations [in order to]and maintain [at least]~~
15 ~~90% or greater capture and control efficiency. [Determination of]The~~
16 ~~overall capture and control efficiency shall be determined using EPA~~
17 ~~approved methods, as follows.~~

18 (a) The capture efficiency of a VOC emission control system's
19 VOC collection device shall be determined according to EPA's
20 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
21 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

22 (b) The control efficiency of a VOC emission control system's
23 VOC control device shall be determined using test methods in Appendices
24 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
25 gaseous organic concentrations, or emissions of exempt compounds,
26 as applicable.

27 (c) An alternative test method may be substituted for the
28 preceding test methods after review and approval by the EPA
29 Administrator.

30 ~~[(2) The owner or operator of a control system shall provide~~
31 ~~documentation that the emission control system will attain the~~
32 ~~requirements of R307-353-8(1).~~

33 ~~(3) The owner or operator shall maintain records of key system~~
34 ~~parameters necessary to ensure compliance with R307-353-8. Key~~
35 ~~system parameters may include, but are not limited to, temperature,~~
36 ~~pressure and flow rates. Operator inspection schedule, monitoring,~~
37 ~~recordkeeping, and key parameters shall be in accordance with the~~
38 ~~manufacturer's recommendations, and as required to demonstrate~~
39 ~~operations are providing continuous emission reduction from the source~~
40 ~~during all periods that the operations cause emissions from the source.~~

41 ~~(4) The owner or operator shall maintain for a minimum of two~~
42 ~~years records of operating and maintenance sufficient to demonstrate~~
43 ~~that the equipment is being operated and maintained in accordance~~
44 ~~with the manufacturer recommendations.]~~

45 **R307-353-9. Recordkeeping.**

46 (1) The owner or operator shall maintain records of the following:

47 (a) Records that demonstrate compliance with R307-353. Records
48 shall include, but are not limited to, inventory and product data
49 sheets of all coatings and solvents subject to R307-353.

50 (b) If an add-on control device is used, records of key system
51 parameters necessary to ensure compliance with R307-353-8.

52 (i) Key system parameters shall include, but are not limited
53 to, temperature, pressure, flow rates, and an inspection schedule.

54 (ii) Key inspection parameters shall be in accordance with the

1 manufacturer's recommendations, and as required to demonstrate
2 operations are providing continuous emission reduction from the source
3 during all periods that the operations cause emissions from the source.

4 (2) All records shall be maintained for a minimum of 2 years.

5 (3) Records shall be made available to the director upon request.

6
7
8
9 **KEY: air pollution, emission controls, coatings, plastic parts**

10 **Date of Enactment or Last Substantive Amendment: [~~December 1,~~**
11 **2014]2017**

12 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

ITEM 9



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQ-036-17

MEMORANDUM

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

FROM: Joel Karmazyn, Environmental Scientist

DATE: May 23, 2017

SUBJECT: PROPOSE FOR PUBLIC COMMENT: Amend R307-343. Emissions Standards for Wood Furniture Manufacturing Operations.

Staff is proposing amendments to R307-343 that will help further reduce volatile organic compound (VOC) emissions from wood manufacturing operations. R307-343 will be part of the upcoming Serious PM_{2.5} State Implementation Plans (SIPs). The changes are summarized below:

- The applicability threshold is reduced from 2.7 tons per year (tpy) potential to emit to the use of a combined 20 gallons or more of coating products and solvents combined. The new applicability level will discriminate between homeowners and hobbyists who conduct coating operations from commercial/industrial sources. Using an activity level threshold will also make it easier for sources and compliance inspectors to determine source applicability and simplify compliance verification.
- The definition of a coating is removed from the rule and added to the definitions in R307-101, General Requirements.
- The coating categories are updated to current types of coatings used in the industry. We are also separating out the types of polyurethanes that currently fall under the topcoat or sealer category.

The VOC limits for the two component polyurethanes are being slightly elevated from 0.9 to 1.0 lb VOC/lb solids because of the difficulty of transferring these viscous coatings to the wood surface under the current VOC limits. Staff has worked with the coating industry to derive the lowest workable VOC limits for these categories. The American Coating Association has concurred on this proposal. However, CCI Finishworks, a coating manufacturer, believes that a VOC limit below 1.2 lb/lb solids for the polyurethanes limits the product performance. Staff is proposing to specially

request comments on the lowest technically feasible VOC limit for polyurethanes that does not alter product performance.

Section 110(l) of the Clean Air Act prohibits EPA from approving a SIP revision that would “interfere with any applicable requirement concerning attainment...” Despite the fact that this amendment slightly increases the content limit for two component polyurethanes, it does not violate Section 110(l). The increase in VOC emissions from polyurethanes will be mitigated by lowering the rule applicability from 2.7 tpy to 20 gallons/year. We estimate that 75 sources are currently subject to R307-343. Reducing the applicability to 20 gallons/year will include an additional 191 sources with estimated VOC emissions of 116 tpy. The overall air quality benefit of this amendment is documented in the 110(l) demonstration attached to this proposal.

- Canned aerosol coating products that are less than 22 fluid ounce and used exclusively for touch-up or repair are exempt. Adding this exemption is in response to requests received from sources since the last rule revision. EPA guidance recommends this exemption, and it is included in other comparable state rules.

Changing the Form of the Cleaning Solvent Limit

R307-343-7(3) contains a cleaning solvent VOC limit of 0.21 lb/gallon. This limit was adopted from certain California air district rules for the Moderate PM_{2.5} SIP in an aggressive attempt to attain the standard. This extreme VOC content limit for cleaning solutions precludes the use of any organic solvent but acetone. Acetone is not a universal solvent and is incompatible with many coating formulations. That is to say that acetone does not uniformly dissolve all coating materials; therefore, it does not meet all types of cleaning requirements. An example of this limitation is explained in EPA’s guidance (EPA 453/R-07-003) for coating on paper, film and foil, where EPA states that “little information is available regarding the types of low-VOC or VOC-free cleaning materials that could be used in the paper, film, and foil surface coating industry.” Similarly, EPA states in its miscellaneous metals and plastic coating guidance (EPA-453/R-08-003), “Cleaning materials with low VOC content would generate less VOC emissions than materials with high VOC content, but may not be feasible with the broad range of coatings used in the miscellaneous metal product and plastic parts surface coating facilities.”

Additional concerns have been raised regarding possible equipment damage, such as rusting caused by the use of aqueous based solutions. The most serious concern is the fire hazard caused by the extremely low flash point of acetone. Related to this is the rapid evaporation of acetone that limits its use in many cleaning operations.

Setting a solvent cleaning limit based on vapor pressure is more appropriate than a density based approach and is consistent with options offered in EPA guidance documents. Vapor pressure is a measure of the tendency of particles to escape from the liquid form of a chemical to an airborne vapor at room temperature. It is an indicator of a liquid’s evaporation rate. Substances with a high vapor pressure readily release vapors into the air. Consequently, it is desirable for sources to use chemicals with low vapor pressure when possible in order to reduce VOC emissions. The advantages of low vapor pressure solvent formulations include:

- Low solvent evaporation rate reduces product wastage. Surface cleaning solvents are only effective in their liquid state. This means that the more they evaporate, the more solvent is needed to complete the task. Using less solvent saves cost.
- Low solvent evaporation reduces emissions to air.
- Low solvent evaporation reduces emissions in the work place which improves worker safety.

- Using low vapor pressure solvent formulations avoids the use of hazardous air pollutant chemicals like methylene chloride.

A Vapor Pressure Limit Provides More Cleaning Options

Excellent cleaning solvents like xylene have a high vapor pressure. If the vapor pressure of a xylene solution can be suppressed, xylene could be used for cleaning while reducing emissions. This can be done by applying a physical-chemical phenomenon known as Raoult's Law. Raoult's Law states that when a substance is dissolved in a solution, the vapor pressure of the solution will decrease. Finding ways to formulate salts (the substance) for example, into a xylene solution, will dramatically reduce the vapor pressure of the solution. Changing the form of the limit will permit formulation chemists to come up with more cleaning options while reducing VOC emissions.

Selecting the Vapor Pressure Limit

EPA approved R307-343 as part of the PM_{2.5} SIP. Therefore, revisions to the rule must not be relaxed. Consequently, the 0.21 lb/gallon VOC cleaning limit must be converted to a comparable vapor pressure.

EPA determined that the "cleaning materials with VOC composite vapor pressure less than 10 millimeters of mercury (mm Hg) at 20°C when used in conjunction with good work practices achieve a comparable emission reduction to cleaning materials containing 30 weight percent VOC (EPA-453/R-06-002, pg.12)." This ratio means that the 0.21 lb/gal is comparable to 1 mm Hg as follows:

Assuming VOC average solution weights 7 lb/gal, 0.21 lb/gal is equal to 3% VOC;

If 10 mm Hg vapor pressure is equal to 30% VOC, then 1 mm Hg is equal to 3% VOC.

The solvent cleaning limit in R307-343-7(3) has been revised to "a VOC composite vapor pressure up to 1 mm Hg or less at 20 degrees Celsius."

Notice of Proposed Rulemaking

The American Coatings Association and major coatings manufacturers were sent advanced notice of proposed rulemaking on April 28, 2016. Subsequent stakeholder meetings and contacts were held leading to this proposal.

Cost

The rule implementation cost presented in the Moderate SIP has been updated to account for inflation (2016) – \$2,616/ton VOC removed.

Recommendation: Staff recommends that the Board propose the amendments to R307-343 for a 45-day public comment period.

1 **R307. Environmental Quality, Air Quality.**

2 **R307-343. [~~Emissions Standards for~~] Wood Furniture Manufacturing**
3 **Operations.**

4 **R307-343-1. Purpose.**

5 The purpose of R307-343 is to limit volatile organic compound
6 (VOC) emissions from wood furniture manufacturing operations.

7
8 **R307-343-2. Applicability.**

9 R307-343 applies to wood furniture manufacturing operations,
10 including related cleaning activities, that [~~have the potential to~~
11 ~~emit 2.7 tons or more per year of VOCs and that are~~] use a combined
12 20 gallons or more of coating products and associated solvents per
13 year and are located in Box Elder, Cache, Davis, Salt Lake, Utah,
14 Tooele, [~~and~~]or Weber counties.

15
16 **R307-343-3. Definitions.**

17 The following additional definitions apply to R307-343:

18 [~~"Affected source" means a wood furniture manufacturing source~~
19 ~~that meets the criteria in R307-343-2.]~~

20 "As applied" means the volatile organic compound and solids
21 content of the finishing material that is actually used for coating
22 the substrate. It includes the contribution of materials used for
23 in-house dilution of the finishing material.

24 [~~"Coating" means a protective, decorative, or functional~~
25 ~~material applied in a thin layer to a surface. Such materials may~~
26 ~~include paints, topcoats, varnishes, sealers, stains, washcoats,~~
27 ~~basecoats, inks, and temporary protective coatings.~~

28 [~~"Compliant coating" means a finishing material or strippable~~
29 ~~booth coating that meets the emission limits specified in~~
30 ~~R307-343-4(1).]~~

31 "Control system" means the combination of capture and control
32 devices used to reduce emissions to the atmosphere.

33 "Conventional Air Spray" means a spray coating method in which
34 the coating is atomized by mixing it with compressed air at an air
35 pressure greater than ten pounds per square inch (gauge) at the point
36 of atomization. Airless, air assisted airless spray technologies,
37 and electrostatic spray technology are not considered conventional
38 air spray.

39 "Finishing material" means a coating used in the wood furniture
40 industry, including basecoats, stains, washcoats, sealers, and
41 topcoats.

42 "Finishing Operation" means those activities in which a finishing
43 material is applied to a substrate and is subsequently air-dried,
44 cured in an oven, or cured by radiation.

45 "Sealer" means a finishing material used to seal the pores of
46 a wood substrate before additional coats of finishing material are
47 applied. A washcoat used to optimize aesthetics is not a sealer.

48 "Solids" means the part of the coating that remains after the
49 coating is dried or cured; solids content is determined using data
50 from EPA Method 24.

51 "Stain" means any color coat having a solids content by weight
52 of no more than 8.0% that is applied in single or multiple coats

1 directly to the substrate, including nongrain raising stains,
2 equalizer stains, sap stains, body stains, no-wipe stains, penetrating
3 stains, and toners.

4 "Topcoat" means the last film-building finishing material
5 applied in a finishing system. Non-permanent final finishes are not
6 topcoats.

7 "Touch-up and Repair" means the application of finishing
8 materials to cover minor finishing imperfections.

9 "Washcoat" means a transparent special purpose coating having
10 a solids content by weight of 12.0% or less that is applied over initial
11 stains to protect and control color and to stiffen the wood fibers
12 in order to aid sanding.

13 "Washoff operations" means those operations in which organic
14 solvent is used to remove coating from a substrate.

15 "Wood furniture" means any product made of wood~~[7]~~ that is
16 manufactured under any of the following standard industrial
17 classification codes: 2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541,
18 2599, or 5712. This includes [a] wood products such as rattan or
19 wicker~~[7, or an]~~ and engineered wood products such as particleboard
20 [that is manufactured under any of the following standard industrial
21 classification codes: 2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541,
22 2599, or 5712].

23 "Wood furniture manufacturing operations" means the finishing,
24 cleaning, and washoff operations associated with the production of
25 wood furniture or wood furniture components.

26 27 **R307-343-4. VOC Content Limits.**

28 [~~(1) Each affected source subject to R307-343 shall limit VOC~~
29 ~~emissions by:~~

30 ~~(a) Using the compliant coating method as described in~~
31 ~~R307-343-4(1)(a)(i) or using the control system method as described~~
32 ~~in R307-343-4(1)(a)(ii).~~

33 ~~(i) Compliant coating method is the use of the topcoats or~~
34 ~~topcoat/sealer combinations in Table 1.](1) No owner or operator shall
35 apply coatings with a VOC content in excess of the amounts specified
36 in Table 1, unless the owner or operator uses an add-on control device
37 as specified in R307-343-6.~~

38
39 [TABLE 1

40
41 ~~Compliant Coating VOC Limitations~~

42
43 ~~(values in pounds VOC per pound of solids, minus water and exempt~~
44 ~~solvents (compounds not classified as VOC as defined in R307-101-2),~~
45 ~~as applied)~~

46
47
48 ~~COATING CATEGORY~~ ~~VOC Content Limitations~~

49
50 ~~_____ Effective Through _____ Effective Beginning~~
51 ~~_____ December 31, 2014 _____ January 1, 2015~~

52

1	Topcoats	0.8	0.4
2	Topcoat/Sealer combination		
3			
4	Topcoat	1.8	0.9
5			
6	Sealer	1.9	0.9
7			
8	Acid-cured, alkyd amino		
9	topcoat/sealer combinations		
10			
11	Acid-cured, alkyd amino topcoat	2.0	1.0
12			
13	Acid-cured, alkyd amino vinyl	2.3	1.2
14	Sealer]		

15
16 Table 1

17
18 WOOD MANUFACTURING COATING LIMITS

19 (values in pounds VOC per gallon of coating, minus water and
20 exempt solvents (compounds not classified as VOC as defined in
21 R307-101-2), as applied)

22	Coating Category	VOC Content Limit (lb/gal)
23	Topcoat	0.4
24		
25	Single component, non-catalyzed sealer	0.9
26	Single component, non-catalyzed topcoat	0.9
27		
28	Acid - cured single and 2 component sealer	1.2
29	Acid - cured single and 2 component topcoat	1.0
30		
31	2 component polyurethane topcoat	1.0
32	2 component polyurethane sealer	1.0
33		
34	Cobalt peroxide cured polyester sealer/topcoat	1.0
35		
36	Formaldehyde free acid catalyzed sealer/topcoat	1.0
37		
38	Strippable spray booth coatings	0.8
39		
40	[(ii) Control system method is the use of a VOC control system	
41	achieving a 85% or greater emissions reduction.	
42	_____ (b) Using strippable spray booth coatings that contain no	
43	greater than 0.8 pounds VOC per pound solids as applied.	
44	_____ (c) Using closed containers for the storing of finishing,	
45	gluing, cleaning and washoff materials.]	
46	(2) The limits in Table 1 do not apply to canned aerosol coating	
47	products less than 22 fl. oz. (0.66 liter) capacity and used	
48	exclusively for touch-up or repair.	
49		
50		
51		
52		

R307-343-5. Application Equipment Requirements.

(1) All coatings shall be applied using equipment having a minimum 65% transfer efficiency, except as allowed under R307-343-5(3) and operated according to the equipment manufacturer specifications. Equipment meeting the transfer efficiency requirement includes:

- (a) Brush, dip, or roll coating;
- (b) Electrostatic application; and
- (c) High volume, low pressure (HVLV) spray equipment.

(2) Other coating application methods that achieve transfer efficiency equivalent to HVLV or electrostatic spray application methods may be used.

(3) Conventional air spray methods may be used under the following circumstances:

(a) To apply finishing materials that have no greater than 1.0 pound of VOC per pound of solids, as applied;

(b) For touch-up and repair under the following circumstances:

(i) The touch-up and repair occurs after completion of the finishing operation; or

(ii) The touch-up and repair occurs after the application of stain and before the application of any other type of finishing material, and the materials used for touch-up and repair are applied from a container that has a volume of no more than 2.0 gallons;

(c) When the spray gun is aimed and ~~triggered~~ operated automatically, not manually;

(d) When the emissions from the finishing application station are directed to a control device as specified in R307-343-6;

(e) When the conventional air gun is used to apply ~~finishing materials and the cumulative total usage of that finishing material is~~ no more than 10% of the total gallons of finishing material used during the calendar year; or

(f) When the conventional air gun is used to apply stain on a part for which it is technically or economically infeasible to use any other spray application technology. The following criteria shall be used, either independently or in combination, to support the affected source's claim of technical or economic infeasibility:

(i) The production speed is too high or the part shape is too complex for one operator to coat the part and the application station is not large enough to accommodate an additional operator; or

(ii) The excessively large vertical spray area of the part makes it difficult to avoid sagging or runs in the stain.

R307-343-6. Add-on Controls Systems Operations.

(1) If an add-on control system is used, [F]the owner or operator shall install and maintain ~~[an incinerator, carbon adsorption, or any other]~~the add-on emission control system~~[-, provided that the emission control system is operated and maintained]~~ in accordance with the manufacturer recommendations ~~[in order to]~~and maintain ~~[at least]~~ 85% or greater capture and control efficiency. ~~[Determination of]~~The overall capture and control efficiency shall be determined using EPA approved methods, as follows.

(a) The capture efficiency of a VOC emission control system's VOC collection device shall be determined according to EPA's

1 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
2 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

3 (b) The control efficiency of a VOC emission control system's
4 VOC control device shall be determined using test methods in Appendices
5 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
6 gaseous organic concentrations, or emissions of exempt compounds,
7 as applicable.

8 (c) An alternative test method may be substituted for the
9 preceding test methods after review and approval by the EPA
10 Administrator.

11 [~~(2) The owner or operator of a control system shall provide
12 documentation that the emission control system will attain the
13 requirements of R307-343-6(1).~~

14 ~~_____ (3) The owner or operator shall maintain records of key system
15 parameters necessary to ensure compliance with R307-343-6. Key system
16 parameters may include, but are not limited to, temperature, pressure
17 and flow rates. Operator inspection schedule, monitoring,
18 recordkeeping, and key parameters shall be in accordance with the
19 manufacturer's recommendations, and as required to demonstrate
20 operations are providing continuous emission reduction from the source
21 during all periods that the operations cause emissions from the source.~~

22 ~~_____ (4) The owner or operator shall maintain for a minimum of two
23 years records of operating and maintenance sufficient to demonstrate
24 that the equipment is being operated and maintained in accordance
25 with the manufacturer recommendations.]~~

26
27 **R307-343-7. Work Practices [~~and Recordkeeping~~].**

28 (1) Control techniques and work practices for coatings shall
29 be implemented at all times to reduce VOC emissions [~~from fugitive
30 type sources~~]. Control techniques and work practices shall include:

31 (a) Storing all VOC-containing coatings, thinners, and
32 coating-related waste materials in closed containers;

33 (b) Ensuring that mixing and storage containers used for
34 VOC-containing coatings, thinners, and coating-related waste material
35 are kept closed at all times except when depositing or removing these
36 materials;

37 (c) Minimizing spills of VOC-containing coatings, thinners,
38 and coating-related waste materials; and

39 (d) Conveying VOC-containing coatings, thinners, and
40 coating-related waste materials from one location to another in closed
41 containers or pipes.

42 (2) The work practices for cleaning materials shall be
43 implemented at all times to reduce VOC emissions ~~from~~ [~~fugitive
44 type~~] sources. The work practices shall include:

45 (a) Storing all VOC-containing cleaning materials and used shop
46 towels in closed containers;

47 (b) Ensuring that storage containers used for VOC-containing
48 cleaning materials are kept closed at all times except when depositing
49 or removing these materials;

50 (c) Minimizing spills of VOC-containing cleaning materials;

51 (d) Conveying VOC-containing cleaning materials from one
52 location to another in closed containers or pipes; and

1 (e) Minimizing VOC emissions from cleaning of application,
2 storage, mixing, and conveying equipment by ensuring that equipment
3 cleaning is performed without atomizing the cleaning solvent and all
4 spent solvent is captured in closed containers.

5 ~~[(3) All persons shall perform solvent cleaning operations with
6 cleaning material having VOC content (excluding compounds not
7 classified as VOC) of 0.21 pounds per gallon or less.~~

8 ~~_____ (4) For each calendar year, all sources subject to R307-343 shall
9 maintain records demonstrating compliance with R307-343-4, R307-343-5
10 and R307-343-7~~

11 ~~_____ (a) Records shall include, but shall not be limited to,
12 inventory and product data sheets for all coatings and solvents subject
13 to R307-343.~~

14 ~~_____ (b) These records shall be made available to the director upon
15 request.]~~

16 (3) Solvent cleaning operations shall be performed using
17 cleaning materials having a VOC composite vapor pressure no greater
18 than 1 mm Hg or less at 20 degrees Celsius, unless an add-on control
19 device is used as specified in R307-343-6.

20
21 **R307-343-8. Recordkeeping.**

22 (1) The owner or operator shall maintain records of the
23 following:

24 (a) Records that demonstrate compliance with R307-343. Records
25 must include, but are not limited to, inventory and product data sheets
26 of all coatings and solvents subject to R307-343.

27 (b) If an add-on control device is used, records of key system
28 parameters necessary to ensure compliance with R307-343-6.

29 (i) Key system parameters shall include, but are not limited to,
30 temperature, pressure, flow rates, and an inspection schedule.

31 (ii) Key inspection parameters shall be in accordance with the
32 manufacturer's recommendations, and as required to demonstrate
33 operations are providing continuous emission reduction from the source
34 during all periods that the operations cause emissions from the source.

35 (2) All records shall be maintained for a minimum of 2 years.

36 (3) Records shall be made available to the director upon request.

37
38
39
40 **KEY: air pollution, wood furniture, coatings**

41 **Date of Enactment or Last Substantive Amendment: [December 1,**
42 **2014]2017**

43 **Notice of Continuation: February 1, 2012**

44 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a);**
45 **19-2-104(3)(e)**

Introduction

Section 110(l) of the Clean Air Act (CAA) indicates that EPA cannot approve a state implementation plan (SIP) revision if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress, or any other applicable requirement of the CAA. When revisions to these rules are made, the Act requires that an analysis is made to verify that the rule will not be relaxed in a way that would be impermissible under Section 110(l). This demonstration is being submitted for public comment because the Division of Air Quality (DAQ) is proposing amendments to R307-343.

Proposed Amendment Summary

1. The rule applicability threshold will be lowered from 2.7 tons per year potential to emit to 20 gallons or more of VOC containing coatings and solvent usage combined. The new applicability level will discriminate between homeowners and hobbyists who conduct coating operations from commercial/industrial sources.

Air Quality Impact Analysis: The rule will apply to more sources which will positively impact air quality.

2. The coating categories in R307-343 are being updated to current types of coatings used in the industry. We are also separating out the types of polyurethanes that currently fall under the topcoat or sealer category.

Air Quality Impact Analysis: Modifying the rule to update the coating types that are currently in use does not have an air quality impact.

3. The VOC limits for the 2 component polyurethanes are being slightly elevated from 0.9 to 1.0 lb VOC/lb solids because of the difficulty of transferring these viscous coatings to the wood surface under the current VOC limits. Staff has worked with the coating industry to derive the lowest workable VOC limits for these categories.

Air Quality Impact Analysis: The minor VOC limit increase may result in increased VOC levels, although those levels would be considered to be de minimus. We estimate that 191 additional sources with estimated VOC emissions of 116 tons per year would be newly regulated by reducing the rule applicability to 20 gallons/yr. These added controls would more than mitigate the VOC limit increase and subsequently result in a positive air quality impact.

4. Exempting canned coating products that are less than 22 fl. Oz. and used exclusively for touch-up or repair are exempt. EPA guidance recommends this exemption, and this exemption can also be found in other comparable state rules.

Air Quality Impact Analysis: The exemption is considered to be de minimus and would easily be mitigated by proposal #1 above.

5. Changing the form of the cleaning solvent from a density limit to vapor pressure.

Air Quality Impact Analysis: The form change does not cause a relaxation of the limit because the proposed vapor pressure is comparable to the existing density limit.

Clean Air Act 110(l) Demonstration
Air Quality Impact of Amendment to
R307-343, Emissions Standards for Wood Furniture Manufacturing Operations



Conclusion: The proposed amendments to R307-343 will result in an air quality improvement overall.

Public Comment

DAQ is accepting public comment on this demonstration from July 1 to July 31, 2017. Comments can be submitted by e-mail to Jkarmazyn@utah.gov or by mail to:

Joel Karmazyn
DAQ
PO Box 144820
195 North 1950 West
Salt lake City, Utah 84114-4820

ITEM 10



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQ-037-17

MEMORANDUM

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

FROM: Joel Karmazyn, Environmental Scientist

DATE: May 23, 2017

SUBJECT: PROPOSE FOR PUBLIC COMMENT: Repeal and Replace R307-351. Graphic Arts.

A Serious area nonattainment plan must demonstrate that the best available control measures (BACM) can be feasibly and cost effectively implemented. EPA defines BACM as a control measure that is more stringent than reasonably available control measures (RACM) and is based on technological feasibility and cost. The BACM analysis for R307-351 was conducted based on a comparison of other air districts' rules to the Utah rule in accordance with the PM_{2.5} Implementation Rule and in consultation with the Printing Industries of America. The amendments we are proposing based on the BACM analysis significantly change the makeup of R307-351, such that we recommend repealing and replacing the rule.

R307-351 was crafted as part of the Moderate PM_{2.5} State Implementation Plan. The rule was based on the most current EPA Control Techniques Guidelines (CTG) and has a rule applicability of 25 tons/year, based on the potential to emit (PTE) on a per press basis. Staff conducted a BACM analysis that included a review of seven California air district rules. The analysis showed that the seven rules have a lower applicability threshold than R307-351. The California rules also require more stringent volatile organic compound (VOC) limits than the recommendations in the CTG for graphic arts. The California rule applicability thresholds are as follows:

- South Coast Air Quality Management District Rule 1130- applies to sources that emit more than 10 tons/year of VOCs.
- San Joaquin Valley Air Pollution Control District Rule 4607-applies to sources that emit more than 200 lb/year of VOCs.
- Bay Area Air Quality Management District Regulation 8 Rule 20-applies to sources that emit more than 0.5 tons/year of VOCs.
- Santa Barbara County Rule 354-applies to sources that emit more than 1.8 tons/year of VOCs.

- San Diego County Rule 67.16-applies to sources that emit more than 2.7 tons/year of VOCs.
- Ventura Rule 74.19-applies to sources that emit more than 200 lb/year of VOCs.
- Sacramento Metro Rule 450-applies to sources that emit more than 720 lb/year of VOCs.

Rule Applicability

An industry sponsored survey of Utah state-wide printing operations conducted in 2012 indicated that 50% of the printing operations emitted less than two tons/year of VOC emissions. This information is evidence that the rule applicability would have to be reduced below the current 25 tons/year PTE in order to have further meaningful VOC reductions from this industry.

There is a large variability amongst the California rules, and no clear applicability threshold can be defined as BACM. The variability in the California rules is due to the differing printing processes that exist. Because printing technologies and processes vary, operating costs also vary across the industry.

The PM2.5 Implementation Rule clearly states that BACM must consider cost. The printing industry has had a negative growth trend since 2013, resulting in industry shrinkage. The Printing Industries of America foresees a continued negative trend. Therefore, a determination of the appropriate rule applicability should consider recent economic factors. We have worked closely with the Printing Industries of America and have concluded that a general rule applicability of one ton/year of VOC emissions or about 450 gallons/year of VOCs in all materials is the lowest applicability level that small sources can absorb. This would result in a cost estimate of \$4-5,000/ton VOC removed. We are proposing to use a material use threshold of 450 gallons/year, instead of an emissions threshold because it is easier for sources to track and for our inspectors to verify in the field.

Exemptions

Exemptions for low quantities of high VOC materials are common in graphic arts rules. We are proposing to allow materials with a VOC content of up to 25 grams/liter, which is consistent with other air district rules.

We are proposing to reduce the exemption for solvent cleaners that do not meet the VOC vapor pressure or density requirements from 110 gallons to 55 gallons/year.

Coating and Fountain Solution Limits

The limits have been substantially reduced in order to realize further VOC reductions and are now in line with the most stringent limits found in the South Coast Rule 1130.

VOC Reduction

The draft rule is expected to result in a 69% VOC reduction from the graphic arts printing industry.

Recommendation: Staff recommends that the Board propose the repeal and replacement of R307-351 for a 45-day public comment period.

1 ~~[R307. Environmental Quality, Air Quality.~~

2 ~~R307-351. Graphic Arts.~~

3 ~~R307-351-1. Purpose.~~

4 ~~— The purpose of this rule is to limit volatile organic compound~~
5 ~~(VOC) emissions from graphic arts printing operations.~~

6
7 ~~R307-351-2. Applicability.~~

8 ~~— R307-351 applies to graphic arts printing operations in Box~~
9 ~~Elder, Cache, Davis, Salt Lake, Utah and Weber counties as specified~~
10 ~~below. For purposes of determining whether the emissions applicability~~
11 ~~threshold or an equivalent threshold is met, the owner or operator~~
12 ~~shall consider source-wide emissions from all printing operations~~
13 ~~including related cleaning activities prior to controls.~~

14 ~~— (1) R307-351-4 applies to all packaging and publication~~
15 ~~rotogravure; packaging and publication flexographic; and specialty~~
16 ~~printing operations employing VOC-containing inks, including dilution~~
17 ~~and cleaning materials, that have potential to emit on a per press basis~~
18 ~~equal to or greater than 25 tons per year of VOC. Flexible packaging~~
19 ~~printing is exempt from R307-351-4.~~

20 ~~— (2) R307-351-5 applies to all flexible packaging printing~~
21 ~~operations with potential to emit on a per press basis, from the dryer,~~
22 ~~prior to controls, equal to or greater than 25 tons per year of VOC~~
23 ~~from inks, coatings and adhesives combined.~~

24 ~~— (3) R307-351-6(1) applies to individual heatset web offset~~
25 ~~lithographic printing presses and individual heatset web letterpress~~
26 ~~printing presses with potential to emit from the dryer, on a per press~~
27 ~~basis, prior to controls, equal to or greater than 25 tons per year~~
28 ~~of VOC. Heatset presses used for book printing and heatset presses~~
29 ~~with maximum web width of 22 inches or less are exempt from~~
30 ~~R307-351-6(1).~~

31 ~~— (4) R307-351-6(4) applies to offset lithographic printing~~
32 ~~operations that emit at least 2.7 tons per year actual emissions of~~
33 ~~VOC, or an equivalent level, before consideration of controls. Any~~
34 ~~press with total fountain solution reservoir of less than one gallon~~
35 ~~and sheet-fed presses with maximum sheet size of 11 inches by 17 inches~~
36 ~~or smaller are exempt from R307-351-6(4).~~

37 ~~— (5) R307-351-6(5) applies to offset lithographic printing and~~
38 ~~letterpress printing operations that emit at least 2.7 tons per year~~
39 ~~actual emissions of VOC, or an equivalent level, before consideration~~
40 ~~of controls. Cleaners used on electronic components of a press,~~
41 ~~pre-press cleaning operations (e.g., platemaking), post-press~~
42 ~~cleaning operations (e.g., binding), cleaning supplies (e.g.,~~
43 ~~detergents) used to clean the floor (other than dried ink) in the area~~
44 ~~around a press, or cleaning performed in parts washers or cold cleaners~~
45 ~~are exempt from R307-351-6(5).~~

46 ~~— (6) R307-351-7 applies to all graphic arts printing operations~~
47 ~~that emit at least 2.7 tons per year actual emissions of VOC, or an~~

1 ~~equivalent level, before consideration of controls.~~

2
3 **~~R307-351-3. Definitions.~~**

4 ~~— The following additional definitions apply to R307-351:~~

5 ~~— "Alcohol" means any of the following compounds, when used as a~~
6 ~~fountain solution additive for offset lithographic printing: ethanol,~~
7 ~~n-propanol, and isopropanol.~~

8 ~~— "Alcohol Substitute" means a nonalcohol additive that contains~~
9 ~~VOCs and is used in the fountain solution.~~

10 ~~— "Automatic Blanket Wash System" means equipment used to clean~~
11 ~~lithographic blankets which can include, but is not limited to those~~
12 ~~utilizing a cloth and expandable bladder, brush, spray, or impregnated~~
13 ~~cloth system.~~

14 ~~— "Cleaning Solution" means a liquid solvent or solution used to~~
15 ~~clean the operating surfaces of a printing press and its parts.~~
16 ~~Cleaning solutions include, but are not limited to blanket wash, roller~~
17 ~~wash, metering roller cleaner, plate cleaner, impression cylinder~~
18 ~~washes, rubber rejuvenators, and other cleaners used for cleaning a~~
19 ~~press, press parts, or to remove dried ink or coating from areas around~~
20 ~~the press.~~

21 ~~— "Blanket" means a synthetic rubber material that is wrapped~~
22 ~~around a cylinder used in offset lithography to transfer or "offset"~~
23 ~~an image from an image carrier.~~

24 ~~— "Capture efficiency" means the fraction of all VOC emissions~~
25 ~~generated by a process that are delivered to a control device,~~
26 ~~expressed as a percentage.~~

27 ~~— "Capture system" means the equipment (including hoods, ducts,~~
28 ~~fans, etc.) used to collect, capture, or transport a pollutant to a~~
29 ~~control device.~~

30 ~~— "Coating" means material applied onto or impregnated into a~~
31 ~~substrate. Such materials include, but are not limited to,~~
32 ~~solvent borne and waterborne coatings.~~

33 ~~— "Composite partial vapor pressure" means the sum of the partial~~
34 ~~pressure of the compounds defined as VOCs.~~

35 ~~— "Control device" means a device such as a carbon adsorber or~~
36 ~~oxidizer which reduces the VOC in an exhaust gas by recovery or by~~
37 ~~destruction.~~

38 ~~— "Control device efficiency" means the ratio of VOC emissions~~
39 ~~recovered or destroyed by a control device to the total VOC emissions~~
40 ~~that are introduced into the control device, expressed as a percentage.~~

41 ~~— "Flexible packaging" means any package or part of a package the~~
42 ~~shape of which can be readily changed. Flexible packaging includes,~~
43 ~~but is not limited to, bags, pouches, liners and wraps utilizing paper,~~
44 ~~plastic, film, aluminum foil, metalized or coated paper or film, or~~
45 ~~any combination of these materials.~~

46 ~~— "Flexographic press" means an unwind or feed section, which may~~
47 ~~include more than one unwind or feed station (such as on a laminator),~~

1 a series of individual work stations, one or more of which is a
2 flexographic print station, any dryers (including interstage dryers
3 and overhead tunnel dryers) associated with the work stations, and a
4 rewind, stack, or collection section. The work stations may be oriented
5 vertically, horizontally, or around the circumference of a single
6 large impression cylinder. Inboard and outboard work stations,
7 including those employing any other technology, such as rotogravure,
8 are included if they are capable of printing or coating on the same
9 substrate. A publication rotogravure press with one or more
10 flexographic imprinters is not a flexographic press.

11 ——— "Flexographic printing" means the application of words, designs,
12 and pictures to substrate by means of a roll printing technique in which
13 the pattern to be applied is raised above the printing roll and the
14 image carrier is made of rubber or other elastomeric materials.

15 ——— "Fountain solution" means a mixture of water and other volatile
16 and non-volatile chemicals and additives that wets the nonimage area
17 of a lithographic printing plate so that the ink is maintained within
18 the image areas.

19 ——— "Heatset" means an offset lithographic printing or letterpress
20 printing operation in which the ink solvents are vaporized by passing
21 the printed surface through a dryer.

22 ——— "Letterpress printing" means a method where the image area is
23 raised relative to the non image area and the ink is transferred to
24 the substrate directly from the image surface.

25 ——— "Narrow web flexographic press" means a flexographic press that
26 is not capable of printing substrates greater than 18 inches in width
27 and that does not also meet the definition of rotogravure press (i.e.,
28 it has no rotogravure print stations).

29 ——— "Non heatset", also called coldset, means an offset lithographic
30 printing or letterpress printing operation in which the ink dries by
31 oxidation and/or absorption into the substrate without use of heat from
32 dryers.

33 ——— "Offset lithographic printing" means a planographic method in
34 which the image and non image areas are on the same plane and the ink
35 is offset from a plate to a rubber blanket, and then from the blanket
36 to the substrate.

37 ——— "Overall control efficiency" means the total efficiency of a
38 control system, determined either by:

39 ——— (1) The product of the capture efficiency and the control device
40 efficiency; or

41 ——— (2) A liquid-liquid material balance.

42 ——— "Packaging printing" means rotogravure or flexographic printing,
43 not otherwise defined as publication printing, upon paper, paper
44 board, metal foil, plastic film, and other substrates, which are, in
45 subsequent operations, formed into packaging products and labels. This
46 includes, but is not limited to, folding cartons, flexible packaging,
47 labels and wrappers.

1 ~~—————"Printing operation" means the application of words, designs, or~~
2 ~~pictures on a substrate. All units in a machine which have both coating~~
3 ~~and printing units shall be considered as performing a printing~~
4 ~~operation.~~

5 ~~—————"Printing Press" means a printing production assembly composed~~
6 ~~of one or more units used to produce a printed substrate, including~~
7 ~~but not limited to, any associated coating, spray powder application,~~
8 ~~heatset web dryer, ultraviolet or electron beam curing units, or~~
9 ~~infrared heating units.~~

10 ~~—————"Publication rotogravure printing" means rotogravure printing~~
11 ~~upon paper that is subsequently formed into books, magazines,~~
12 ~~catalogues, brochures, directories, newspaper supplements, and other~~
13 ~~types of printed materials.~~

14 ~~—————"Publication rotogravure press" means a rotogravure press used~~
15 ~~for publication rotogravure printing. A publication rotogravure press~~
16 ~~may include one or more flexographic imprinters. A publication~~
17 ~~rotogravure press with one or more flexographic imprinters is not a~~
18 ~~flexographic press.~~

19 ~~—————"Roll coating" means the application of a coating material to a~~
20 ~~substrate by means of hard rubber or steel rolls.~~

21 ~~—————"Roll printing" means the application of words, designs and~~
22 ~~pictures to a substrate usually by means of a series of hard rubber~~
23 ~~or steel rolls each with only partial coverage.~~

24 ~~—————"Rotogravure coating" means the application of a uniform layer~~
25 ~~of material across the entire width of the web to substrate by means~~
26 ~~of a roll coating technique in which the pattern to be applied is etched~~
27 ~~on the coating roll. The coating material is picked up in these~~
28 ~~recessed areas and is transferred to the substrate.~~

29 ~~—————"Rotogravure press" means an unwind or feed section, which may~~
30 ~~include more than one unwind or feed station (such as on a laminator),~~
31 ~~a series of individual work stations, one or more of which is a~~
32 ~~rotogravure print station, any dryers associated with the work~~
33 ~~stations, and a rewind, stack, or collection section. Inboard and~~
34 ~~outboard work stations, including those employing any other~~
35 ~~technology, such as flexography, are included if they are capable of~~
36 ~~printing or coating on the same substrate.~~

37 ~~—————"Rotogravure printing" means the application of words, designs,~~
38 ~~and pictures to a substrate by means of a roll printing technique that~~
39 ~~involves a recessed image area in the form of cells.~~

40 ~~—————"Specialty printing operations" means all gravure and~~
41 ~~flexographic operations that print a design or image, excluding~~
42 ~~publication and packaging printing. Specialty printing operations~~
43 ~~include, among other things, printing on paper cups and plates,~~
44 ~~patterned gift wrap, wallpaper, and floor coverings.~~

45 ~~—————"Web" means a continuous roll of substrate.~~

46 ~~—————"Wide web flexographic press" means a flexographic press capable~~
47 ~~of printing substrates greater than 18 inches in width.~~

1
2 ~~**R307-351-4. Standards for Rotogravure, Flexographic, and Specialty**~~
3 ~~**Printing Operations.**~~

4 ~~_____ (1) No owner or operator of a packaging and publication~~
5 ~~rotogravure; packaging and publication flexographic, and specialty~~
6 ~~printing operations employing VOC containing ink may operate, cause,~~
7 ~~or allow or permit the operation of a facility unless:~~

8 ~~_____ (a) The volatile fraction of ink, as it is applied to the~~
9 ~~substrate, contains 25.0% by volume or less of VOC and 75.0% by volume~~
10 ~~or more of water; or~~

11 ~~_____ (b) The ink as it is applied to the substrate, less water,~~
12 ~~contains 60.0% by volume or more nonvolatile material; or~~

13 ~~_____ (c) The owner or operator installs and operates either a carbon~~
14 ~~adsorption system as described in R307-351-4(1)(c)(i) or an~~
15 ~~incineration system as described in R307-351-4(1)(c)(ii).~~

16 ~~_____ (i) A carbon adsorption system shall reduce the volatile organic~~
17 ~~emissions from the capture system by a minimum of 90.0% by weight.~~

18 ~~_____ (ii) An incineration system shall oxidize, from the capture~~
19 ~~system, a minimum of 90.0% of the non methane VOCs measured as total~~
20 ~~combustible carbon to carbon dioxide and water.~~

21 ~~_____ (iii) A capture system as described in R307-351-4(1)(c)(iv)~~
22 ~~shall be used in conjunction with a carbon adsorption system and an~~
23 ~~incineration system.~~

24 ~~_____ (iv) The design and operation of a capture system must be~~
25 ~~consistent with good engineering practices and shall be required to~~
26 ~~provide for an overall reduction in VOC emissions of at least:~~

27 ~~_____ (A) 75.0% where a publication rotogravure process is employed;~~

28 ~~_____ (B) 65.0% where a packaging rotogravure process is employed; or~~

29 ~~_____ (C) 60.0% where a flexographic printing process is employed.~~

30 ~~_____ (2) The owner or operator of an emission control device shall~~
31 ~~provide documentation that the system will attain the requirements of~~
32 ~~R307-351-4.~~

33 ~~_____ (3) The Emission control system shall be operated and maintained~~
34 ~~in accordance with the manufacturer recommendations.~~

35 ~~_____ (4) The owner or operator of an emission control device shall~~
36 ~~maintain for a minimum of two years records of operating and~~
37 ~~maintenance sufficient to demonstrate that the equipment is being~~
38 ~~operated and maintained in accordance with the manufacturer~~
39 ~~recommendations.~~

40
41 ~~**R307-351-5. Standards for Flexible Packaging Printing Operations.**~~

42 ~~_____ (1) Presses used for flexible packaging printing shall comply~~
43 ~~with an 80% overall emission control efficiency.~~

44 ~~_____ (a) The owner or operator of an emission control device shall~~
45 ~~provide documentation that the emissions control system will attain~~
46 ~~the requirements of R307-351-5.~~

47 ~~_____ (b) The Emission control system shall be operated and maintained~~

1 ~~in accordance with the manufacturer recommendations.~~

2 ~~—— (2) The owner or operator of an emission control device shall~~
3 ~~maintain for a minimum of two years records of operating and~~
4 ~~maintenance sufficient to demonstrate that the equipment is being~~
5 ~~operated and maintained in accordance with the manufacturer~~
6 ~~recommendations.~~

7 ~~—— (3) As an alternative to the overall control efficiency, the~~
8 ~~following two equivalent VOC content limits may be met by use of low~~
9 ~~VOC content materials or combinations of materials and controls as~~
10 ~~follows:~~

11 ~~—— (a) 0.8 kg VOC/kg solids applied; or~~

12 ~~—— (b) 0.16 kg VOC/kg materials applied.~~

13 ~~—— (c) The VOC content limits can be met by averaging the VOC~~
14 ~~content of materials used on a single press, i.e., within a line. The~~
15 ~~use of averaging to meet the VOC content limits is not allowed for~~
16 ~~cross-line, i.e., across multiple lines.~~

17
18 **~~R307-351-6. Standards for Offset Lithographic Printing and~~**
19 **~~Letterpress Printing Operations.~~**

20 ~~—— (1) Requirements for heatset web offset lithographic and~~
21 ~~heatset letterpress inks and dryers.~~

22 ~~—— (a) Individual heatset web offset lithographic printing presses~~
23 ~~and individual heatset web letterpress printing presses shall comply~~
24 ~~with 90% control efficiency for the control device on heatset dryers.~~

25 ~~—— (b) The owner or operator of an emission control device shall~~
26 ~~provide documentation that the emissions control system will attain~~
27 ~~the requirements of R307-351-6.~~

28 ~~—— (c) The Emission control system shall be operated and maintained~~
29 ~~in accordance with the manufacturer recommendations.~~

30 ~~—— (2) The owner or operator shall maintain for a minimum of two~~
31 ~~years records of operating and maintenance sufficient to demonstrate~~
32 ~~that the equipment is being operated and maintained in accordance with~~
33 ~~the manufacturer recommendations.~~

34 ~~—— (3) As an alternative to the control efficiency, the control~~
35 ~~device outlet concentration may be reduced to 20 ppmv as hexane on a~~
36 ~~dry basis to accommodate situations where the inlet VOC concentration~~
37 ~~is low or there is no identifiable measurable inlet.~~

38 ~~—— (4) Requirements for fountain solution.~~

39 ~~—— (a) For heatset web offset lithographic printing, the level of~~
40 ~~control for VOC emissions from on-press (as-applied) fountain solution~~
41 ~~shall meet one of the following:~~

42 ~~—— (i) 1.6% alcohol or less (by weight) in the fountain;~~

43 ~~—— (ii) 3.0% alcohol or less (by weight) in the fountain solution~~
44 ~~if the fountain solution is refrigerated to below 60 degrees~~
45 ~~Fahrenheit; or~~

46 ~~—— (iii) 5.0% alcohol substitute or less (by weight) and no alcohol~~
47 ~~in the fountain solution.~~

1 ~~—— (b) For sheet fed offset lithographic printing, the level of~~
2 ~~control for VOC emissions from on press (as applied) fountain solution~~
3 ~~shall meet one of the following:~~

4 ~~—— (i) 5.0% alcohol or less (by weight) in the fountain;~~

5 ~~—— (ii) 8.5% alcohol or less (by weight) in the fountain solution~~
6 ~~provided the fountain solution is refrigerated to below 60 degrees~~
7 ~~Fahrenheit; or~~

8 ~~—— (iii) 5.0% alcohol substitute or less (by weight) and no alcohol~~
9 ~~in the fountain solution.~~

10 ~~—— (c) For non heatset web offset lithographic printing, the level~~
11 ~~of control for VOC emissions shall be 5.0% alcohol substitute or less~~
12 ~~(by weight) on press (as applied) and no alcohol in the fountain~~
13 ~~solution.~~

14 ~~—— (5) Requirements for cleaning materials.~~

15 ~~—— (a) For blanket washing, roller washing, plate cleaners,~~
16 ~~metering roller cleaners, impression cylinder cleaners, rubber~~
17 ~~rejuvenators, and other cleaners used for cleaning a press, press~~
18 ~~parts, or to remove dried ink from areas around a press, only cleaning~~
19 ~~materials with a VOC composite vapor pressure of less than ten mm Hg~~
20 ~~at 68 degrees Fahrenheit or cleaning materials containing less than~~
21 ~~70 weight percent VOC shall be used.~~

22 ~~—— (b) Up to 110 gallons per year of cleaning materials which meet~~
23 ~~neither the VOC composite vapor pressure requirement nor the VOC~~
24 ~~content requirement may be used.~~

25
26 **~~R307-351-7. Work Practices and Recordkeeping.~~**

27 ~~—— (1) Control techniques and work practices are to be implemented~~
28 ~~at all times to reduce VOC emissions from fugitive type sources.~~
29 ~~Control techniques and work practices include:~~

30 ~~—— (a) Tight fitting covers for open tanks; and~~

31 ~~—— (b) Keeping cleaning materials, used shop towels, and solvent~~
32 ~~wiping cloths in closed containers.~~

33 ~~—— (2) Record keeping and reporting.~~

34 ~~—— (a) The owner or operator of any source subject to R307-351 shall~~
35 ~~maintain:~~

36 ~~—— (i) Records of the annual usage of all materials that may be a~~
37 ~~source of VOC emissions including, but not limited to, inks, coatings,~~
38 ~~adhesives, fountain solution, and cleaning materials.~~

39 ~~—— (ii) All sources subject to R307-351 shall maintain records~~
40 ~~demonstrating compliance with all provisions of R307-351. These~~
41 ~~records shall be available to the director upon request.~~

42
43 **~~R307-351-8. Compliance Schedule.~~**

44 ~~—— (1) All sources within Salt Lake and Davis counties shall be in~~
45 ~~compliance with this rule by the effective date of this rule.~~

46 ~~—— (2) All sources within Box Elder, Cache, Utah and Weber counties~~
47 ~~shall be in compliance with this rule by January 1, 2014.~~

1
2 ~~KEY: air pollution, graphic arts, VOC, printing operations~~
3 ~~Date of Enactment or Last Substantive Amendment: February 1, 2013~~
4 ~~Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)]~~
5

6 R307. Environmental Quality, Air Quality.

7 R307-351. Graphic Arts.

8 R307-351-1. Purpose.
9

10 The purpose of R307-351 is to limit volatile organic compound
11 (VOC) emissions from graphic arts printing operations.
12

13 R307-351-2. Applicability.

14 R307-351 applies to graphic arts printing operations that use a
15 combined 450 gallons or more of all VOC-containing materials per year
16 and are located in Box Elder, Cache, Davis, Salt Lake, Utah, Tooele,
17 or Weber counties.
18

19 R307-351-3. Exemptions.

20 (1) The provisions of R307-351 shall not apply to graphic arts
21 materials that have a VOC content of less than 25 g/L, minus water
22 and exempt VOCs, as applied.

23 (2) A graphic arts printing operation may use up to 55 gallons
24 of cleaning materials per year that do not comply with the VOC composite
25 vapor pressure requirement or the VOC content requirement in
26 R307-351-5(4).
27

28 R307-351-4. Definitions.

29 The following additional definitions apply to R307-351:

30 "Alcohol" means any of the following compounds, when used as a
31 fountain solution additive for offset lithographic printing: ethanol,
32 n-propanol, and isopropanol.

33 "Alcohol Substitute" means a non-alcohol additive that contains
34 VOCs and is used in the fountain solution.

35 "Cleaning materials and solutions" means a liquid solvent or
36 solution used to clean the operating surfaces of a printing press and
37 its parts. Cleaning materials and solutions include, but are not
38 limited to blanket wash, roller wash, metering roller cleaner, plate
39 cleaner, impression cylinder washes, rubber rejuvenators, and other
40 cleaners used for cleaning a press, press parts, or to remove dried
41 ink or coating from areas around the press.

42 "Blanket" means a synthetic rubber material that is wrapped
43 around a cylinder used in offset lithography to transfer or "offset"
44 an image from an image carrier.

45 "Control system" means the combination of capture and control
46 devices used to reduce emissions to the atmosphere.

47 "Flexographic printing" means the application of words, designs,

1 and pictures to substrate by means of a roll printing technique in which
2 the pattern to be applied is raised above the printing roll and the
3 image carrier is made of rubber or other elastomeric materials.

4 "Fountain solution" means a mixture of water and other volatile
5 and non-volatile chemicals and additives that wets the non-image area
6 of a lithographic printing plate so that the ink is maintained within
7 the image areas.

8 "Graphic arts materials" means any inks, coatings, or adhesives,
9 including added thinners or retarders, used in printing or related
10 coating or laminating processes.

11 "Graphic arts printing" means the application of words and images
12 using the offset lithographic, letterpress, rotogravure, or
13 flexographic printing process.

14 "Heatset" means an offset lithographic printing or letterpress
15 printing operation in which the ink solvents are vaporized by passing
16 the printed surface through a dryer.

17 "Letterpress printing" means a method where the image area is
18 raised relative to the non-image area and the ink is transferred to
19 the substrate directly from the image surface.

20 "Non-heatset", also called coldset, means an offset lithographic
21 printing or letterpress printing operation in which the ink dries by
22 oxidation and/or absorption into the substrate without use of heat from
23 dryers. For the purposes of this rule, use of an infrared heater or
24 printing conducted using ultraviolet-cured or electron beam-cured
25 inks is considered non-heatset.

26 "Offset lithographic printing" means a plane-o-graphic method in
27 which the image and non-image areas are on the same plane and the ink
28 is offset from a plate to a rubber blanket, and then from the blanket
29 to the substrate.

30 "Printing operation" means the application of words, designs, or
31 pictures on a substrate. All units in a machine which have both coating
32 and printing units shall be considered as performing a printing
33 operation.

34 "Rotogravure printing" means the application of words, designs,
35 and pictures to a substrate by means of a roll printing technique that
36 involves a recessed image area in the form of cells.

37 "Web" means a continuous roll of substrate.

38
39 **R307-351-5. VOC Content Limits.**

40 (1) No owner or operator shall apply graphic arts materials with
41 a VOC content greater than the amounts specified in Table 1 or Table
42 2, unless the owner or operator uses an add-on control device as
43 specified in R307-351-6.

44
45
46
47

TABLE 1

VOC Limits

(values in gram of VOC per liter, minus water and exempt solvents (compounds not classified as VOC as defined in R307-101-2))

Graphic Art Material	VOC Limit (g/L)
----------------------	-----------------

Adhesive	150
Coating	300
Flexographic Fluorescent Ink	300
Flexographic Ink-Non-Porous Substrate	300
Flexographic Ink-Porous Substrate	225
Gravure Ink	300
Letterpress Ink	300
Offset Lithographic Ink	300
Heatset Web Offset Litographic ink	300
Heatset Web Offset Lithographic Ink:	
Used on Book Presses and Presses	
Less Than 22 Inches in Diameter	400
Used on Presses With Potential to Emit Less Than 10 Tons/Year	400

(2) No owner or operator shall apply fountain solution, including additives with a VOC content greater than the amounts specified in Table 2, unless the owner or operator uses an add-on control device as specified in R307-351-6.

TABLE 2

VOC Limits

(values in gram of VOC per liter, minus water and exempt solvents (compounds not classified as VOC as defined in R307-101-2))

Graphic Art Material	VOC Limit (g/L)
----------------------	-----------------

Heatset Web-Fed	
Alcohol without Refrigerated Chiller	16
Alcohol with Refrigerated Chiller	30
Alcohol Substitute	50
Sheet-Fed	
Alcohol without Refrigerated Chiller	50
Alcohol with Refrigerated Chiller	85
Alcohol Substitute	50

1 Non-Heatset Web-Fed

2 All Alcohol Substitutes 50

3
4 (3) Alcohol containing fountain solutions shall not be used
5 in non-heatset web-fed operations.

6
7 (4) Cleaning materials with a VOC composite vapor pressure of
8 less than 10 mm Hg at 68 degrees Fahrenheit or cleaning materials
9 containing less than 50 percent VOC by weight shall be used.

10
11 **R307-351-6. Add-on Controls Systems Operations.**

12 (1) If an add-on control system is used, the owner or operator
13 shall install and maintain the add-on emission control system in
14 accordance with the manufacturer recommendations.

15 (a) Control devices for individual heatset web offset
16 lithographic printing presses and individual heatset web letterpress
17 printing press dryers that were installed prior to January 1, 2017,
18 must maintain a 90% or greater control efficiency. Similar control
19 devices installed after January 1, 2017, must maintain a 95% or greater
20 control efficiency.

21 (b) Control devices for individual flexographic printing presses
22 and individual rotogravure printing presses shall comply with a 90%
23 or greater overall control efficiency.

24 (c) As an alternative to the control efficiency, the control
25 device outlet concentration may be reduced to 20 ppmv as hexane on a
26 dry basis to accommodate situations where the inlet VOC concentration
27 is low or there is no identifiable measurable inlet. The control outlet
28 concentration shall be determined using EPA Method 25A.

29 (d) The capture efficiency of a VOC emission control system's
30 VOC collection device for flexographic and rotogravure presses shall
31 be determined according to EPA's "Guidelines for Determining Capture
32 Efficiency," January 9, 1995 and 40 CFR Part 51, Appendix M, Methods
33 204-204F, as applicable.

34 (e) The capture efficiency of a VOC emission control system's VOC
35 collection device for a heatset web offset press shall be determined
36 by demonstrating that the airflow in the dryer is negative to the
37 surrounding pressroom during the initial test using an air flow
38 direction indicator, such as a smoke stick or aluminum ribbons, or
39 differential pressure gauge.

40 (f) The control efficiency of a VOC emission control system's
41 VOC control device shall be determined using test methods in Appendices
42 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
43 gaseous organic concentrations, or emissions of exempt compounds, as
44 applicable.

45 (g) An alternative test method may be substituted for the
46 preceding test methods after review and approval by the EPA
47 Administrator.

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R307-351-7. Work Practices.

(1) Control techniques and work practices shall be implemented at all times to reduce VOC emissions. Control techniques and work practices include:

(a) Keeping cleaning materials, used shop towels, and solvent wiping cloths in closed containers; and

(b) Minimizing spills of VOC-containing cleaning materials.

R307-351-8. Recordkeeping.

(1) The owner or operator shall maintain records of the following:

(a) Records that demonstrate compliance with R307-351. Records must include, but are not limited to, inventory and product data sheets of all graphic arts materials and cleaning solutions subject to R307-351.

(b) If an add-on control device is used, records of key system parameters necessary to ensure compliance with R307-351-6. Key system parameters include, but are not limited to, temperature, pressure, flow rates, and an inspection schedule. Key inspection parameters shall be in accordance with the manufacturer's recommendations, and as required to demonstrate that operations provide continuous emission reduction from the source during all periods that the operations cause emissions from the source.

(2) All records shall be maintained for a minimum of 2 years.

(3) Records shall be made available to the director upon request.

KEY: air pollution, graphic arts, VOC, printing operations

Date of Enactment or Last Substantive Amendment:

Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)

ITEM 11



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQ-031-17

MEMORANDUM

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

FROM: Joel Karmazyn, Environmental Scientist

DATE: May 23, 2017

SUBJECT: PROPOSE FOR PUBLIC COMMENT: Amend R307-348. Magnet Wire Coatings.

Staff is proposing to amend R307-348 as part of the upcoming serious PM_{2.5} State Implementation Plan (SIP). The amendments change the applicability threshold in the rule from 2.7 tons/year potential to emit to two tons/year of actual volatile organic compound (VOC) emissions. This change is based on DAQ's best available control measure (BACM) analysis. For the BACM analysis, DAQ staff compared R307-348 to the South Coast Rule 1126. Both the Utah rule and the South Coast rule require the same coating VOC content limit. However, the rule applicability for South Coast Rule 1126 may be more stringent than Utah's current rule. The South Coast Rule 1126 applicability threshold is set at two tons/year. The amendments in this proposal include a change to the applicability threshold to match the more stringent threshold in South Coast Rule 1126.

The proposed rule implementation cost presented in the moderate SIP has been updated to account for inflation (in 2016 dollars) - \$6,857/ton VOC removed.

Recommendation: Staff recommends that the Board propose the amended R307-348, Magnet Wire Coatings, for a 45-day public comment.

1 **R307. Environmental Quality, Air Quality.**

2 **R307-348. Magnet Wire Coatings.**

3 **R307-348-1. Purpose.**

4 The purpose of this rule is to limit volatile organic compound
5 (VOC) emissions from ~~[evens of]~~ magnet wire coating operations.
6

7 **R307-348-2. Applicability.**

8 R307-348 applies to sources that emit 2 tons per year or
9 more of VOC emissions, including related cleaning activities, that
10 are located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah [and] or
11 Weber counties [that have the potential to emit 2.7 tons per year
12 or more of VOC, including related cleaning activities].
13

14 **R307-348-3. Definitions.**

15 The following additional definition applies to R307-348:

16 "Magnet wire coating" means the process of applying coating of
17 electrical insulating varnish or enamel to aluminum or copper wire
18 for use in electrical machinery.
19

20 **R307-348-4. VOC Content Limit.**

21 ~~[(1)] No owner or operator [of a magnet wire coating oven may~~
22 ~~cause, allow or permit discharge into the atmosphere of any VOC in~~
23 ~~excess of 0.20 kilograms] shall apply coatings with a VOC content~~
24 greater than 200 grams VOC per liter [of coating] (1.7 pounds per
25 gallon), excluding water, and exempt solvents (compounds not
26 classified as VOCs as defined in R307-101-2) [delivered to the coating
27 applicator from magnet wire coating operations], unless the owner
28 or operator uses an add-on control device as specified in R307-348-6.

29 ~~[(a) Equivalency calculations for coatings shall be performed~~
30 ~~in units of pounds VOCs per gallon of solid rather than pounds VOCs~~
31 ~~per gallon of coating when determining compliance.~~

32 ~~[(b) The equivalent emission limit is 2.2 pounds VOCs per gallon~~
33 ~~solids.~~

34 ~~[(2) The emission limitations specified above shall be achieved~~
35 ~~by:~~

36 ~~[(a) The application of low solvent content coating technology;~~
37 ~~or~~

38 ~~[(b) The use of an add-on control device on magnet wire coating~~
39 ~~ovens as specified in R307-348-6.]~~
40

41 **R307-348-5. Work Practices [and Recordkeeping].**

42 (1) The owner or operator shall:

43 (a) Store all VOC-containing coatings and cleaning materials
44 in closed containers;

45 (b) Minimize spills of VOC-containing coatings and cleaning
46 materials;

47 (c) Clean up spills immediately;

48 (d) Convey any coatings, thinners, and cleaning materials in
49 closed containers or pipes;

50 (e) Close mixing vessels that contain VOC coatings and other
51 materials except when specifically in use; and

52 (f) Minimize usage of solvents during cleaning of storage,

1 mixing, and conveying equipment.

2 [~~(2) All sources subject to R307-348 shall maintain records~~
3 ~~demonstrating compliance with R307-348-4, and these records shall~~
4 ~~be available to the director upon request.~~]

5
6 **R307-348-6. Add-On Control Systems Operations.**

7 [~~(1) The owner or operator shall install and maintain an~~
8 ~~incinerator, carbon adsorption, or any other add-on emission control~~
9 ~~system, provided that the emission control system is operated and~~
10 ~~maintained in accordance with the manufacturer recommendations in~~
11 ~~order to maintain at least 90% capture and control efficiency.~~
12 ~~Determination of overall capture and control efficiency shall be~~
13 ~~determined using EPA approved methods, as follows.~~

14 ~~_____ (a) The capture efficiency of a VOC emission control system's~~
15 ~~VOC collection device shall be determined according to EPA's~~
16 ~~"Guidelines for Determining Capture Efficiency," January 9, 1995 and~~
17 ~~40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.~~

18 ~~_____ (b) The control efficiency of a VOC emission control system's~~
19 ~~VOC control device shall be determined using test methods in Appendices~~
20 ~~A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total~~
21 ~~gaseous organic concentrations, or emissions of exempt compounds,~~
22 ~~as applicable.]~~

23 (1) If an add-on control system is used it must be installed,
24 operated, and maintained in accordance with manufacturer
25 recommendations.

26 (a) An add-on control device must have a 90% or greater capture
27 and control efficiency rating. Efficiency must be determined using
28 EPA approved methods as follows:

29 (i) Capture efficiency must be determined according to EPA's
30 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
31 40 C.F.R. Parts 51, Appendix M, Methods 204-204F, as applicable.

32 (ii) Control efficiency must be determined using test methods
33 in Appendices A-1, A-6, and A-7 to 40 C.F.R. Part 60, for measuring
34 flow rates, total gaseous organic concentrations, or emissions of
35 exempt compounds, as applicable.

36 ([e]iii) An alternative test method may be substituted for the
37 preceding test methods after review and approval by the EPA
38 Administrator.

39 [~~(2) The owner or operator of a control system shall provide~~
40 ~~documentation that the emission control system will attain the~~
41 ~~requirements of R307-348-6(1).~~

42 ~~_____ (3) The owner or operator shall maintain records of key system~~
43 ~~parameters necessary to ensure compliance with R307-348-6. Key~~
44 ~~system parameters may include, but are not limited to, temperature,~~
45 ~~pressure and flow rates. Operator inspection schedule, monitoring,~~
46 ~~recordkeeping, and key parameters shall be in accordance with the~~
47 ~~manufacturer's recommendations, and as required to demonstrate~~
48 ~~operations are providing continuous emission reduction from the source~~
49 ~~during all periods that the operations cause emissions from the source.~~

50 ~~_____ (4) The owner or operator shall maintain for a minimum of two~~
51 ~~years records of operating and maintenance sufficient to demonstrate~~
52 ~~that the equipment is being operated and maintained in accordance~~

1 ~~with the manufacturer recommendations.]~~

2 **R307-348-7. Recordkeeping.**

3 (1) The owner or operator shall maintain records of the following:

4 (a) Records that demonstrate compliance with R307-348. Records
5 must include, but are not limited to, inventory and product data sheets
6 of all coatings and solvents subject to R307-348.

7 (b) If an add-on control device is used, records of key system
8 parameters necessary to ensure compliance with R307-348-6.

9 (i)Key system parameters include, but are not limited to,
10 temperature, pressure, flow rates, and an inspection schedule.

11 (ii)Key inspection parameters must be in accordance with the
12 manufacturer's recommendations, and as required to demonstrate
13 operations are providing continuous emission reduction from the source
14 during all periods that the operations cause emissions from the source.

15 (2) All records must be maintained for a minimum of 2 years.

16 (3) Records must be made available to the director upon request.

17
18
19 **KEY: air pollution, emission controls, surface coating, magnet wire**
20 **Date of Enactment or Last Substantive Amendment: [~~October 7,~~**
21 **2014]2017**
22 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

ITEM 12



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQ-038-17

MEMORANDUM

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

FROM: Joel Karmazyn, Environmental Scientist

DATE: May 23, 2017

SUBJECT: PROPOSE FOR PUBLIC COMMENT: Amend R307-354. Automotive Refinishing Coatings.

Staff is proposing to amend this rule as part of the PM_{2.5} State Implementation Plan (SIP) for Utah's Serious nonattainment areas. The rule amendment reduces the applicability threshold from sources that have "the potential to emit 2.7 tons per year or more of VOC" to sources that "use a combined 20 gallons or more of coatings products and associated solvents per year..." The new applicability level will discriminate between hobbyists and those who conduct coating operations from commercial and industrial sources.

The rule implementation cost for affected sources is the same as it was in the Moderate SIP because the volatile organic compound (VOC) content limits are not changing. The cost presented in the Moderate SIP has been updated to account for inflation (2016) – \$2,864/ton VOC removed.

Recommendation: Staff recommends that the Board propose the amendments to R307-354 for a 45-day public comment period.

1 **R307. Environmental Quality, Air Quality.**

2 **R307-354. Automotive Refinishing Coatings.**

3 **R307-354-1. Purpose.**

4 The purpose of R307-354 is to limit volatile organic compound
5 emissions (VOC) from automotive refinishing sources.
6

7 **R307-354-2. Applicability.**

8 [~~(1)~~]R307-354 applies to [~~sources~~]automotive refinishing
9 operations and related cleaning activities that use a combined 20
10 gallons or more of coating products and associated solvents per year
11 and are located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah
12 [and]or Weber counties [~~that have the potential to emit 2.7 tons per~~
13 ~~year or more of VOC, including related cleaning activities~~].
14

15 **R307-354-3. Exemptions.**

16 [~~(2)~~] The requirements of R307-354 shall not apply to any
17 canned aerosol coating products.
18

19 **R307-354-~~[3]~~4. Definitions.**

20 The following additional definitions apply to R307-354:

21 "Adhesion promoter" means a coating which is labeled and
22 formulated to be applied to uncoated plastic surfaces to facilitate
23 bonding of subsequent coatings, and on which, a subsequent coating
24 is applied.

25 "As applied" means the volatile organic compound and solids
26 content of the finishing material that is actually used for coating
27 the substrate. It includes the contribution of materials used for
28 in-house dilution of the finishing material.

29 "Automotive" means passenger cars, vans, motorcycles, trucks,
30 buses, golf carts and all other mobile equipment.

31 "Automotive refinishing" means the process of coating
32 automobiles, after-market automobiles, motorcycles, light and
33 medium-duty trucks and vans that are performed in auto body shops,
34 auto repair shops, production paint shops, new car dealer repair and
35 paint shops, fleet operation repair and paint shops, and any other
36 facility which coats vehicles under the Standard Industrial
37 Classification Code 7532 (Top, Body and Upholstery Repair Shops and
38 Paint Shops). This includes dealer repair of vehicles damaged in
39 transit. It does not include refinishing operations for other types
40 of mobile equipment, such as farm machinery and construction equipment
41 or their parts, including partial body collision repairs, that is
42 subsequent to the original coating applied at an automobile original
43 equipment manufacturing plant.

44 "Clear coating" means any coating that contains no pigments and
45 is labeled and formulated for application over a color coating or
46 clear coating.

47 [~~"Coating" means a protective, decorative, or functional~~
48 ~~material applied in a thin layer to a surface. Such materials may~~
49 ~~include paints, topcoats, varnishes, sealers, stains, washcoats,~~
50 ~~basecoats, inks, and temporary protective coatings.]~~

51 "Color coating" means any pigmented coating, excluding adhesion
52 promoters, primers, and multi-color coatings, that requires a

1 subsequent clear coating and which is applied over a primer, adhesion
2 promoter, or color coating. Color coatings include metallic and
3 iridescent color coatings.

4 "Enclosed paint gun cleaner" means a cleaner consisting of a
5 closed container with a door or top that can be opened and closed
6 and fitted with cleaning connections. The spray gun is attached to
7 a connection, and solvent is pumped through the gun and onto the
8 exterior of the gun. Cleaning solvent falls back into the cleaner's
9 solvent reservoir for recirculation.

10 "Metallic/Iridescent color coating" means a coating which
11 contains iridescent particles, composed of either metal as metallic
12 particles or silicon as mica particles, in excess of 0.042 pounds
13 per gallon as applied, where such particles are visible in the dried
14 film.

15 "Multi-color coating" means a coating which exhibits more than
16 one color when applied, and which is packaged in a single container
17 and applied in a single coat.

18 "Non-enclosed paint gun cleaner" means cleaner consisting of
19 a basin similar to a sink in which the operator washes the outside
20 of the gun under a solvent stream. The gun cup is filled with
21 recirculated solvent, the gun tip is placed into a canister attached
22 to the basin, and suction draws the solvent from the cup through the
23 gun. The solvent gravitates to the bottom of the basin and drains
24 through a small hole to a reservoir that supplies solvent to the
25 recirculation pump.

26 "Pretreatment coating" means a coating which contains no more
27 than 16% solids, by weight, and at least 0.5% acid, by weight, is
28 used to provide surface etching, and is applied directly to bare metal
29 surfaces to provide corrosion resistance and promote adhesion for
30 subsequent coatings.

31 "Primer" means any coating which is labeled and formulated for
32 application to a substrate to provide a bond between the substrate
33 and subsequent coats; corrosion resistance; a smooth substrate
34 surface; or resistance to penetration of subsequent coats, and on
35 which a subsequent coating is applied. Primers may be pigmented.

36 "Primer sealer" means any coating which is labeled and formulated
37 for application prior to the application of a color coating for the
38 purpose of color uniformity, or to promote the ability of the
39 underlying coating to resist penetration by the color coating.

40 "Single-stage coating" means any pigmented coating, excluding
41 primers and multi-color coatings, labeled and formulated for
42 application without a subsequent clear coat. Single-stage coatings
43 include single-stage metallic/iridescent coatings.

44 "Solids" means the part of the coating that remains after the
45 coating is dried or cured; solids content is determined using data
46 from EPA Method 24.

47 "Temporary protective coating" means any coating which is labeled
48 and formulated for the purpose of temporarily protecting areas from
49 overspray or mechanical damage.

50 "Topcoat" means any coating or series of coatings applied over
51 a primer or an existing finish for the purpose of protection or
52 beautification.

1 "Truck bed liner coating" means any coating, excluding clear,
2 color, multi-color, and single-stage coatings, labeled and formulated
3 for application to a truck bed to protect it from surface abrasion.

4 "Underbody coating" means any coating labeled and formulated
5 for application to wheel wells, the inside of door panels or fenders,
6 the underside of a trunk or hood, or the underside of ~~[the]~~a motor
7 vehicle.

8 "Uniform finish coating" means any coating labeled and formulated
9 for application to the area around a spot repair for the purpose of
10 blending a repaired area's color or clear coat to match the appearance
11 of an adjacent area's existing coating. ~~[Prior to May 1, 2013, this
12 coating category may be referred to as uniform finish blenders.~~

13 ~~—"Uniform finish blender" means a coating designed to blend a
14 repaired topcoat into an existing topcoat.]~~

15
16 **R307-354-[4]5. VOC Content Limits.**

17 ~~[Each]~~No owner or operator shall ~~[not]~~ apply coatings with a
18 VOC content ~~[in excess of]~~greater than the amounts specified in Table
19 1 ~~[or shall]~~, unless the owner or operator uses an add-on control
20 device as specified in R307-354-~~[6]~~7.

21
22 TABLE 1

23
24 AUTOMOTIVE REFINISHING VOC LIMITS

25 (values in pounds of VOC per gallon of coating, minus water and
26 exempt solvent (compounds not defined as VOC in R307-101-2), as
27 applied)

29 C[OATING] <u>oating</u> C[ATEGORY] <u>ategory</u> VOC C[ONTENT] <u>ontent</u> L[IMITS] <u>imits</u> 30 (lb/gal)	
31	
32 Adhesion Promoter	4.5
33	
34 Clear Coating	2.1
35	
36 Color Coating	3.5
37	
38 Multi-color Coating	5.7
39	
40 Pretreatment Coating	5.5
41	
42 Primer	2.1
43	
44 Primer Sealer	2.1
45	
46 Single-stage Coating	2.8
47	
48 Temporary Protective Coating	0.5
49	
50 Truck Bed Liner Coating	2.6
51	
52 Underbody Coating	3.6

1		
2	Uniform Finish Coating	4.5
3		
4	Any Other Coating Type	2.1
5		

6 **R307-354-[5]6. Work Practice[~~and Recordkeeping~~].**

7 (1) Control techniques and work practices are to be implemented
8 at all times to reduce VOC emissions. Control techniques and work
9 practices include:

10 [~~(a) Tight fitting covers for open tanks;~~]

11 [[b]a) [Covered]Closed containers shall be used for the
12 disposal of solvent wiping cloths;

13 [~~(c) Collection hoods for areas where solvent is used for~~
14 ~~cleanup;~~]

15 [[d]b) Minimizing spills of VOC-containing cleaning materials;

16 [[e]c) Conveying VOC-containing materials from one location
17 to another in closed containers or pipes; and

18 [[f]d) Cleaning spray guns in enclosed systems or in a
19 non-enclosed paint gun cleaning process may be used if the vapor
20 pressure of the cleaning solvent (excluding water and solvents exempt
21 from the definition of [volatile organic compounds found in
22 R307-101-2]VOCs) is less than 100 mm Hg at 68 degrees Fahrenheit and
23 the solvent is directed towards a drain that leads directly to an
24 enclosed remote reservoir. Automotive spray gun solvent clean[ers]ing
25 materials that are defined as a "consumer product" under R307-357
26 are exempt from the vapor pressure requirement and are regulated under
27 the requirements in R307-357.

28 (2) Application equipment requirements:

29 (a) A person shall not apply any coating to an automotive part
30 or component unless the coating application method achieves a
31 [demonstrated]minimum 65% transfer efficiency.

32 [[b)] The following coating application methods have been
33 demonstrated to achieve a minimum of 65% transfer efficiency:

34 (i) Brush, dip or roll coating operated in accordance with the
35 manufacturers specifications;

36 (ii) Electrostatic application equipment operated in
37 accordance with the manufacturers specifications; and

38 (iii) High Volume, Low Pressure spray equipment operated in
39 accordance with the manufacturers specifications.

40 [[e]3) Other coating application methods may be used that have
41 been demonstrated to be capable of achieving at least 65% transfer
42 efficiency, as certified by the manufacturer.

43 [[3) All sources subject to R307-354 shall maintain records
44 demonstrating compliance with R307-354-4 and R307-354-5.

45 ----- (a) Records shall include, but not be limited to, inventory
46 and product data sheets of all coatings and solvents subject to
47 R307-354.

48 ----- (b) These records shall be available to the director upon
49 request.]

50
51
52 **R307-354-[6]7. Add-On Controls Systems Operations.**

1 (1) If an add-on control system is used, [F]the owner or operator
2 shall install and maintain [an incinerator, carbon adsorption, or
3 any other]the add-on emission control system[, provided that the
4 emission control system is operated and maintained] in accordance
5 with the manufacturer recommendations [in order to]and maintain [at
6 least] 90% or greater capture and control efficiency. [Determination
7 of]The overall capture and control efficiency shall be determined
8 using EPA approved methods, as follows.

9 (a) The capture efficiency of a VOC emission control system's
10 VOC collection device shall be determined according to EPA's
11 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
12 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

13 (b) The control efficiency of a VOC emission control system's
14 VOC control device shall be determined using test methods in Appendices
15 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
16 gaseous organic concentrations, or emissions of exempt compounds,
17 as applicable.

18 (c) An alternative test method may be substituted for the
19 preceding test methods after review and approval by the EPA
20 Administrator.

21 [~~(2) The owner or operator of a control system shall provide~~
22 ~~documentation that the emission control system will attain the~~
23 ~~requirements of R307-354-[6]7(1).~~

24 [~~(3) The owner or operator shall maintain records of key system~~
25 ~~parameters necessary to ensure compliance with R307-354-6. Key system~~
26 ~~parameters may include, but are not limited to, temperature, pressure~~
27 ~~and flow rates. Operator inspection schedule, monitoring,~~
28 ~~recordkeeping, and key parameters shall be in accordance with the~~
29 ~~manufacturer's recommendations, and as required to demonstrate~~
30 ~~operations are providing continuous emission reduction from the source~~
31 ~~during all periods that the operations cause emissions from the source.~~

32 [~~(4) The owner or operator shall maintain for a minimum of two~~
33 ~~years records of operating and maintenance sufficient to demonstrate~~
34 ~~that the equipment is being operated and maintained in accordance~~
35 ~~with the manufacturer recommendations.]~~

36 **R307-354-8. Recordkeeping.**

37 (1) The owner or operator shall maintain records of the following:

38 (a) Records that demonstrate compliance with R307-354. Records
39 shall include, but are not limited to, inventory and product data
40 sheets of all coatings and solvents subject to R307-354.

41 (b) If an add-on control device is used, records of key system
42 parameters necessary to ensure compliance with R307-354-7.

43 (i) Key system parameters shall include, but are not limited to,
44 temperature, pressure, flow rates, and an inspection schedule.

45 (ii) Key inspection parameters shall be in accordance with the
46 manufacturer's recommendations, and as required to demonstrate
47 operations are providing continuous emission reduction from the source
48 during all periods that the operations cause emissions from the source.

49 (2) All records must be maintained for a minimum of 2 years.

50 (3) Records must be made available to the director upon request.

1 **KEY:** air pollution, automotive refinishing, VOC, coatings
2 **Date of Enactment or Last Substantive Amendment:** [~~December 1,~~
3 ~~2014]~~2017
4 **Authorizing, and Implemented or Interpreted Law:** 19-2-104(1)(a)

ITEM 13



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQ-039-17

MEMORANDUM

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

FROM: Joel Karmazyn, Environmental Scientist

DATE: May 24, 2017

SUBJECT: PROPOSE FOR PUBLIC COMMENT: Amend R307-355. Control of Emissions from Aerospace Manufacture and Rework Facilities.

R307-355 was adopted by the Board as part of the Moderate PM_{2.5} State Implementation Plan (SIP). The rule was designed after the reasonable available control technology (RACT) model rule in EPA's Control Techniques Guidelines (CTG), *Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations*. This CTG was developed for sources in areas of Moderate, Serious, or Severe nonattainment that have the potential to emit greater than or equal to 25 tons per year of (volatile organic compounds) VOCs. The CTG advises that states may apply a lower applicability threshold as deemed necessary.

A best available control measures (BACM) analysis was conducted in accordance with EPA's PM_{2.5} Implementation Rule. The analysis included a comparison of Utah's rule applicability threshold to the applicability thresholds that were used in other air districts.

Jurisdiction & Rule	Rule Applicability
San Joaquin Valley Rule 4605	1460 gallons/yr of VOC containing materials
South Coast Air District Rule 1124	1095 gallons/yr of VOC containing materials
Sacramento Metro Rule 456	55 gallons/yr of VOC containing materials
Bay Area Air Quality Management District, Regulation 8 Rule 29	All Sources

All California jurisdictions crafted their rules generally along the CTG model rule recommendations. Given the similarities between the control measures in R307-355 and the California rules, R307-355 is currently BACM as it applies to VOC content limits. The current rule applicability threshold in R307-355, which is the potential to emit annual VOC emissions of 10 tons or more, is not BACM.

Recommended Amendments to R307-355

- In keeping with the policy of separating industrial source activities from hobbyists/insignificant sources, we recommend setting the rule applicability to 55 gallons or greater of VOC containing materials per year. This limit will allow the small hanger operations to continue while providing controls for significant sources. The 55 gallon threshold will also satisfy BACM.
- The rule exemption for the maximum amount of small quantity coating formulations has been reduced from 200 gallons per year to 20, consistent with the exemption found in Rule 4605.
- A new exemption has been added for small quantity use for adhesives with an annual limit of 10 gallons or less, consistent with the exemption found in Sacramento Metro Rule 4605.
- The add-on control capture and control efficiency minimum has been increased from 81 to 90%, consistent with many comparable rules.
- The current rule incorporates by reference the specialty coatings. We have brought forth all of the coating categories into the body of the rule for the convenience of sources and our inspectors.

Cost

The cost to industry of researching alternative formulations is unknown. We assume the default reformulation cost of \$3,672/ton (\$2,000/ton used in the 1990s adjusted for inflation to 2016).

Recommendation: Staff recommends that the Board propose the amendments to R307-355 for a 45-day public comment period.

1 **R307. Environmental Quality, Air Quality.**

2 **R307-355. [~~Control of Emissions from~~] Aerospace Manufacture and**
3 **Rework Facilities.**

4 **R307-355-1. Purpose.**

5 The purpose of R307-355 is to limit the emissions of volatile
6 organic compounds (VOCs) from aerospace coatings and adhesives, from
7 organic solvent cleaning, and from the storage and disposal of solvents
8 and waste solvent materials associated with the use of aerospace
9 coatings and adhesives.

10
11 **R307-355-2. Applicability.**

12 R307-355 applies to all aerospace manufacture and rework
13 facilities that [~~have the potential to emit 10 tons or more per year~~
14 ~~of VOCs and that~~]are located in Box Elder, Cache, Davis, Salt Lake,
15 Utah, Tooele [~~and~~]or Weber counties[~~-~~]and use a combined 55 gallons
16 or more of coating products and associated solvents and adhesives per
17 year.

18
19 **R307-355-3. Exemptions.**

20 (1) R307-355 does not apply to the following:

21 (a) [~~Where e]~~Cleaning and coating [takes place]activities in
22 research and development, quality control[~~-~~]and laboratory testing
23 [~~and electronic parts and assemblies, except for cleaning and coating~~
24 ~~of completed assemblies];~~

25 (b) [~~To m]~~Manufacturing or rework operations involving space
26 vehicles; [and]

27 (c) [~~To r]~~Rework operations performed on antique aerospace
28 vehicles or components[~~-~~];

29 (d) Touchup and repair operations;

30 (e) Hand-held spray can application;

31 (f) Department of Defense classified coatings;

32 (g) Coatings or aerosols with separate formulations that are used
33 in volumes of less than one 1 gallon on any day or 20 gallons in any
34 calendar year;

35 (h) Adhesives with separate formulations that are used in volumes
36 of less than 0.5 gallons on any day or 10 gallons in any calendar year;

37 (i) Airbrush application methods for stenciling, lettering, and
38 other identification markings; and

39 (j) Any situation that normally requires the use of an airbrush
40 or an extension on the spray gun to properly reach limited access
41 spaces.

42
43 **R307-355-4. Definitions.**

44 The following additional definitions apply to R307-355:

45 "Ablative coating" means a coating, applied to both new and rework
46 aerospace components, which chars and becomes intumescent when exposed
47 to open flame, such as would occur during the failure of an engine

1 casing. The purpose of the coating is to act as an insulative
2 barrier and protect adjacent metal parts from an open flame.

3 "Adhesion promoter" means a very thin coating applied to a
4 substrate to promote wetting and form a chemical bond with the
5 subsequently applied material.

6 "Adhesive bonding primer" means a primer applied in a thin
7 film to aerospace components for the purpose of corrosion
8 inhibition and increased adhesive bond strength by attachment.
9 There are two categories of adhesive bonding primers: primers
10 with a design cure at 250°F or below and primers with a design
11 cure above 250°F.

12 "Aerospace manufacture[~~u~~] and [~~u~~]rework facility" means any
13 installation that produces, reworks, or repairs in any amount any
14 commercial, civil, or military aerospace vehicle or component.

15 "Antique aerospace vehicle or component" means an aircraft or
16 component thereof that was built [~~at least 30 years ago~~]prior to 1970
17 and would not routinely be in commercial or military service in the
18 capacity for which it was designed.

19 "Bearing coating" means a coating applied to an antifriction
20 bearing, a bearing housing, or the area adjacent to such a
21 bearing in order to facilitate bearing function or to protect
22 base material from excessive wear. A material shall not be
23 classified as a bearing coating if it can also be classified as a
24 dry lubricative material or a solid film lubricant.

25 "Caulking and smoothing compounds" means semi-solid materials
26 which are applied by hand application methods and are used to
27 aerodynamically smooth exterior vehicle surfaces or fill cavities
28 such as bolt hole accesses. A material shall not be classified
29 as a caulking and smoothing compound if it can also be classified
30 as a sealant.

31 "Chemical agent-resistant coating" means an exterior
32 topcoat designed to withstand exposure to chemical warfare agents
33 or the decontaminants used on these agents.

34 "Chemical milling maskants" means a coating that is applied
35 directly to aluminum components to protect surface areas when chemical
36 milling the component with a Type I or Type II etchant. Type I chemical
37 milling maskants are used with a Type I etchant and Type II chemical
38 milling maskants are used with a Type II etchant.

39 [~~"Exempt solvents" means organic chemicals that are not defined~~
40 as VOC.

41 ~~"General aviation rework facility" means any aerospace~~
42 ~~installation with the majority of its revenues resulting from the~~
43 ~~reconstruction, repair, maintenance, repainting, conversion, or~~
44 ~~alteration of general aviation aerospace vehicles or components.~~

45 ~~"Low vapor pressure hydrocarbon-based cleaning solvent" means a~~
46 ~~cleaning solvent that is composed of a mixture of photochemically~~
47 ~~reactive hydrocarbons and oxygenated hydrocarbons and has a maximum~~

1 ~~vapor pressure of 7 mm Hg at 68 degrees Fahrenheit. These cleaners~~
2 ~~must not contain hazardous air pollutants.~~

3 ~~"Space vehicle" means a man-made device, either manned or~~
4 ~~unmanned, designed for operation beyond earth's atmosphere. This~~
5 ~~definition includes integral equipment such as models, mock-ups,~~
6 ~~prototypes, mold, jigs, tooling, hardware jackets and test coupons.~~
7 ~~Also included, auxiliary equipment associated with test, transport and~~
8 ~~storage that through contamination can compromise the space vehicle~~
9 ~~performance.]~~

10 "Clear coating" means a transparent coating usually applied
11 over a colored opaque coating, metallic substrate, or placard to give
12 improved gloss and protection to the color coat. In some cases, a
13 clear coat refers to any transparent coating without regard to
14 substrate.

15 "Commercial exterior aerodynamic structure primer" means a
16 primer used on aerodynamic components and structures that
17 protrude from the fuselage, such as wings and attached
18 components, control surfaces, horizontal stabilizers, vertical
19 fins, wing-to-body fairings, antennae, and landing gear and
20 doors, for the purpose of extended corrosion protection and
21 enhanced adhesion.

22 "Compatible substrate primer" means either compatible epoxy
23 primer or adhesive primer. Compatible epoxy primer is primer
24 that is compatible with the filled elastomeric coating and is
25 epoxy based. The compatible substrate primer is an epoxy polyamide
26 primer used to promote adhesion of elastomeric coatings
27 such as impact-resistant coatings. Adhesive primer is a coating
28 that (1) inhibits corrosion and serves as a primer applied to
29 bare metal surfaces or prior to adhesive application, or (2) is
30 applied to surfaces that can be expected to contain fuel. Fuel
31 tank coatings are excluded from this category.

32 "Corrosion prevention" means a coating that
33 provides corrosion protection by displacing water and penetrating
34 mating surfaces, forming a protective barrier between the metal
35 surface and moisture. Coatings containing oils or waxes are
36 excluded from this category.

37 "Cryoprotective coating" means a coating that insulates
38 cryogenic or subcooled surfaces to limit propellant boil-off,
39 maintain structural integrity of metallic structures during
40 ascent or re-entry, and prevent ice formation.

41 "Electric or radiation-effect coating" means a coating or
42 coating system engineered to interact, through absorption or
43 reflection, with specific regions of the electromagnetic energy
44 spectrum, such as the ultraviolet, visible, infrared, or
45 microwave regions. Uses include, but are not limited to,
46 lightning strike protection, electromagnetic pulse (EMP)
47 protection, and radar avoidance. Coatings that have been

1 designated as "classified" by the Department of Defense are
2 exempt.

3 "Electrostatic discharge and electromagnetic interference
4 (EMI) coating" means a coating applied to space vehicles,
5 missiles, aircraft radomes, and helicopter blades to disperse
6 static energy or reduce electromagnetic interference.

7 "Elevated-temperature Skydrol-resistant commercial primer"
8 means a primer applied primarily to commercial aircraft (or
9 commercial aircraft adapted for military use) that must withstand
10 immersion in phosphate-ester (PE) hydraulic fluid (Skydrol 500b
11 A-9 or equivalent) at the elevated temperature of 150°F for
12 1,000 hours.

13 "Epoxy polyamide topcoat" means a coating used where harder
14 films are required or in some areas where engraving is
15 accomplished in camouflage colors.

16 "Fire-resistant (interior) coating" means for civilian
17 aircraft, fire-resistant interior coatings are used on passenger
18 cabin interior parts that are subject to the FAA fireworthiness
19 requirements. For military aircraft, fire-resistant interior
20 coatings are used on parts that are subject to the flammability
21 requirements of MIL-STD-1630A and MIL-A-87721. For space
22 applications, these coatings are used on parts that are subject
23 to the flammability requirements of SE-R-0006 and SSP 30233.

24 Flexible primer means a primer that meets flexibility
25 requirements such as those needed for adhesive bond primed
26 fastener heads or on surfaces expected to contain fuel. The
27 flexible coating is required because it provides a compatible,
28 flexible substrate over bonded sheet rubber and rubber-type
29 coatings as well as a flexible bridge between the fasteners,
30 skin, and skin-to-skin joints on outer aircraft skins. This
31 flexible bridge allows more topcoat flexibility around fasteners
32 and decreases the chance of the topcoat cracking around the
33 fasteners. The result is better corrosion resistance.

34 "Flight test coating" means a coating applied to aircraft
35 other than missiles or single-use aircraft prior to flight
36 testing to protect the aircraft from corrosion and to provide
37 required marking during flight test evaluation.

38 "Fuel tank coating" means a coating applied to fuel tank
39 components for the purpose of corrosion and/or bacterial growth
40 inhibition and to assure sealant adhesion in extreme
41 environmental conditions.

42 "High-temperature coating" means a coating designed to
43 withstand temperatures of more than 350°F.

44 "Insulation covering" means material that is applied to foam
45 insulation to protect the insulation from mechanical or
46 environmental damage.

47 "Intermediate release coating" means a thin coating applied

1 beneath topcoats to assist in removing the topcoat in depainting
2 operations and generally to allow the use of less hazardous
3 depainting methods.

4 "Lacquer" means a clear or pigmented coating formulated with
5 anitrocellulose or synthetic resin to dry by evaporation without a
6 chemical reaction. Lacquers are resoluble in their original
7 solvent.

8 "Low vapor pressure hydrocarbon-based cleaning solvent" means a
9 cleaning solvent that is composed of a mixture of photochemically
10 reactive hydrocarbons and oxygenated hydrocarbons and has a maximum
11 vapor pressure of 7 mm Hg at 68 degrees Fahrenheit. These cleaners
12 must not contain hazardous air pollutants.

13 "Maskants" means a coating that is applied directly to aluminum
14 components to protect surface areas when chemical milling the
15 component with a Type I or Type II etchant. Type I chemical milling
16 maskants are used with a Type I etchant and Type II chemical milling
17 maskants are used with a Type II etchant.

18 "Metalized epoxy coating" means a coating that contains
19 relatively large quantities of metallic pigmentation for
20 appearance and/or added protection.

21 "Mold release" means a coating applied to a mold surface to
22 prevent the molded piece from sticking to the mold as it is removed.

23 "Optical anti-reflection coating" means a coating with a low
24 reflectance in the infrared and visible wavelength ranges that is
25 used for antireflection on or near optical and laser hardware.

26 "Part marking coating" means coatings or inks used to make
27 identifying markings on materials, components, and/or assemblies.
28 These markings may be either permanent or temporary.

29 "Pretreatment coating" means an organic coating that contains
30 at least 0.5 percent acids by weight and is applied directly to
31 A-12 metal or composite surfaces to provide surface etching,
32 corrosion resistance, adhesion, and ease of stripping.

33 "Rain erosion resistant coating" means a coating applied
34 primarily to radomes, canopies, and leading edges of aircraft to
35 provide protection from erosion due to rain, dust, and other
36 airborne particles.

37 "Rocket motor nozzle coating" means a catalyzed epoxy coating
38 system used in elevated temperature applications on rocket motor
39 nozzles.

40 "Scale inhibitor" means a coating that is applied to the
41 surface of a part prior to thermal processing to inhibit the
42 formation of scale.

43 "Screen print ink" means an ink used in screen printing
44 processes during fabrication of decorative laminates and decals.

45 "Sealant" means a material used to prevent the intrusion of
46 water, fuel, air, or other liquids or solids from certain areas
47 of aerospace vehicles or components. There are two categories of

1 sealants: extrudable/rollable/brushable sealants and sprayable
2 sealants.

3 "Silicone insulation material" means an insulating material
4 applied to exterior metal surfaces for protection from high
5 temperatures caused by atmospheric friction or engine exhaust.
6 These materials differ from ablative coatings in that they are
7 not "sacrificial."

8 "Solid film lubricant" means a dry lubricant coating used to
9 reduce friction between faying metal surfaces. The coating consists
10 of an organic binder system containing one or more of the following
11 substances: molybdenum disulfide, graphite, polytetrafluoroethylene
12 (Teflon PTFE), other types of Teflon, lauric acid, cetyl alcohol, or
13 waxes.

14 "Space vehicle" means a man-made device, either manned or
15 unmanned, designed for operation beyond earth's atmosphere. This
16 definition includes integral equipment such as models, mock-ups,
17 prototypes, mold, jigs, tooling, hardware jackets and test coupons.
18 Also included, auxiliary equipment associated with test, transport and
19 storage that through contamination can compromise the space vehicle
20 performance.

21 "Specialized function coating" means a coating that fulfills
22 extremely specific engineering requirements that are limited in
23 application and are characterized by low volume usage. This
24 category excludes coatings covered in other Specialty Coating
25 categories.

26 "Specialty coating" means a coating that, even though it meets
27 the definition of a primer, topcoat, or self-priming topcoat, has
28 additional performance criteria beyond those of primers, topcoats, and
29 self-priming topcoats for specific applications.

30 (1) These performance criteria may include, but are not limited
31 to, temperature or fire resistance, substrate compatibility,
32 antireflection, temporary protection or marking, sealing, adhesively
33 joining substrates, or enhanced corrosion protection.

34 [~~(2) Individual specialty coatings are defined in Appendix A of~~
35 ~~40 CFR 63 subpart GG, which is incorporated by reference.]~~

36 "Temporary protective coating" means a coating applied to
37 provide scratch or corrosion protection during manufacturing,
38 storage, or transportation. Two types include peelable
39 protective coatings and alkaline removable coatings. These
40 materials are not intended to protect against strong acid or
41 alkaline solutions. Coatings that provide this type of
42 protection from chemical processing are not included in this
43 category.

44 "Thermal control coating" means a coating formulated with
45 specific thermal conductive or radiative properties to permit
46 temperature control of the substrate.

47 "Topcoat" means a coating that is applied over a primer or

1 component for appearance, identification, camouflage, or protection.
2 Topcoats that are defined as specialty coatings are not included under
3 this definition.

4 "Wet fastener installation coating" means a primer or sealer
5 applied by dipping, brushing, or daubing to fasteners that are
6 installed before the coating is cured.

7 "Wing coating" means a corrosion-resistant topcoat that is
8 resilient enough to withstand the flexing of the wings.

9
10 **R307-355-5. VOC Content Limits.**

11 [~~1~~] The owner or operator shall not apply coatings to
12 aerospace vehicles or components with a VOC content [~~in excess as~~
13 ~~follows:~~] greater than the amounts specified in Table 1 unless the
14 owner or operator uses an add-on control device as specified in
15 R307-355-9.

16 [~~(a)~~] ~~2.9 pounds per gallon of coating, excluding water and~~
17 ~~exempt solvents, delivered to a coating applicator that applies~~
18 ~~primers. For general aviation rework facilities, the VOC limitation~~
19 ~~shall be 4.5 pounds per gallon of coating, excluding water and exempt~~
20 ~~solvents, delivered to a coating applicator that applies primers;~~

21 ~~—— (b) 3.5 pounds per gallon of coating, excluding water and exempt~~
22 ~~solvents, delivered to a coating applicator that applies topcoats~~
23 ~~(including self priming topcoats). For general aviation rework~~
24 ~~facilities, the VOC limit shall be 4.5 pounds per gallon of coating,~~
25 ~~excluding water and exempt solvents, delivered to a coating applicator~~
26 ~~that applies topcoats (including self priming topcoats);~~

27 ~~—— (c) 5.2 pounds per gallon of coating, excluding water and exempt~~
28 ~~solvents, delivered to a coating applicator that applies Type I~~
29 ~~chemical milling maskant;~~

30 ~~—— (d) 1.3 pounds per gallon of coating, excluding water and exempt~~
31 ~~solvents, delivered to a coating applicator that applies Type II~~
32 ~~chemical milling maskants; and~~

33 ~~—— (e) Emissions of VOCs from specialty coatings in excess of the~~
34 ~~amounts specified in EPA 453/R-97-004, December 1997, page B-2, hereby~~
35 ~~incorporated by reference.~~

36 ~~—— (2) The owner or operator may alternatively comply with~~
37 ~~R307-355-5(1)(a) through (d) by using an add-on control device as~~
38 ~~specified in R307-355-9.~~

39 ~~—— (3) The following coating applications are exempt from the VOC~~
40 ~~content limits in R307-355-5(1);~~

41 ~~—— (a) Touchup and repair operations.~~

42 ~~—— (b) Use of hand held spray can application method.~~

43 ~~—— (c) Department of Defense classified coatings.~~

44 ~~—— (d) Coatings of space vehicles.~~

45 ~~—— (e) Facilities that use separate formulations in volumes of less~~
46 ~~than 50 gallons per year subject to a maximum exemption of 200 gallons~~
47 ~~total for such formulations applied annually.]~~

<u>Table 1</u>	
<u>(Values in grams of VOC per liter of material, minus water and exempt solvents (compounds not classified as VOC as defined in R307-101-2), as applied)</u>	
<u>Coating type</u>	<u>VOC Content Limit (g/l)</u>
Ablative Coating	600
Adhesion Promoter	890
<u>Adhesive Bonding Primers:</u>	
Cured at 250°F or below	850
Cured above 250°F	1030
<u>Adhesives:</u>	
Commercial Interior Adhesive	760
Cyanoacrylate Adhesive	1,020
Fuel Tank Adhesive	620
Nonstructural Adhesive	360
Rocket Motor Bonding Adhesive	890
Rubber-based Adhesive	850
Structural Autoclavable Adhesive	60
Structural Nonautoclavable Adhesive	850
Antichafe Coating	660
Bearing Coating	620
Caulking and Smoothing Compounds	850
Chemical Agent-Resistant Coating	550
Clear Coating	720
<u>Commercial Exterior Aerodynamic</u>	
Structure Primer	650
Compatible Substrate Primer	780
Corrosion Prevention Compound	710
Cryogenic Flexible Primer	645
Dry Lubricative Material	880
Cryoprotective Coating	600
Electric or Radiation-Effect Coating	800
<u>Electrostatic Discharge and Electromagnetic</u>	
Interference (EMI) Coating	800
<u>Elevated-Temperature Skydrol-Resistant</u>	
Commercial Primer	740
Epoxy Polyamide Topcoat	660
Fire-Resistant (interior) Coating	800
Flexible Primer	640
<u>Flight-Test Coatings:</u>	
Missile or Single Use Aircraft	420
All Other	840
Fuel-Tank Coating	720
High-Temperature Coating	850
Insulation Covering	740

1	<u>Intermediate Release Coating</u>	<u>750</u>
2	<u>Lacquer</u>	<u>830</u>
3	<u>Maskants:</u>	
4	<u>Bonding Maskant</u>	<u>1,230</u>
5	<u>Critical Use and Line Sealer Maskant</u>	<u>1,020</u>
6	<u>Seal Coat Maskant</u>	<u>1,230</u>
7	<u>Metalized Epoxy Coating</u>	<u>740</u>
8	<u>Mold Release</u>	<u>780</u>
9	<u>Optical Anti-Reflective Coating</u>	<u>750</u>
10	<u>Part Marking Coating</u>	<u>850</u>
11	<u>Pretreatment Coating</u>	<u>780</u>
12	<u>Primer</u>	<u>350</u>
13	<u>Rain Erosion Resistant Coating</u>	<u>850</u>
14	<u>Rocket Motor Nozzle Coating</u>	<u>660</u>
15	<u>Scale Inhibitor</u>	<u>880</u>
16	<u>Screen Print Ink</u>	<u>840</u>
17	<u>Sealants:</u>	
18	<u>Extrudable/Rollable/Brushable Sealant</u>	<u>280</u>
19	<u>Sprayable Sealant</u>	<u>600</u>
20	<u>Silicone Insulation Material</u>	<u>850</u>
21	<u>Solid Film Lubricant</u>	<u>880</u>
22	<u>Specialized Function Coating</u>	<u>890</u>
23	<u>Temporary Protective Coating</u>	<u>320</u>
24	<u>Thermal Control Coating</u>	<u>800</u>
25	<u>Topcoat</u>	<u>420</u>
26	<u>Type I chemical milling maskant</u>	<u>622</u>
27	<u>Type II chemical milling maskants</u>	<u>160</u>
28	<u>Wet Fastener Installation Coating</u>	<u>675</u>
29	<u>Wing Coating</u>	<u>850</u>

R307-355-6. Application Method.

(1) No owner or operator shall apply any [~~primer or topcoat~~] coating to aerospace vehicles or components unless [the primer and topcoat is applied with equipment operated according to the equipment manufacturer specifications or by the use of one of the following methods:] one of the following application methods is used:

- (a) Electrostatic application;
- (b) Flow/curtain coat;
- (c) Dip/electrodeposition coat;
- (d) Roll coat;
- (e) Brush coating;
- (f) cotton-tipped swab application;
- (g) High-Volume, Low-Pressure (HVLDP) Spray;
- (h) Hand Application Methods; or
- (i) Other coating application methods that achieve emission reductions equivalent to HVLDP or electrostatic spray application methods, as determined according to the requirements in 40 CFR

1 63.750(i).

2 [~~(2) The following conditions are exempt from R307-355-6(1):~~
3 ~~— (a) Any situation that normally requires the use of an airbrush~~
4 ~~or an extension on the spray gun to properly reach limited access~~
5 ~~spaces.~~
6 ~~— (b) The application of coatings that contain fillers that~~
7 ~~adversely affect atomization with HVLP spray guns and that cannot be~~
8 ~~applied by any of the application methods specified in R307-355-6.~~
9 ~~— (c) The application of coatings that normally have dried film~~
10 ~~thickness of less than 0.0013 centimeters (0.0005 inches) and that~~
11 ~~cannot be applied by any of the application methods specified in~~
12 ~~R307-355-6.~~
13 ~~— (d) The use of airbrush application methods for stenciling,~~
14 ~~lettering, and other identification markings.~~
15 ~~— (e) The use of hand-held spray can application methods.~~
16 ~~— (f) Touch-up and repair operations.~~
17 ~~— (g) Application of specialty coatings.]~~

18
19 **R307-355-7. Work Practices [and Recordkeeping].**

20 (1) Control techniques and work practices shall be implemented
21 at all times to reduce VOC emissions from coating and solvent cleaning
22 operations on aerospace vehicles or components. Control techniques
23 and work practices shall include, but are not limited to:

- 24 (a) Storing all VOC-containing coatings, adhesives, thinners,
25 and coating-related waste materials in closed containers;
26 (b) Ensuring that mixing and storage containers used for
27 VOC-containing coatings, adhesives, thinners, and coating-related
28 waste material are kept closed at all times except when depositing or
29 removing these materials;
30 (c) Minimizing spills of VOC-containing coatings, adhesives,
31 thinners, and coating-related waste materials; and
32 (d) Conveying VOC-containing coatings, adhesives, thinners,
33 and coating-related waste materials from one location to another in
34 closed container or pipes.

35 [~~(2) All sources subject to R307-355 shall maintain records~~
36 ~~demonstrating compliance with R307-355-5, R307-355-6 and R307-355-8.~~
37 ~~— (a) Records shall include, but not be limited to, inventory and~~
38 ~~product data sheets of all coatings and solvents subject to R307-355.~~
39 ~~— (b) These records shall be available to the Director upon~~
40 ~~request.]~~

41
42 **R307-355-8. Solvent Cleaning.**

43 (1) Hand-wipe cleaning. Cleaning solvents (excluding water
44 and exempt solvents[~~exempt from the definition of volatile organic~~
45 ~~compounds found in R307-101-2~~]) used in hand-wipe cleaning
46 operations on aerospace vehicles or components shall meet one of the
47 following requirements:

1 (a) Have a VOC composite vapor pressure less than or equal to
2 45 mm Hg at 68 degrees Fahrenheit;

3 (b) Have an aqueous cleaning solvent in which water is at least
4 80% of the solvent as applied; or

5 (c) Have a low vapor pressure hydrocarbon-based cleaning
6 solvent.

7 (2) The following exemptions apply:

8 (a) Cleaning during the manufacture, assembly, installation,
9 maintenance, or testing of components of breathing oxygen systems that
10 are exposed to the breathing oxygen.

11 (b) Cleaning during the manufacture, assembly, installation,
12 maintenance, or testing of parts, subassemblies, or assemblies that
13 are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide,
14 liquid oxygen, hydrazine).

15 (c) Cleaning and surface activation prior to adhesive bonding.

16 (d) Cleaning of electronics parts and assemblies containing
17 electronics parts.

18 (e) Cleaning of aircraft and ground support equipment fluid
19 systems that are exposed to the fluid, including air-to-air heat
20 exchangers and hydraulic fluid systems.

21 (f) Cleaning of fuel cells, fuel tanks, and confined spaces.

22 (g) Surface cleaning of solar cells, coated optics, and thermal
23 control surfaces.

24 (h) Cleaning during fabrication, assembly, installation, and
25 maintenance of upholstery, curtains, carpet, and other textile
26 materials used on the interior of the aircraft.

27 (i) Cleaning of metallic and nonmetallic materials used in
28 honeycomb cores during the manufacture or maintenance of these cores,
29 and cleaning of the completed cores used in the manufacture of
30 aerospace vehicles or components.

31 (j) Cleaning of aircraft transparencies, polycarbonate, or
32 glass substrates.

33 (k) Cleaning and solvent usage associated with research and
34 development, quality control, or laboratory testing.

35 (l) Cleaning operations, using nonflammable liquids, conducted
36 within five feet of energized electrical systems.

37 (3) Flush cleaning. Cleaning solvents used in flush cleaning
38 of aerospace vehicle or component parts, assemblies and coating unit
39 components must be emptied into an enclosed container or collection
40 system that is kept closed when not in use.

41 (4) Spray gun cleaning. All spray guns used to apply coatings
42 to aerospace vehicle or component shall be cleaned by one or more of
43 the following methods:

44 (a) Enclosed system that is closed at all times except when
45 inserting or removing the spray gun. If leaks in the system are found,
46 repairs shall be made as soon as practicable, but no later than 15 days
47 after the leak was found. If the leak is not repaired by the 15th day,

1 the cleaning solvent shall be removed and the enclosed cleaner shall
2 be shut down until the leak is repaired or its use is permanently
3 discontinued.

4 (b) Nonatomized cleaning.

5 (i) Spray guns shall be cleaned by placing cleaning solvent in
6 the pressure pot and forcing it through the gun with the atomizing cap
7 in place.

8 [~~(ii) No atomizing air is to be used.~~]

9 (ii[±]) The cleaning solvent from the spray gun shall be
10 directed into a vat, drum, or other waste container that is closed when
11 not in use.

12 (c) Disassembled spray gun cleaning.

13 (i) Spray guns shall be cleaned by disassembling and cleaning
14 the components by hand in a vat, which shall remain closed at all times
15 except when in use.

16 (ii) Spray gun components shall be soaked in a vat, which shall
17 remain closed during the soaking period and when not inserting or
18 removing components.

19 (d) Atomizing spray into a waste container that is fitted with
20 a device designed to capture atomized solvent emissions.

21 (e) Cleaning of the nozzle tips of automated spray equipment
22 systems, except for robotic systems that can be programmed to spray
23 into a closed container, shall be exempt from these requirements.

24
25 **R307-355-9. Add-On Controls Systems Operations.**

26 [~~(1) The owner or operator shall install and maintain an
27 incinerator, carbon adsorption, or any other add on emission control
28 system, provided that the emission control system is operated and
29 maintained in accordance with the manufacturer recommendations in
30 order to maintain at least 81% capture and control efficiency.
31 Determination of overall capture and control efficiency shall be
32 determined using EPA approved methods, as follows.~~

33 ~~— (a) The capture efficiency of a VOC emission control system's
34 VOC collection device shall be determined according to EPA's
35 "Guidelines for Determining Capture Efficiency," January 9, 1995 and
36 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.~~

37 ~~— (b) The control efficiency of a VOC emission control system's
38 VOC control device shall be determined using test methods in Appendices
39 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total
40 gaseous organic concentrations, or emissions of exempt compounds, as
41 applicable.~~

42 ~~— (c) An alternative test method may be substituted for the
43 preceding test methods after review and approval by the EPA
44 Administrator.~~

45 ~~(2) The owner or operator of a control system shall provide
46 documentation that the emission control system will attain the
47 requirements of R307-355-9(1).~~

~~(3) The owner or operator shall maintain records of key system parameters necessary to ensure compliance with R307-355-9. Key system parameters may include, but are not limited to, temperature, pressure and flow rates. Operator inspection schedule, monitoring, recordkeeping, and key parameters shall be in accordance with the manufacturer's recommendations, and as required to demonstrate operations are providing continuous emission reduction from the source during all periods that the operations cause emissions from the source.~~

~~(4) The owner or operator shall maintain for a minimum of two years records of operating and maintenance sufficient to demonstrate that the equipment is being operated and maintained in accordance with the manufacturer recommendations.]~~

If an add-on control system is used, the owner or operator shall install and maintain the add-on emission control system in accordance with the manufacturer recommendations and maintain 90% or greater capture and control efficiency. The overall capture and control efficiency shall be determined using EPA approved methods, as follows.

(a) The capture efficiency of a VOC emission control system's VOC collection device shall be determined according to EPA's "Guidelines for Determining Capture Efficiency," January 9, 1995 and 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

(b) The control efficiency of a VOC emission control system's VOC control device shall be determined using test methods in Appendices A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total gaseous organic concentrations, or emissions of exempt compounds, as applicable.

(c) An alternative test method may be substituted for the preceding test methods after review and approval by the EPA Administrator.

R307-355-10. Recordkeeping

(1) The owner or operator shall maintain records of the following:

(a) Records that demonstrate compliance with R307-355. Records must include, but are not limited to, inventory and product data sheets of all coatings and solvents subject to R307-355.

(b) If an add-on control device is used, records of key system parameters necessary to ensure compliance with R307-355-9.

(i) Key system parameters must include, but are not limited to, temperature, pressure, flow rates, and an inspection schedule.

(ii) Key inspection parameters must be in accordance with the manufacturer's recommendations, and as required to demonstrate operations are providing continuous emission reduction from the source during all periods that the operations cause emissions from the source.

(2) All records shall be maintained for a minimum of 2 years.

(3) Records shall be made available to the director upon request.

- 1 **KEY: air pollution, coating, aerospace**
- 2 **Date of Enactment or Last Substantive Amendment: December 1, 2014**
- 3 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

ITEM 14



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQ-040-17

MEMORANDUM

TO: Air Quality Board

THROUGH: Bryce C. Bird, Executive Secretary

FROM: Joel Karmazyn, Environmental Scientist

DATE: May 24, 2017

SUBJECT: PROPOSE FOR PUBLIC COMMENT: Amend R307-335. Degreasing and Solvent Cleaning Operations; and New Rule R307-304. Solvent Cleaning.

At the January 2017 Board meeting, the Board proposed to remove the volatile organic compound (VOC) limits for industrial solvents used for cleaning from R307-335 and add the limits to a new rule, R307-304. The public comment period for those proposals was from March 1 to March 31, 2017. A public hearing was held during the public comment period that was attended by major point sources. Commenters identified significant unintended consequences with the draft R307-304 rule. Consequently, we withdrew the rule after the public comment period in order to address valid concerns, and we have been engaged with a number of industry stakeholders and EPA to re-draft R307-304.

Rulemaking Proposal

The degreasing rule (R307-335) was amended under the Moderate PM_{2.5} State Implementation Plan (SIP) to include industrial solvent cleaning (R307-335-7 and 8) because solvent cleaning is technically a form of degreasing. In order to achieve further VOC reductions from industrial solvent cleaning operations, which will be required for the Serious area PM_{2.5} SIPs, we are proposing the following:

1. Amend R307-335 by removing the industrial solvent cleaning sections found in R307-335-7 and R307-335-8.
2. Move the industrial solvent cleaning requirements in R307-335 to a new solvent rule, R307-304.
3. Lower the threshold for gallons of solvent used in the applicability section of R307-304 to 55 gallons or more per year.
4. Introduce a solvent vapor pressure alternative to the density based limits.

Best Available Control Measure (BACM) Analysis

The requirements for R307-335-7 were derived from the EPA guidance for industrial solvent cleaning (EPA 453/R-06-001). EPA recommends that states set the applicability threshold for industrial solvent cleaning rules at 15 lbs. of VOCs/day or approximately 720 gallons of solvent/year in order to meet Reasonably Available Control Measures (RACM). The Board approved R307-335-7 at that level.

Based on EPA's reclassification of the Salt Lake and Utah County PM_{2.5} nonattainment areas from Moderate to Serious, Utah's area source rules will have to be based on the more stringent standard of BACM.

Several state and air district rules that regulate industrial solvent cleaning apply the EPA's VOC content limit recommendations for aqueous-based solvent cleaning and an applicability threshold of 15 lbs. of VOCs/day. The San Joaquin Valley Unified Air Pollution Control District Rule 4663, *Organic Solvent Cleaning, Storage, and Disposal*, is the most stringent rule because its applicability is set at 55 gallons or more of solvent products in any consecutive 12 month period. It also requires some solvent cleaning operations to use solvents at or below 0.21 lb/gallon.

Amending the current rule applicability to 55 gallons or more in a year (0.15 gallon/day) would essentially regulate most industrial solvent cleaning within the PM_{2.5} nonattainment areas that is not already regulated under industry specific coating rules.

R307-335-7 originally included the extremely low VOC content requirements found in Rule 4663. Unfortunately, stakeholders did not provide comments on the original rule until after the rule was approved by the Board. Subsequently, we began to receive industry complaints that the extremely low VOC content limits were not achievable. In some cases, the only option was to use an acetone based solvent. Sources cited flammability concerns, equipment damage and/or solubility incompatibility with acetone usage. The Board responded by amending the rule by increasing the solvent content limits, the lowest limit being set at 2.5 lb/gal. As we have proceeded to review all of the coating rules for the next SIP submittals, we continue to receive comments regarding stakeholder concern about cleaning solvent emission limits that are mandated in California rules. Consequently, we have worked with EPA and industry to find a solution to this issue. We are proposing to provide a vapor pressure limit as an alternative to the density based limits.

Basis for Solvent Vapor Pressure Alternative

Traditionally, we have developed density based limits (mass/volume) for solvent use categories, but as we tighten the density based limits in order to further improve our air quality, we are faced with technical and safety limitations. This is because the density limits become so stringent that we preclude the use of all solvents but acetone. Acetone is not a universal solvent. It cannot be used for every industrial solvent cleaning activity. There are also safety and health concerns with the wide use of acetone. Consequently, we are proposing to offer an alternative option of using low vapor pressure solvent formulations.

The advantages of low vapor pressure solvent formulations include:

- The low solvent evaporation rate reduces product wastage. Surface cleaning solvents are only effective in their liquid state. This means that the more they evaporate, the more solvent is needed to complete the task. Using less solvent reduces costs.
- The low solvent evaporation reduces emissions to the outside air.
- The low solvent evaporation reduces emissions in the work place, improving worker safety.
- Using low vapor pressure solvent formulations avoids the use of hazardous air pollutant chemicals like methylene chloride.

How Will Using A Vapor Pressure Limit Provide More Cleaning Options?

Excellent cleaning solvents like xylene have a high vapor pressure. If the vapor pressure of a xylene solution is suppressed, xylene could be used for cleaning while reducing emissions. This can be done by applying a physical-chemical phenomenon known as Raoult's Law. Raoult's Law states that when a substance is dissolved in a solution, the vapor pressure of the solution will decrease. Finding ways to formulate salts (the substance) for example, into a xylene solution, will dramatically reduce the vapor pressure of the solution. Changing the form of the limit will permit formulation chemists to come up with more cleaning options while reducing VOC emissions.

Selecting a Vapor Pressure Limit

The EPA industrial cleaning solvent guidance document provides recommended control measures that include options to reduce VOC emissions. One of those options is to apply a composite vapor pressure limit of 8 millimeters of mercury (mmHg) at 20 degrees Celsius.

Emission Reduction and Cost

R307-304 is estimated to reduce VOC emissions by 28% at a cost of approximately \$4.36/ton removed (assuming solvent substitution).

Recommendation: Staff recommends that the Board propose new rule R307-304 and the amendments to R307-335 for a 45-day public comment period.

1 **R307. Environmental Quality, Air Quality.**

2 **R307-335. Degreasing [~~and Solvent Cleaning Operations~~].**

3 **R307-335-1. Purpose.**

4 The purpose of this rule is to limit volatile organic compound
5 (VOC) emission from degreasing [~~and solvent cleaning~~] operations.
6

7 **R307-335-2. Applicability.**

8 R307-335 applies to [~~all~~] degreasing [~~or solvent cleaning~~]
9 operations that use VOCs and that are located in [~~PM10 and PM2.5~~
10 ~~nonattainment and maintenance plan areas as defined in 40 CFR 81.345~~
11 ~~(July 1, 2011)]~~Box Elder, Cache, Davis, Salt Lake, Tooele, Utah, or
12 Weber counties.
13

14 **R307-335-3. Definitions.**

15 The following additional definitions apply to R307-335:

16 "Batch open top vapor degreasing" means the batch process of
17 cleaning and removing grease and soils from metal surfaces by
18 condensing hot solvent vapor on the colder metal parts.

19 "Cold cleaning" means the batch process of cleaning and removing
20 soils from metal surfaces by spraying, brushing, flushing or immersing
21 while maintaining the solvent below its boiling point.

22 "Conveyorized degreasing" means the continuous process of
23 cleaning and removing greases and soils from metal surfaces by using
24 either cold or vaporized solvents.

25 [~~"Department of Defense military technical data" means a~~
26 ~~specification that specifies design requirements, such as materials~~
27 ~~to be used, how a requirement is to be achieved, or how an item is to~~
28 ~~be fabricated or constructed.]~~

29 "Freeboard ratio" means the freeboard height (distance between
30 solvent line and top of container) divided by the width of the
31 degreaser.

32 [~~"Industrial solvent cleaning" means operations performed using~~
33 ~~a liquid that contains any VOC, or combination of VOCs, which is used~~
34 ~~to clean parts, tools, machinery, equipment and work areas. Cleaning~~
35 ~~operations include, but are not limited to, spraying, wiping,~~
36 ~~flushing, and purging.]~~

37 "Open top vapor degreaser" means the batch process of cleaning
38 and removing soils from metal surfaces by condensing low solvent vapor
39 on the colder metal parts.

40 [~~"Separation operation" means any process that separates a~~
41 ~~mixture of compounds and solvents into two or more components.~~
42 ~~Specific mechanisms include extraction, centrifugation, filtration,~~
43 ~~and crystallization.~~

44 ~~—"Solvent metal cleaning" means the process of cleaning soils from~~
45 ~~metal surfaces by cold cleaning, open top vapor degreasers, or~~

1 ~~conveyorized degreasing.]~~

2
3 **R307-335-4. Cold Cleaning Facilities.**

4 No owner or operator shall operate a degreasing or solvent
5 cleaning operation unless conditions in R307-335-4(1) through (7) are
6 met.

7 (1) A cover shall be installed which shall remain closed except
8 during actual loading, unloading or handling of parts in cleaner. The
9 cover shall be designed so that it can be easily operated with one hand
10 if:

11 (a) The volatility of the solvent is greater than 2 kPa (15 mm
12 Hg or 0.3 psi) measured at 38 degrees C (100 degrees F),

13 (b) The solvent is agitated, or

14 (c) The solvent is heated.

15 (2) An internal draining rack for cleaned parts shall be
16 installed on which parts shall be drained until all dripping ceases.
17 If the volatility of the solvent is greater than 4.3 kPa (32 mm Hg at
18 38 degrees C (100 degrees F)), the drainage facility must be internal,
19 so that parts are enclosed under the cover while draining. The drainage
20 facility may be external for applications where an internal type cannot
21 fit into the cleaning system.

22 (3) Waste or used solvent shall be stored in covered containers.

23 (4) Tanks, containers and all associated equipment shall be
24 maintained in good operating condition, and leaks shall be repaired
25 immediately or the degreaser shall be shutdown.

26 (5) Written procedures for the operation and maintenance of the
27 degreasing or solvent cleaning equipment shall be permanently posted
28 in an accessible and conspicuous location near the equipment.

29 (6) If the solvent volatility is greater than 4.3 kPa (33 mm Hg
30 or 0.6 psi) measured at 38 degrees C (100 degrees F), or if solvent
31 is heated above 50 degrees C (120 degrees F), then one of the following
32 control devices shall be used:

33 (a) Freeboard that gives a freeboard ratio greater than 0.7;

34 (b) Water cover if the solvent is insoluble in and heavier than
35 water); or

36 (c) Other systems of equivalent control, such as a refrigerated
37 chiller or carbon adsorption.

38 (7) If used, the solvent spray shall be a solid fluid stream at
39 a pressure that does not cause excessive splashing and may not be a
40 fine, atomized or shower type spray.

41
42 **R307-335-5. Open Top Vapor Degreasers.**

43 Owners or operators of open top vapor degreasers shall, in
44 addition to meeting the requirements of R307-335-4(3), (4) and (5),

45 (1) Equip the vapor degreaser with a cover that can be opened

1 and closed without disturbing the vapor zone. The cover shall be
2 closed except when processing work loads through the degreaser;

3 (2) Install one of the following control devices:

4 (a) Equipment necessary to sustain:

5 (i) A freeboard ratio greater than or equal to 0.75, and

6 (ii) A powered cover if the degreaser opening is greater than
7 1 square meter (10.8 square feet),

8 (b) Refrigerated chiller,

9 (c) Enclosed design (cover or door opens only when the dry part
10 is actually entering or exiting the degreaser),

11 (d) Carbon adsorption system, with ventilation greater than or
12 equal to 15 cubic meters per minute per square meter (50 cubic feet
13 per minute per square foot) of air/vapor area when cover is open and
14 exhausting less than 25 parts per million of solvent averaged over one
15 complete adsorption cycle;

16 (3) Minimize solvent carryout by:

17 (a) Racking parts to allow complete drainage,

18 (b) Moving parts in and out of the degreaser at less than 3.3
19 meters per minute (11 feet per minute),

20 (c) Holding the parts in the vapor zone at least 30 seconds or
21 until condensation ceases,

22 (d) Tipping out any pool of solvent on the cleaned parts before
23 removal, and

24 (e) Allowing the parts to dry within the degreaser for at least
25 15 seconds or until visibly dry.

26 (4) Spray parts only in or below the vapor level;

27 (5) Not use ventilation fans near the degreaser opening, nor
28 provide exhaust ventilation exceeding 20 cubic meters per minute per
29 square meter (65 cubic feet per minute per square foot) in degreaser
30 open area, unless necessary to meet state and federal occupational,
31 health, and safety requirements.

32 (6) Not degrease porous or absorbent materials, such as cloth,
33 leather, wood or rope;

34 (7) Not allow work loads to occupy more than half of the
35 degreaser's open top area;

36 (8) Ensure that solvent is not visually detectable in water
37 exiting the water separator;

38 (9) Install safety switches on the following:

39 (a) Condenser flow switch and thermostat (shuts off sump heat
40 if condenser coolant is either not circulating or too warm); and

41 (b) Spray switch (shuts off spray pump if the vapor level drops
42 excessively, i.e., greater than 10 cm (4 inches)).

43 (10) Open top vapor degreasers with an open area smaller than
44 one square meter (10.8 square feet) are exempt from R307-335-5(2)(b)
45 and (d).

1

2 **R307-335-6. ConveyORIZED Degreasers.**

3 Owners and operators of conveyORIZED degreasers shall, in
4 addition to meeting the requirements of R307-335-4(3), (4) and (5) and
5 R307-335-5(5):

6 (1) Install one of the following control devices for
7 conveyORIZED degreasers with an air/vapor interface equal to or
8 greater than two square meters (21.5 square feet):

9 (a) Refrigerated chiller; or

10 (b) Carbon adsorption system, with ventilation greater than or
11 equal to 15 cubic meters per minute per square meter (50 cubic feet
12 per minute per square foot) of air/vapor area when downtime covers are
13 open, and exhausting less than 25 parts per million of solvent, by
14 volume, averaged over a complete adsorption cycle.

15 (2) Equip the cleaner with equipment, such as a drying tunnel
16 or rotating (tumbling) basket, sufficient to prevent cleaned parts
17 from carrying out solvent liquid or vapor.

18 (3) Provide downtime covers for closing off the entrance and
19 exit during shutdown hours. Ensure that down-time cover is placed over
20 entrances and exits of conveyORIZED degreasers immediately after the
21 conveyor and exhaust are shut down and is removed just before they are
22 started up.

23 (4) Minimize carryout emissions by racking parts for best
24 drainage and maintaining the vertical conveyor speed at less than 3.3
25 meters per minute (11 feet per minute).

26 (5) Minimize openings: Entrances and exits should silhouette
27 work loads so that the average clearance (between parts and the edge
28 of the degreaser opening) is either less than 10 cm (4 inches) or less
29 than 10% of the width of the opening.

30 (6) Install safety switches on the following:

31 (a) Condenser flow switch and thermostat - shuts off sump heat
32 if coolant is either not circulating or too warm;

33 (b) Spray switch - shuts off spray pump or conveyor if the vapor
34 level drops excessively, i.e., greater than 10 cm or (4 inches); and

35 (c) Vapor level control thermostat - shuts off sump level if
36 vapor level rises too high.

37 (7) Ensure that solvent is not visibly detectable in the water
38 exiting the water separator.

39

40 ~~**[R307-335-7. Industrial Solvent Cleaning.**~~

41 ~~——(1) Exemptions. The requirements of R307-335-7 do not apply to~~
42 ~~aerospace, wood furniture, shipbuilding and repair, flat wood~~
43 ~~paneling, large appliance, metal furniture, paper film and foil,~~
44 ~~plastic parts, miscellaneous metal parts coatings and light autobody~~
45 ~~and truck assembly coatings, flexible packaging, lithographic and~~

1 ~~letterpress printing materials, fiberglass boat manufacturing~~
2 ~~materials, and operations that are exclusively covered by Department~~
3 ~~of Defense military technical data and performed by a Department of~~
4 ~~Defense contractor and/or on site at installations owned and/or~~
5 ~~operated by the United States Armed Forces.~~

6 ~~—— (2) Operators of industrial solvent cleaning that emit 15 pounds~~
7 ~~of VOCs or more per day from industrial solvent cleaning operations,~~
8 ~~shall reduce VOC emissions from the use, handling, storage, and~~
9 ~~disposal of cleaning solvents and shop towels by implementing the~~
10 ~~following work practices:~~

- 11 ~~—— (a) Covering open containers; and~~
- 12 ~~—— (b) Storing used applicators and shop towels in closed fire~~
13 ~~proof containers, and~~
- 14 ~~—— (c) Limiting VOC emissions by either:~~
 - 15 ~~—— (i) Using solvents (excluding water and solvents exempt from the~~
16 ~~definition of volatile organic compounds found in R307 101 2) with a~~
17 ~~VOC limit in Table 1; or~~
 - 18 ~~—— (ii) Installing an emission control system designed to have an~~
19 ~~overall capture and control efficiency of at least 85%.~~

20

21 ~~TABLE 1~~
22 ~~Solvent Cleaning VOC Limits~~

23

24 Solvent Cleaning Category	VOC Limit (lb/gal)
25 Coatings, adhesives and ink manufacturing	4.2
26 Electronic parts and components	4.2
27 General miscellaneous cleaning	2.5
28 Medical devices and pharmaceutical	
29 Tools, equipment and machinery	6.7
30 General surface cleaning	5.0
31 Screening printing operations	4.2
32 Semiconductor tools, maintenance and equipment	
33 Cleaning	6.7

34

35 ~~**R307-335-8. Add-on Emission Control Systems Operations.**~~

36 ~~—— (1) Determination of overall capture and control efficiency~~
37 ~~shall be determined using EPA approved methods, as follows.~~

38 ~~—— (a) The capture efficiency of a VOC emission control system's~~
39 ~~VOC collection device shall be determined according to EPA's~~
40 ~~"Guidelines for Determining Capture Efficiency," January 9, 1995 and~~
41 ~~40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.~~

42 ~~—— (b) The control efficiency of a VOC emission control system's~~
43 ~~VOC control device shall be determined using test methods in Appendices~~
44 ~~A 1, A 6, and A 7 to 40 CFR Part 60, for measuring flow rates, total~~
45 ~~gaseous organic concentrations, or emissions of exempt compounds, as~~

1 applicable.

2 ~~—— (c) An alternative test method may be substituted for the~~
3 ~~preceding test methods after review and approval by the EPA~~
4 ~~Administrator.~~

5 ~~—— (2) The owner or operator of a control system shall provide~~
6 ~~documentation that the emission control system will attain the~~
7 ~~requirements of R307-335-7(2)(c)(ii).~~

8 ~~—— (3) The owner or operator shall maintain records of key system~~
9 ~~parameters necessary to ensure compliance with R307-335-7. Key system~~
10 ~~parameters may include, but are not limited to, temperature, pressure~~
11 ~~and flow rates. Operator inspection schedule, monitoring,~~
12 ~~recordkeeping, and key parameters shall be in accordance with the~~
13 ~~manufacturer's recommendations, and as required to demonstrate~~
14 ~~operations are providing continuous emission reduction from the source~~
15 ~~during all periods that the operations cause emissions from the source.~~

16 ~~—— (4) The owner or operator shall maintain for a minimum of two~~
17 ~~years records of operating and maintenance sufficient to demonstrate~~
18 ~~that the equipment is being operated and maintained in accordance with~~
19 ~~the manufacturer recommendations.]~~

20

21 **R307-335-[9]7. Recordkeeping.**

22 The owner or operator shall maintain, for a minimum of two
23 years, appropriate records [~~of the solvent VOC content applied and the~~
24 ~~physical characteristics that]to demonstrate compliance with
25 R307-335[~~-7(2)~~].~~

26

27 **KEY:** air pollution, degreasing[, ~~solvent cleaning~~]

28 **Date of Enactment or Last Substantive Amendment:** [~~December 1, 2014~~] 2017

29 **Notice of Continuation:** February 1, 2012

30 **Authorizing, and Implemented or Interpreted Law:** 19-2-104(1)(a)

1 **R307. Environmental Quality, Air Quality.**

2 **R307-304. Solvent Cleaning.**

3 **R307-304-1. Purpose.**

4 The purpose of R307-304 is to limit volatile organic compound (VOC) emissions from
5 solvent cleaning operations.

7 **R307-304-2. Applicability.**

8 (1) R307-304 applies to solvent cleaning operations within Box Elder, Cache, Davis, Salt
9 Lake, Tooele, Utah and Weber counties.

10 (2) Before September 1, 2018, R307-304 applies to an owner or operator using 720 gallons
11 or more a year of VOC containing solvent products.

12 (3) Effective September 1, 2018, R307-304 shall apply to an owner or operator using 55
13 gallons or more a year of VOC containing solvent products.

15 **R307-304-3. Exemptions.**

16 (1) The requirements of R307-304 do not apply to the operations that are regulated
17 under R307-342 through R307-347 and R307-349 through R307-355.

18 (2) Shipbuilding and repair and fiberglass boat manufacturing materials.

19 (3) Operations that are exclusively covered by Department of Defense military technical
20 data and performed by a Department of Defense contractor and/or on site at installations owned
21 and/or operated by the United States Armed Forces are exempt from the requirements of R307-304.

22 (4) Janitorial cleaning.

23 (5) Graffiti removal.

24 (6) Waste solvent from analytical laboratories.

25 (7) Cleaning with aerosol products not to exceed 16 fluid ounces.

27 **R307-304-4. Definitions.**

28 The following additional definitions apply to R307-304:

29 “Solvent cleaning” means operations performed using a liquid that contains any VOC, or
30 combination of VOCs, which is used to clean parts, tools, machinery, equipment and work areas.
31 Cleaning operations include, but are not limited to, spraying, wiping, flushing, and purging.

32 “Janitorial cleaning” means the cleaning of building floors, ceilings, walls, windows, doors,
33 stairs, bathrooms, office surfaces and equipment.

35 **R307-304-5. VOC Content Limits.**

36 (1) No person shall use solvent products with a VOC content greater than the amounts
37 specified in Table 1, unless the owner or operator uses an add-on control device as specified in
38 R307-304-7 or the alternative method in R307-304-5(2).

39
40
41
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43
44

TABLE 1

Solvent Cleaning VOC Limits (excluding water and exempt solvents from the definition of volatile organic compounds found in R307-101-2)

<u>Solvent Cleaning Category</u>	<u>VOC Limit (lb/gal) (g/L)</u>	
<u>Coatings, adhesives and ink manufacturing</u>	<u>4.2</u>	<u>500</u>
<u>Electronic parts and components</u>	<u>4.2</u>	<u>500</u>
<u>Medical devices and pharmaceutical</u>		
<u>Tools, equipment and machinery</u>	<u>6.7</u>	<u>800</u>
<u>General surface cleaning</u>	<u>5.0</u>	<u>600</u>
<u>Screening printing operations</u>	<u>4.2</u>	<u>500</u>
<u>Semiconductor tools, maintenance and equipment cleaning</u>	<u>6.7</u>	<u>800</u>

(2) As an alternative to the limits in Table 1 and for all general miscellaneous cleaning operations, a person may use a cleaning material with a VOC composite vapor pressure no greater than 8 mm Hg at 20 degrees Celsius.

R307-304-6. Work Practices.

An owner or operator shall:

- (1) cover open containers of solvent products; and
- (2) store used applicators and shop towels in closed fireproof containers.

R307-304-7. Add-on Emission Control Systems Operations.

(1) The add-on control device must have an emission control system designed to have an overall capture and control efficiency of at least 85%. Determination of overall capture and control efficiency shall be determined using EPA approved methods, as follows:

(a) The capture efficiency of a VOC emission control system's VOC collection device shall be determined according to EPA's "Guidelines for Determining Capture Efficiency," January 9, 1995 and 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

(b) The control efficiency of a VOC emission control system's VOC control device shall be determined using test methods in Appendices A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total gaseous organic concentrations, or emissions of exempt compounds, as applicable.

(c) An alternative test method may be substituted for the preceding test methods after review and approval by the EPA Administrator.

R307-304-8. Recordkeeping.

(1) The owner or operator shall maintain records of the following:

(a) The VOC content or composite vapor pressure of the solvent product applied and

(b) If an add-on control device is used, key system parameters necessary to ensure compliance with R307-304-7.

1 (i) Key system parameters must include, but are not limited to, temperature, pressure, flow
2 rates, and an inspection schedule.

3 (ii)Key inspection parameters must be in accordance with the manufacturer's
4 recommendations, and as required to demonstrate operations are providing continuous emission
5 reduction from the source during all periods that the operations cause emissions from the source.

6 (2) All records must be maintained for 2 years.

7 (3) Records must be available to the director upon request.

8

9 **KEY: air pollution, solvent cleaning, solvent use**

10 **Date of Enactment or Last Substantive Amendment: 2017**

11 **Notice of Continuation: 2017**

12 **Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

Clean Air Act 110I Demonstration – No Adverse Air Quality Impact of Proposed Amendment to Air Quality Rule R307-304. Solvent Cleaning

Introduction

Section 110(l) of the Clean Air Act (CAA) prohibits EPA from approving a State Implementation Plan (SIP) revision if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress, or any other applicable requirement of the CAA. When revisions to state SIP rules are made, the Act requires that an analysis is completed to verify that the rule will not be relaxed in a way that would be impermissible under Section 110(l). This demonstration is being submitted for public comment because the Division of Air Quality (DAQ) is amending R307-335 and proposing new rule R307-304.

Proposed Rule Revision

Section 7 of the existing degreasing rule R307-335 will be removed to create a new rule called R307-304.

Excerpt of R307-335-7

R307-335-7. Industrial Solvent Cleaning.

- (i) Using solvents (excluding water and solvents exempt from the definition of volatile organic compounds found in R307-101-2) with a VOC limit in Table 1; or
- (ii) Installing an emission control system designed to have an overall capture and control efficiency of at least 85%.

TABLE 1
Solvent Cleaning VOC Limits

Solvent Cleaning Category	VOC Limit (lb/gal)
Coatings, adhesives and ink manufacturing	4.2
Electronic parts and components	4.2
General miscellaneous cleaning	2.5
Medical devices and pharmaceutical	
Tools, equipment and machinery	6.7
General surface cleaning	5.0
Screening printing operations	4.2
Semiconductor tools, maintenance and equipment	
Cleaning	6.7

In new rule R307-304, DAQ is proposing to replace the 2.5 lb/gal limit for general miscellaneous cleaning. This limit will be replaced with a vapor pressure limit of up to 8 mm Hg at 20 degrees Celsius that can be used for miscellaneous cleaning and in place of any other limit listed in Table 1 of new rule R307-304.

Rule Revision Analysis

The purpose of R307-304 is to reduce the amount of volatile organic compounds (VOCs) that are emitted into the atmosphere in the Wasatch Front, Cache Valley and Tooele County, as a way to improve winter-time air quality. These VOCs contribute to the development of fine particulates that become suspended in our airsheds during inversion periods.

Clean Air Act 110I Demonstration – No Adverse Air Quality Impact of Proposed Amendment to Air Quality Rule R307-304. Solvent Cleaning

Traditionally, we have developed density based limits (lb/gallon) for solvent use categories. We have come to realize that as we tighten the density based limits in order to further improve our air quality, we are faced with technical and safety limitation because we preclude the use of all solvents but acetone. Acetone is not a universal solvent. It cannot be used for every industrial solvent cleaning operation. There are also safety and health concerns with the wide use of acetone. Consequently, we are proposing to offer an alternative option of using low vapor pressure solvent formulations.

Why Is It Time To Move Away From A Density Limit?

Our intent is to continue to find ways to reduce VOC emissions. Solvent use is a significant source of fugitive VOC emission. Lowering the density limit below 2.5 lb/gallon for general solvent use would further remove all possibility of using any other solvent but acetone. The disadvantages of acetone are:

- Acetone works well for cleaning waxes, fats, oils varnishes and resins. It does not work well for grease, a variety of different types of coatings and paints, which are subject of the many Utah air quality rules.
- Acetone has a high vapor pressure (explained below), so it quickly evaporates which can make it difficult to use in industrial cleaning operations. Volatile acetone vapors can gather and pool at points around a work area creating explosion and fire hazards, particularly given the extremely low flash point for acetone.
- Acetone poses a safety risk because it is highly flammable. Acetone has an extremely low flash point which makes it susceptible to flaming.
- Acetone poses a health risk because it causes irritation of the eyes, nose and throat. At high exposures, it can cause nausea, confusion, and dizziness.

As we look forward to improve our air quality, we must find an alternative to a density limit that will reduce VOC emissions and provide industry with formulation choices.

Why Change The Form Of The Limit To Vapor Pressure?

Vapor pressure is a measure of the tendency of particles to escape from the liquid form of a chemical to an airborne vapor, at room temperature. It is an indicator of a liquid's evaporation rate. Substances with a high vapor pressure readily release vapors into the air. Consequently, it is desirable for sources to use chemicals with low vapor pressure when possible in order to reduce VOC evaporation.

The advantages of low vapor pressure solvent formulations include:

- The low solvent evaporation rate reduces product wastage. Surface cleaning solvents are only effective in their liquid state. This means that the more they evaporate, the more solvent is needed to complete the task. Using less solvent saves cost.
- The low solvent evaporation reduces emissions to the outdoor air.
- The low solvent evaporation reduces emissions in the work place, improving worker safety.
- Using low vapor pressure solvent formulations avoids the use of hazardous air pollutant chemicals like methylene chloride.

How Will Using A Vapor Pressure Limit Provide More Cleaning Options?

Excellent cleaning solvents like xylene have a high vapor pressure. If the vapor pressure of a xylene solution can be suppressed, xylene could be used for cleaning while reducing emissions. This can be done by applying a physical-chemical phenomenon known as Raoult's Law. Raoult's Law states that when a substance is dissolved in a solution, the vapor pressure of the solution will decrease. Finding ways to formulate salts (the substance) for example, into a xylene solution, will dramatically reduce the vapor pressure of the solution. Changing the form of the limit will permit formulation chemists to come up with more cleaning options while reducing VOC emissions.

Is The Change Of Form A Relaxation Of The Rule?

The EPA issued a guidance document for VOC cleaning emissions called, *Control Techniques Guidelines: Industrial Cleaning Solvents* (EPA 453/R-06-001). This guidance document provides recommended control measures that include options to reduce VOC emissions. One of those options is to apply a composite vapor pressure limit of 8 millimeters of mercury (mmHg) at 20 degrees Celsius.

Conclusions

1. Changing the form of the limit is not a relaxation of the rule.
2. The proposed vapor pressure limit is more stringent than the current general miscellaneous cleaning limit.
3. The proposal will improve air quality.

Public Comment

DAQ is accepting public comment on this demonstration from July 1, 2017, to July 31, 2017. Comments can be submitted by e-mail to Jkarmazyn@utah.gov or by mail to:

Joel Karmazyn
DAQ
PO Box 144820
195 North 1950 West
Salt lake City, Utah 84114-4820

ITEM 15

Air Toxics Compliance Monitoring



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQA-352-17

MEMORANDUM

TO: Air Quality Board

FROM: Bryce C. Bird, Executive Secretary

DATE: May 4, 2017

SUBJECT: Air Toxics, Lead-Based Paint, and Asbestos (ATLAS) Section Compliance Activities – April 2017

Asbestos Demolition/Renovation NESHAP Inspections	21
Asbestos AHERA Inspections	26
Asbestos State Rules Only Inspections	9
Asbestos Notification Forms Accepted	203
Asbestos Telephone Calls Answered	288
Asbestos Individuals Certifications Approved/Disapproved	58/0
Asbestos Company Certifications/Re-Certifications	2/4
Asbestos Alternate Work Practices Approved/Disapproved	13/0
Lead-Based Paint (LBP) Inspections	8
LBP Notification Forms Approved	0
LBP Telephone Calls Answered	18
LBP Letters Prepared and Mailed	2
LBP Courses Reviewed/Approved	0/0
LBP Course Audits	0
LBP Individual Certifications Approved/Disapproved	18/0
LBP Firm Certifications	10

Notices of Violation Issued	0
Compliance Advisories Issued	12
Warning Letters Issued	11
Settlement Agreements Finalized	2
Penalties Agreed to:	
Oldcastle Precast, Inc.	\$2,125.00
D.G. Concrete	<u>\$1,250.00</u>
	\$3,375.00



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF AIR QUALITY
Bryce C. Bird
Director

DAQC-660-17

MEMORANDUM

TO: Air Quality Board
FROM: Bryce C. Bird, Executive Secretary
DATE: May 18, 2017
SUBJECT: Compliance Activities – April 2017

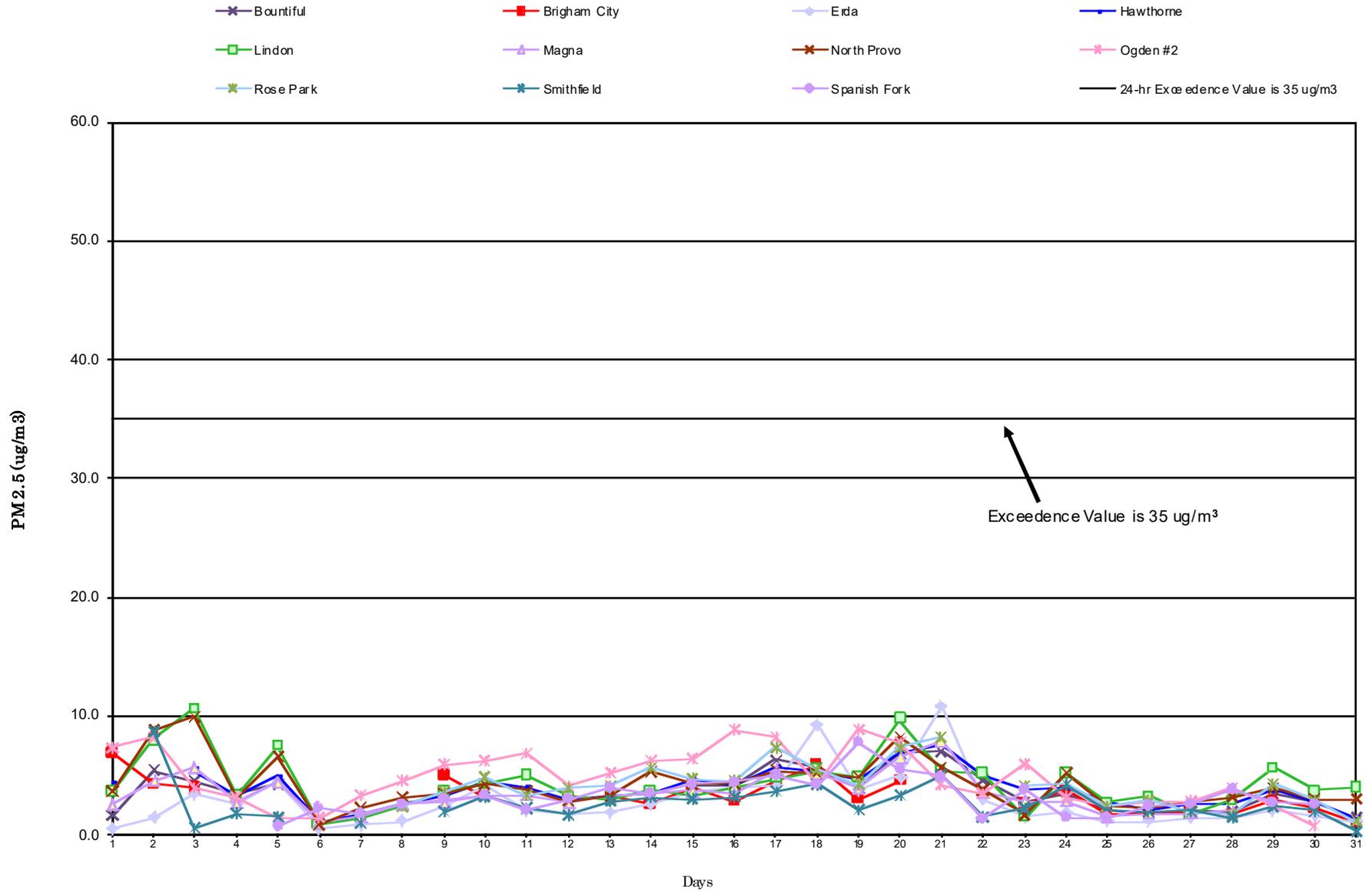
Annual Inspections Conducted:

Major	10
Synthetic Minor	5
Minor	20
On-Site Stack Test Audits Conducted:	4
Stack Test Report Reviews:	15
On-Site CEM Audits Conducted:	21
Emission Reports Reviewed:	13
Temporary Relocation Requests Reviewed & Approved:	10
Fugitive Dust Control Plans Reviewed & Accepted:.....	171
Open Burn Permits Issued	2,708
Soil Remediation Report Reviews:.....	3
¹ Miscellaneous Inspections Conducted:.....	30
Complaints Received:	14

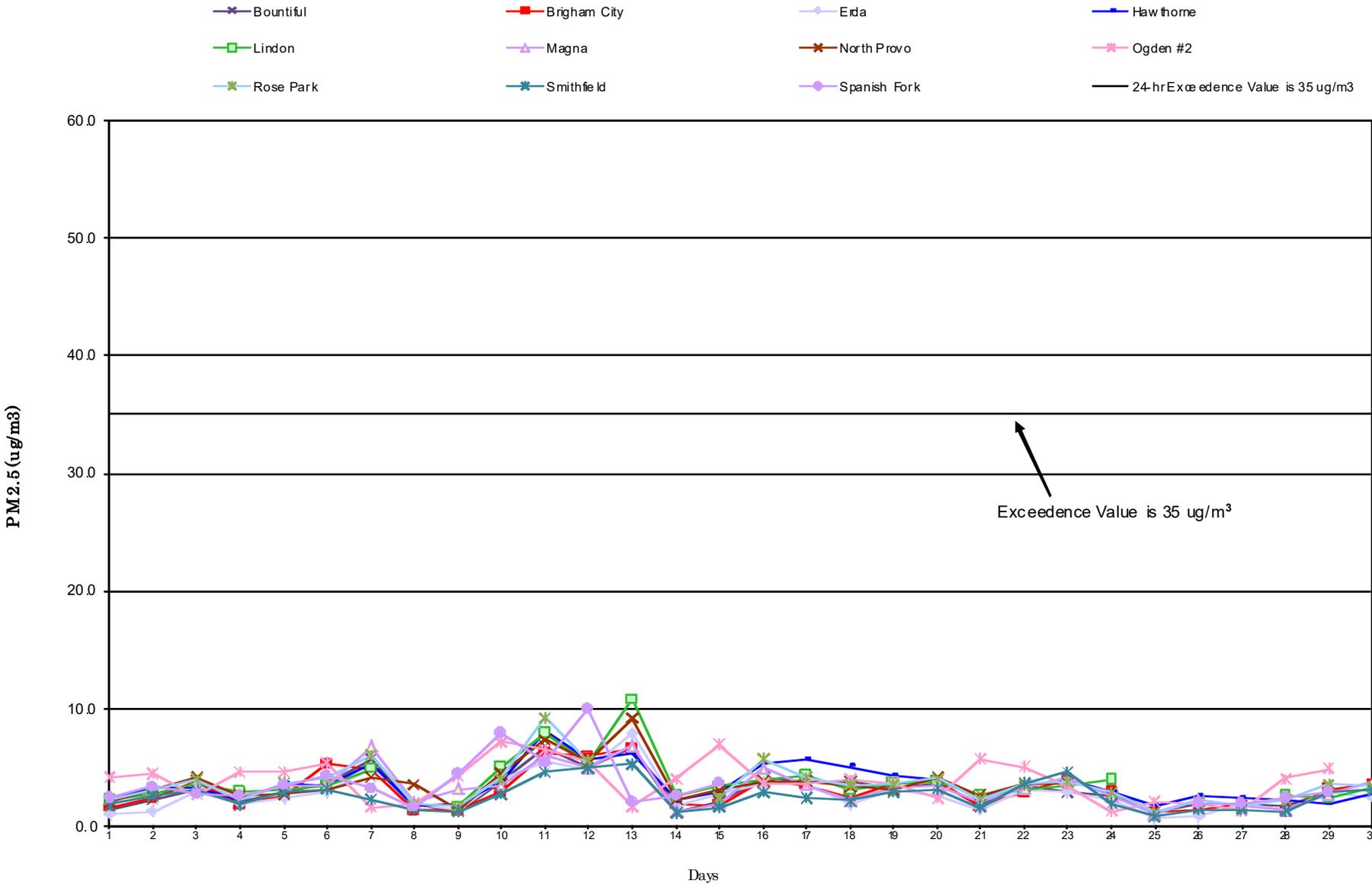
Breakdown Reports Received:.....	0
Compliance Actions Resulting From a Breakdown.....	0
Warning Letters Issued:	1
Notices of Violation Issued:.....	1
Compliance Advisories Issued:.....	3
Settlement Agreements Reached:	2
Vail Resorts (Park City Mountain Resort)	\$359
McWane Ductile	\$7,415

¹Miscellaneous inspections include, e.g., surveillance, level I inspections, VOC inspections, complaints, on-site training, dust patrol, smoke patrol, open burning, etc.

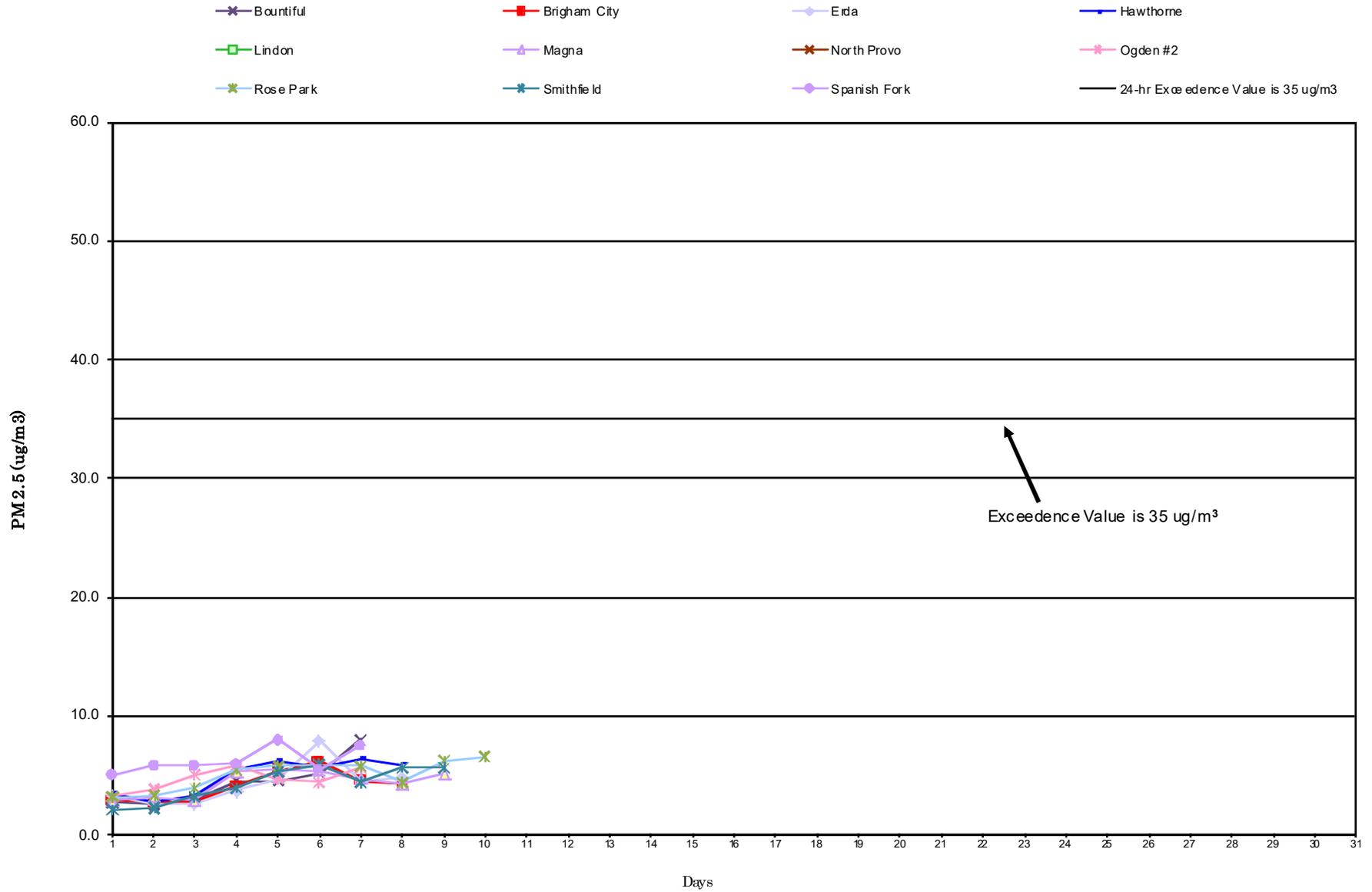
Utah 24-Hr PM2.5 Data March 2017



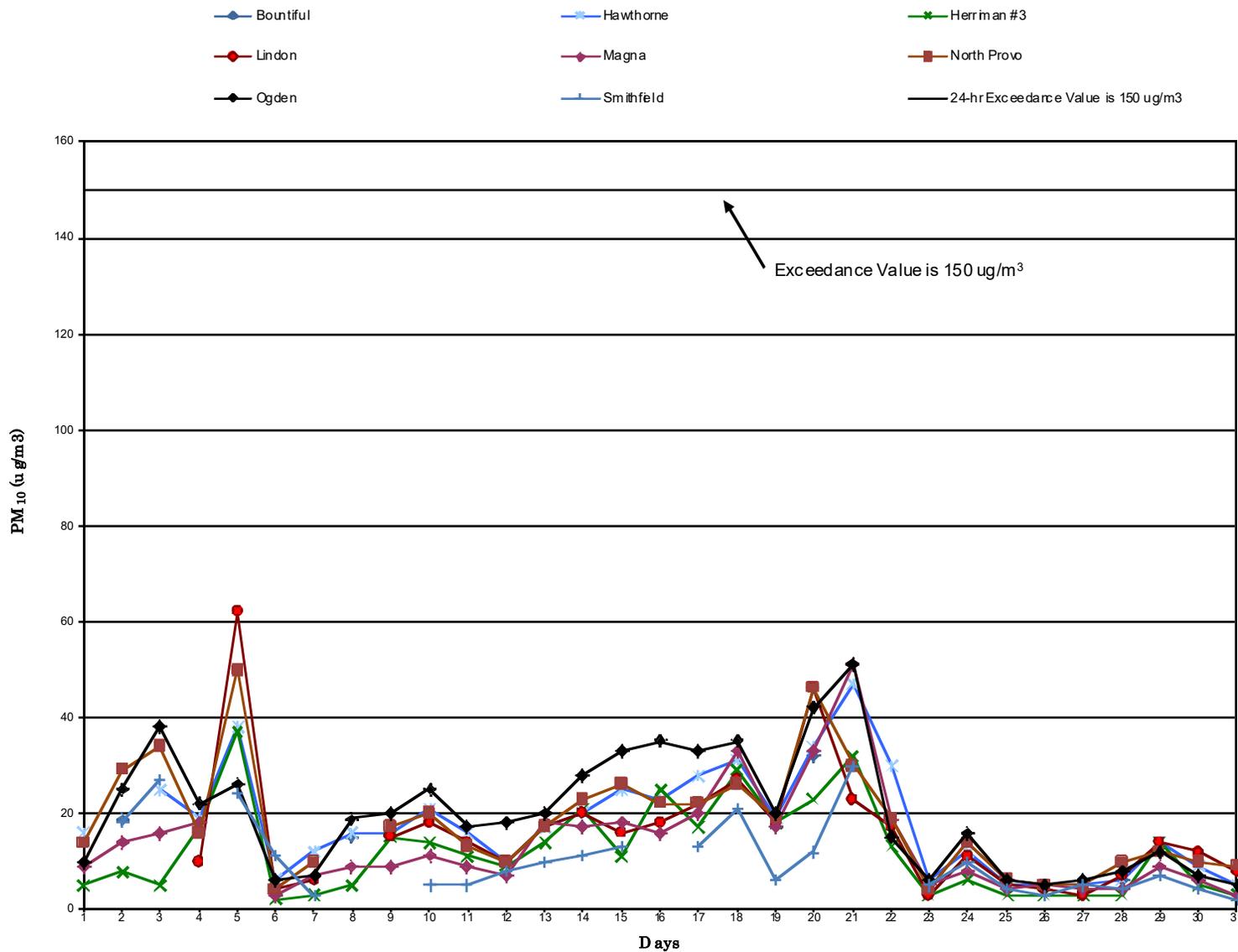
Utah 24-Hr PM2.5 Data April 2017



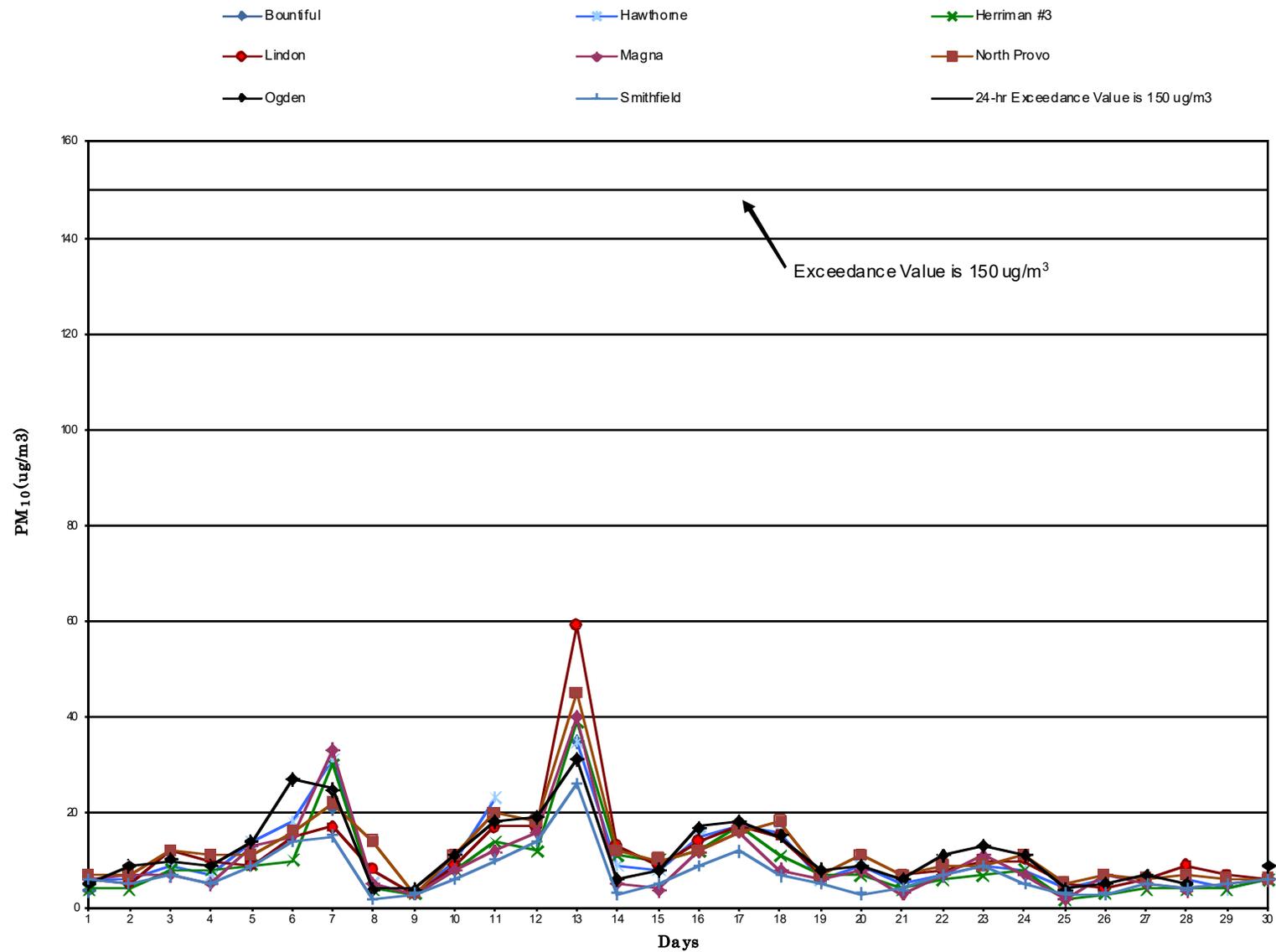
Utah 24-Hr PM2.5 Data May 2017



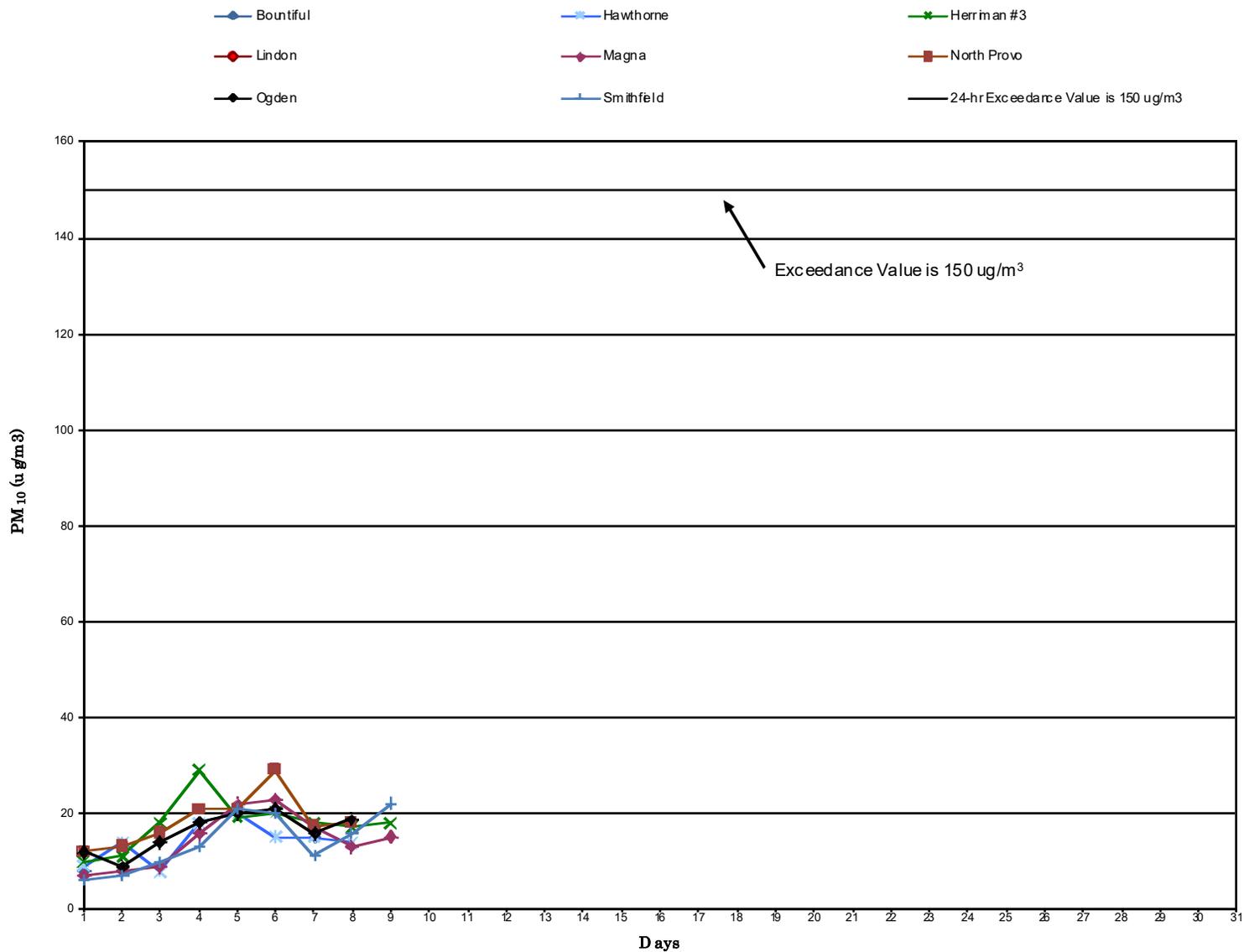
Utah 24-hr PM₁₀ Data March 2017



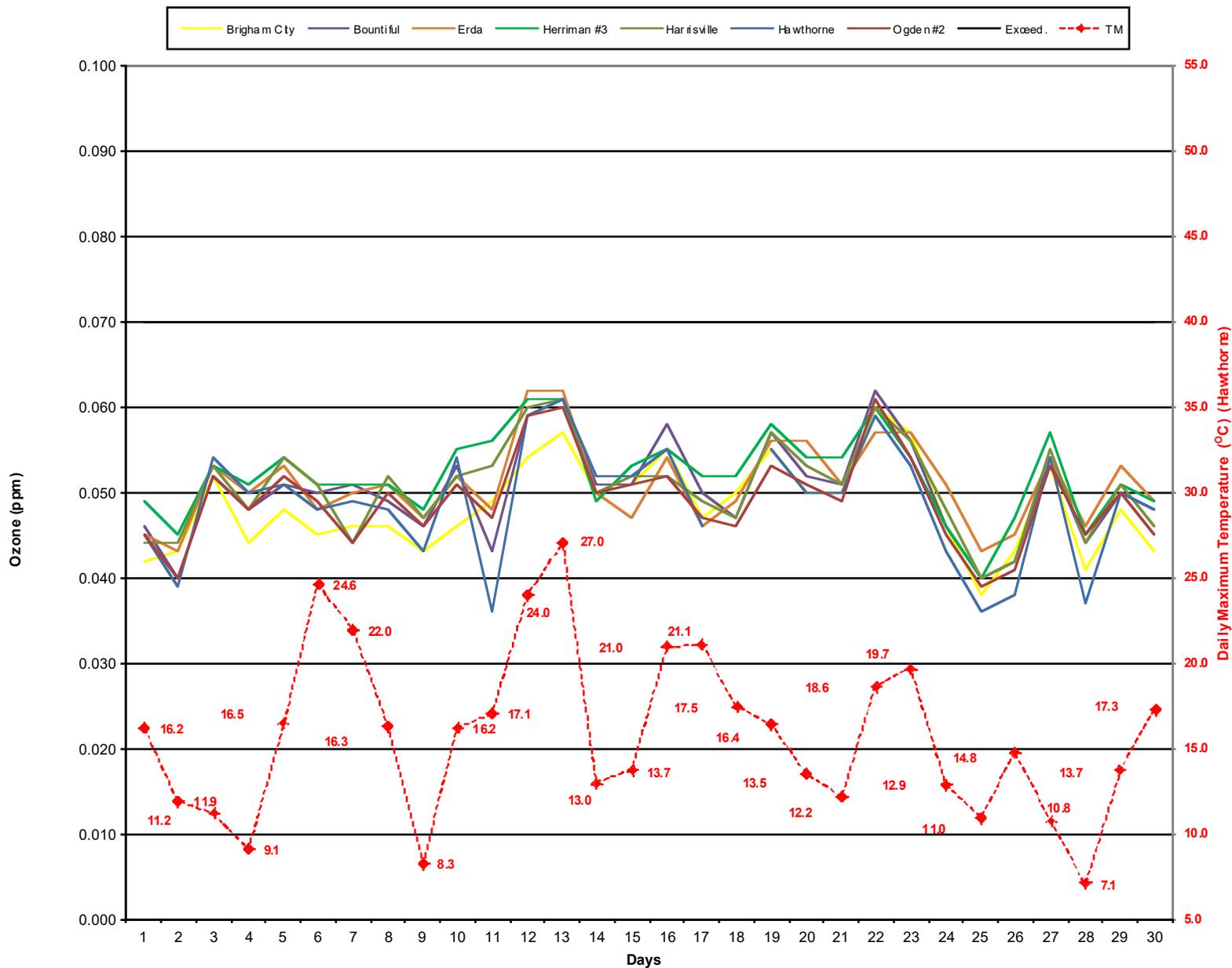
Utah 24-hr PM₁₀ Data April 2017



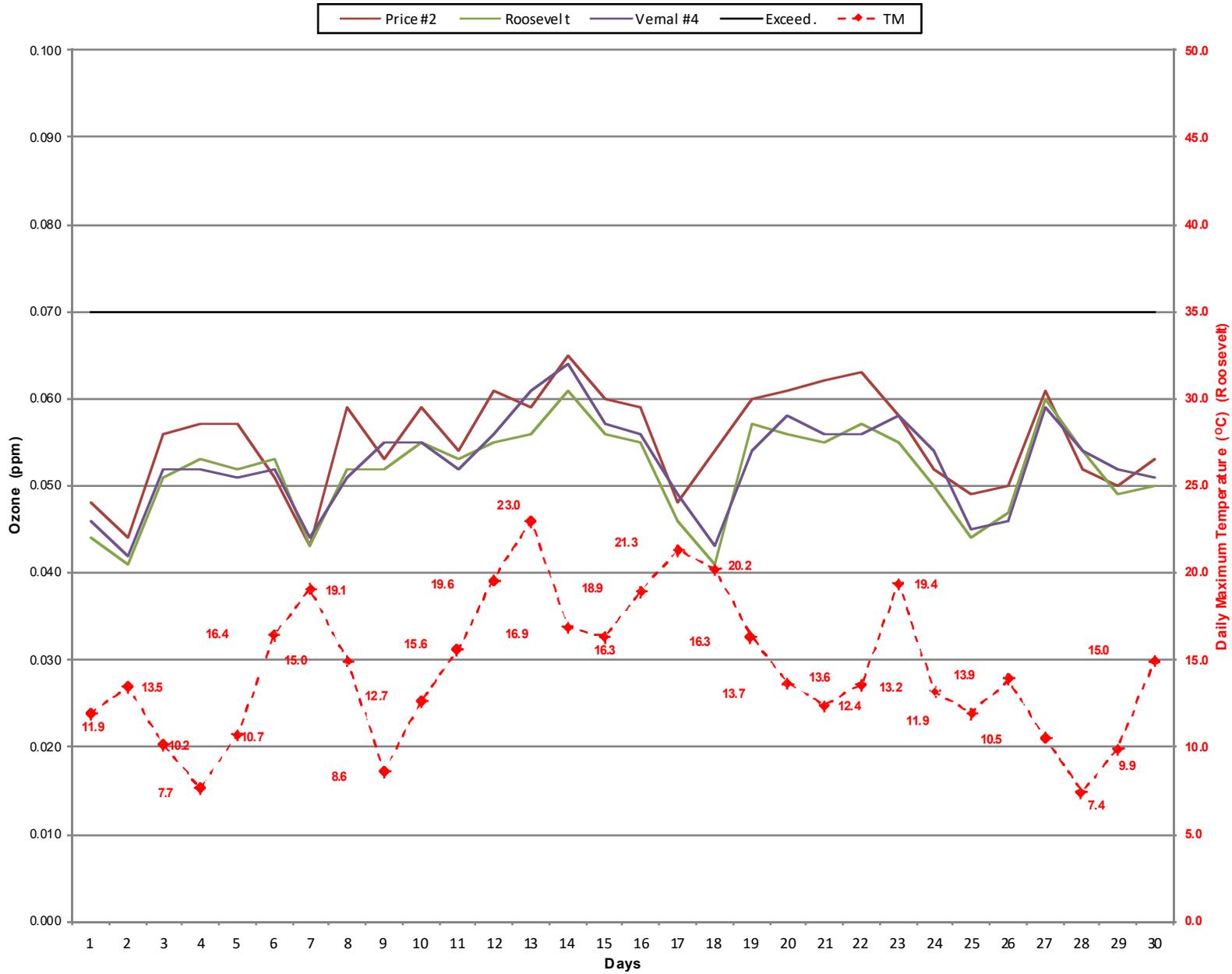
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Highest 8-hr Ozone Concentration & Daily Maximum Temperature April 2017

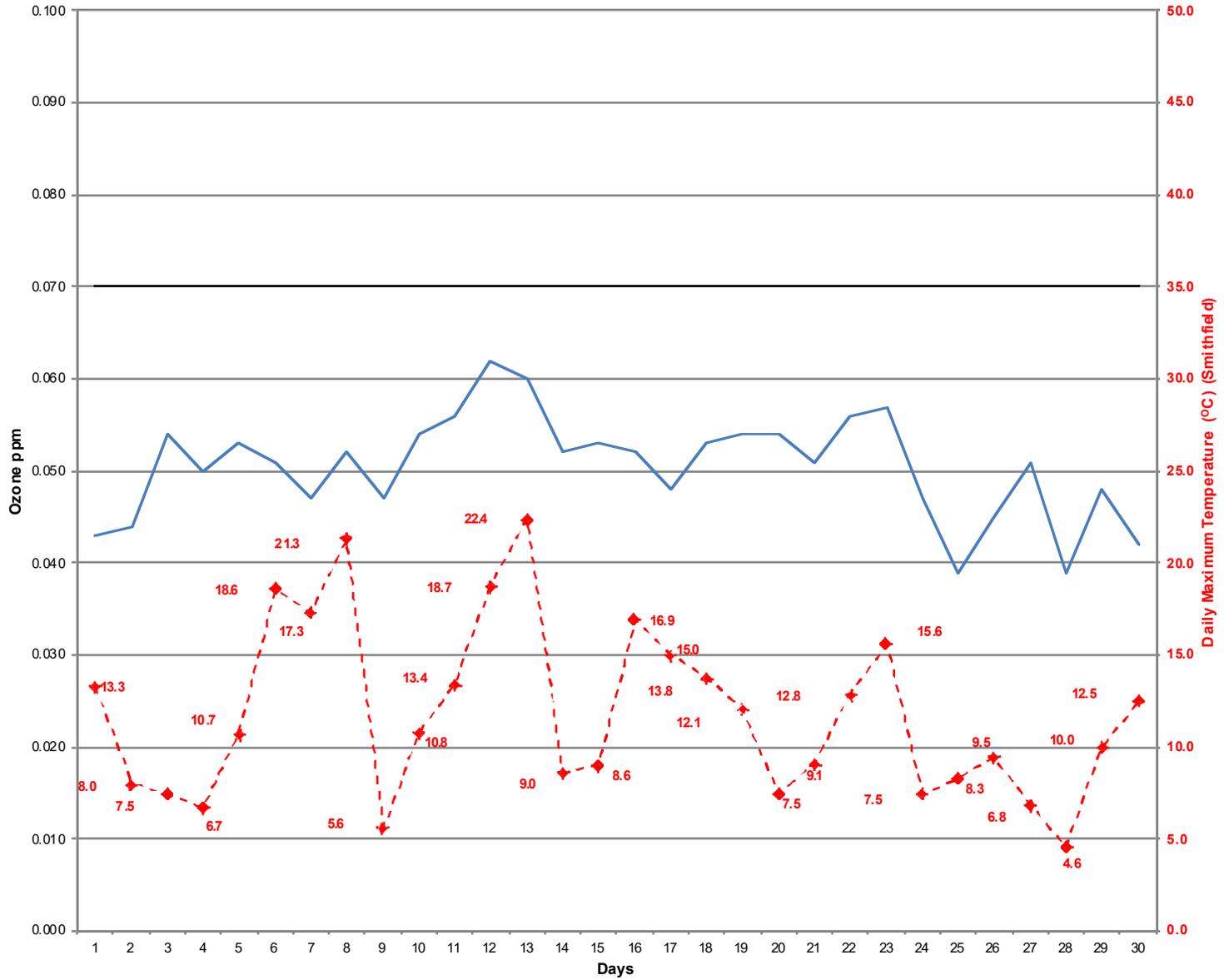


Highest 8-hr Ozone Concentration & Daily Maximum Temperature April 2017

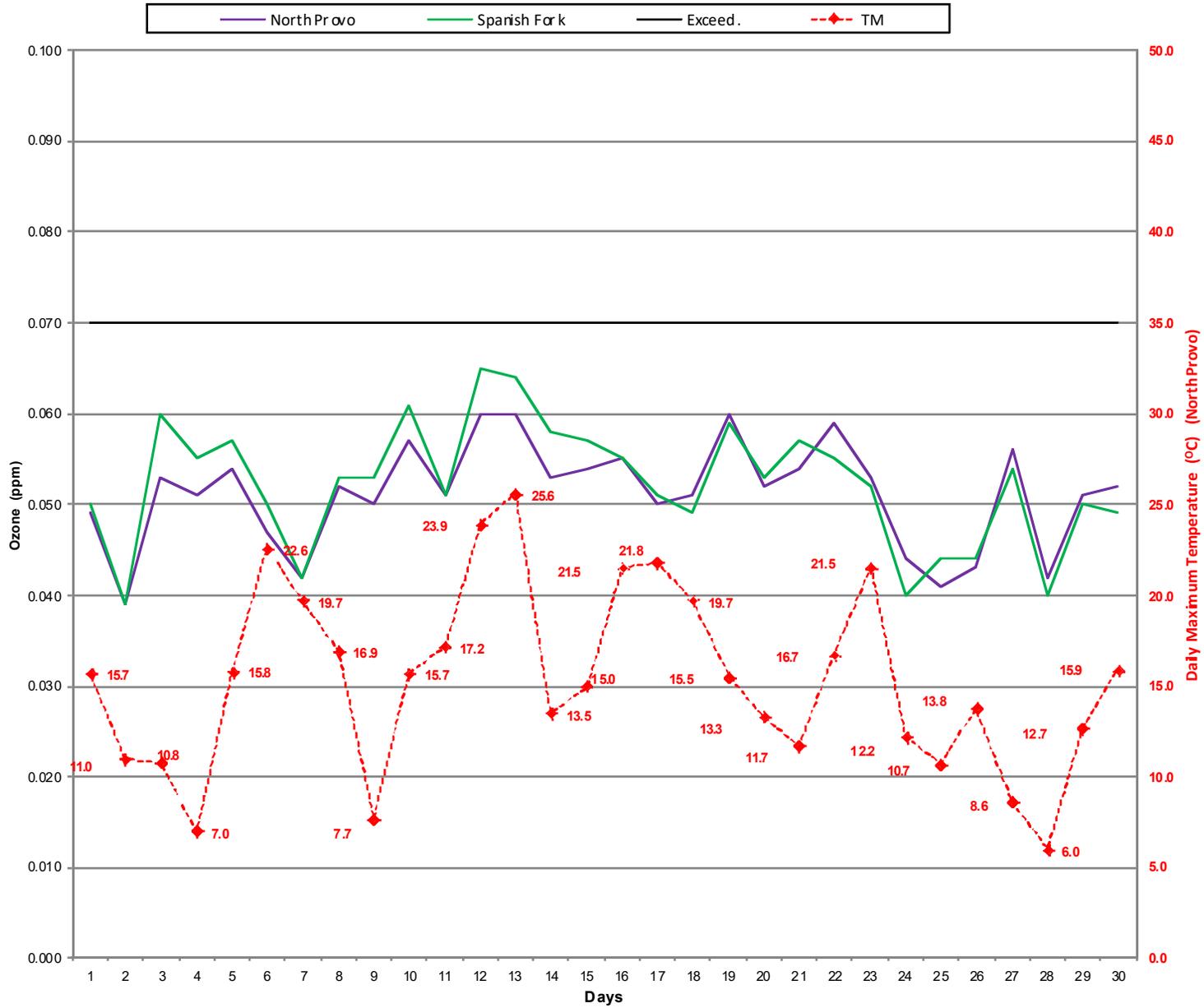


Highest 8-hr Ozone Concentration & Daily Maximum Temperature April 2017

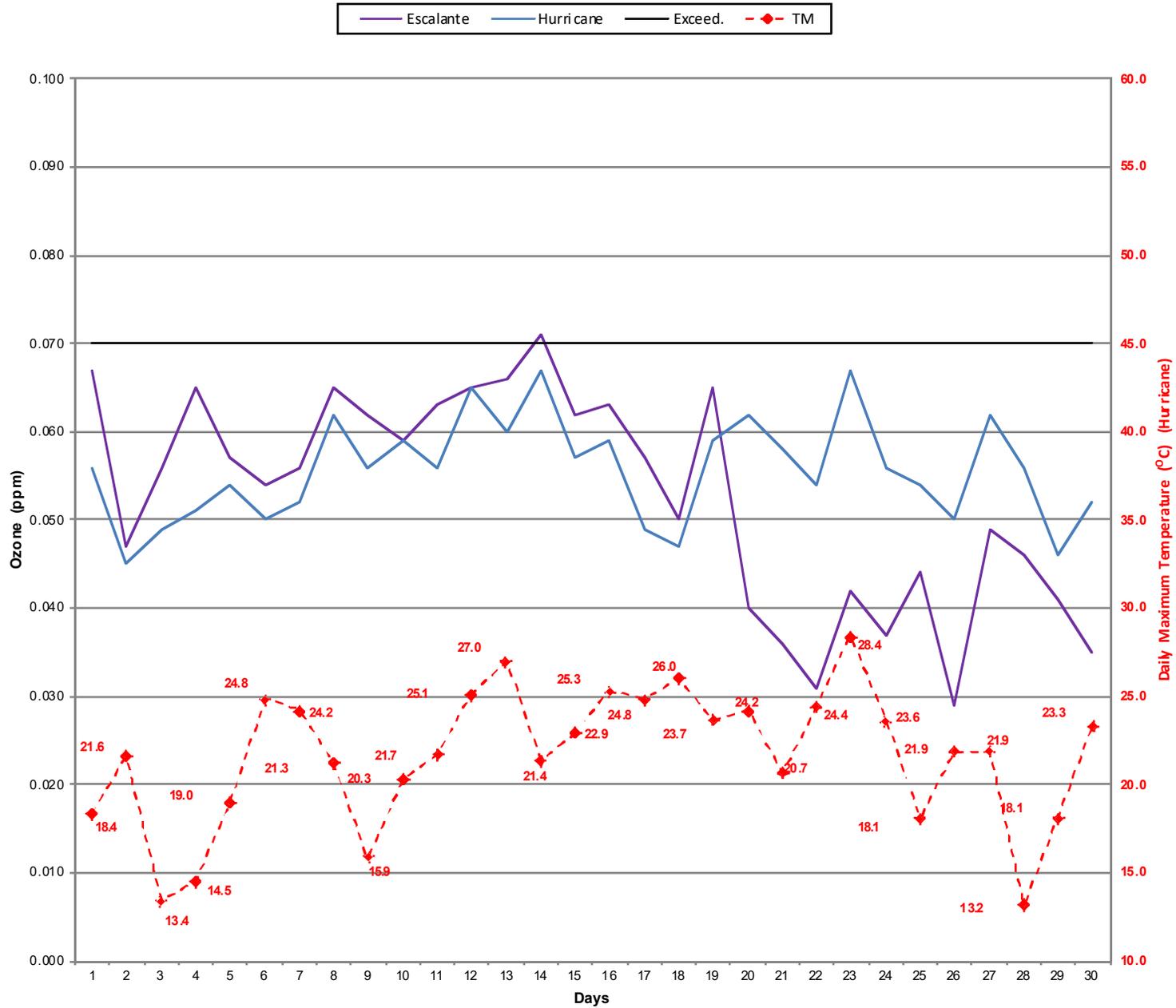
— Smithfield — Exceed. —♦— TM



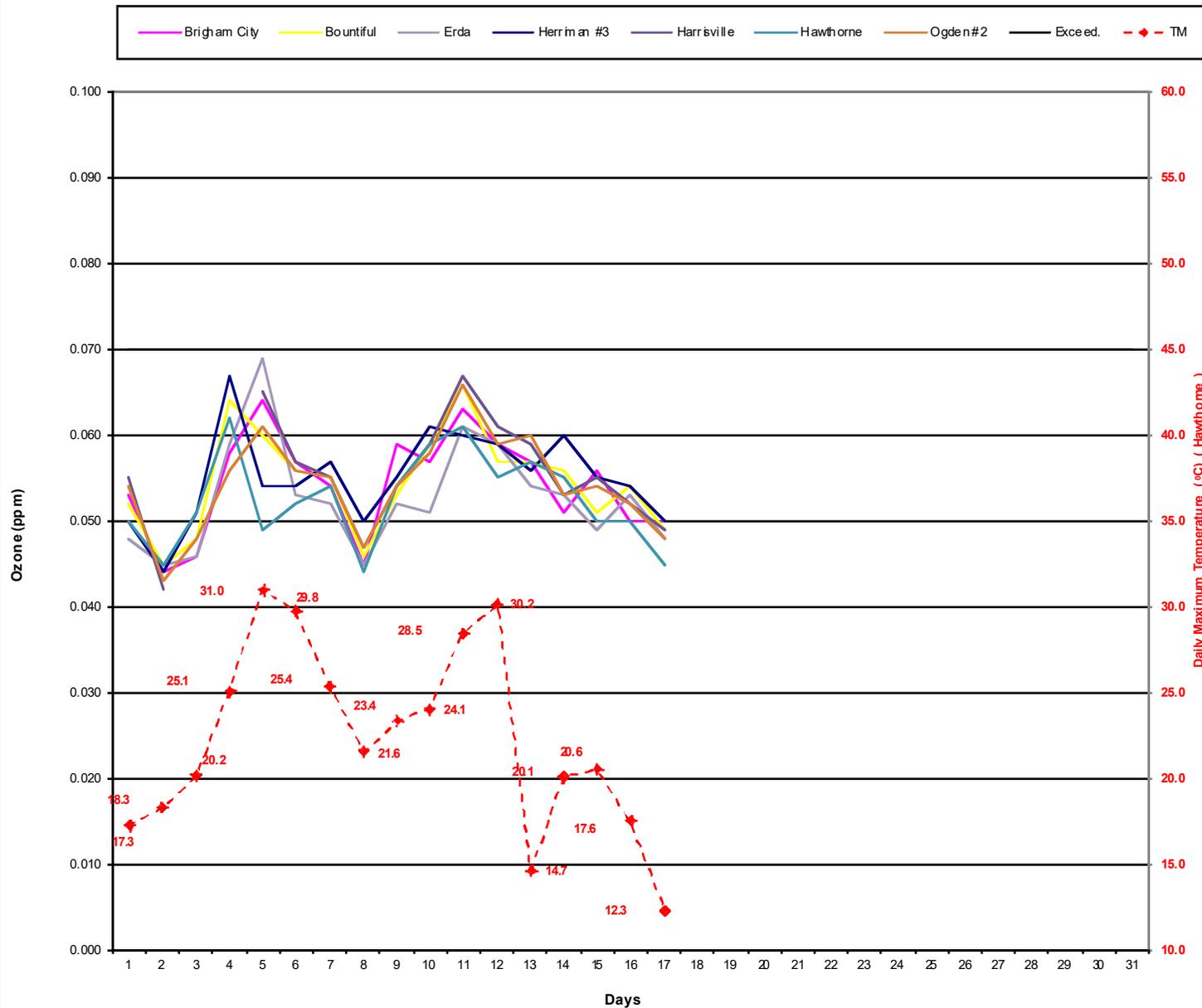
Highest 8-hr Ozone Concentration & Daily Maximum Temperature April 2017



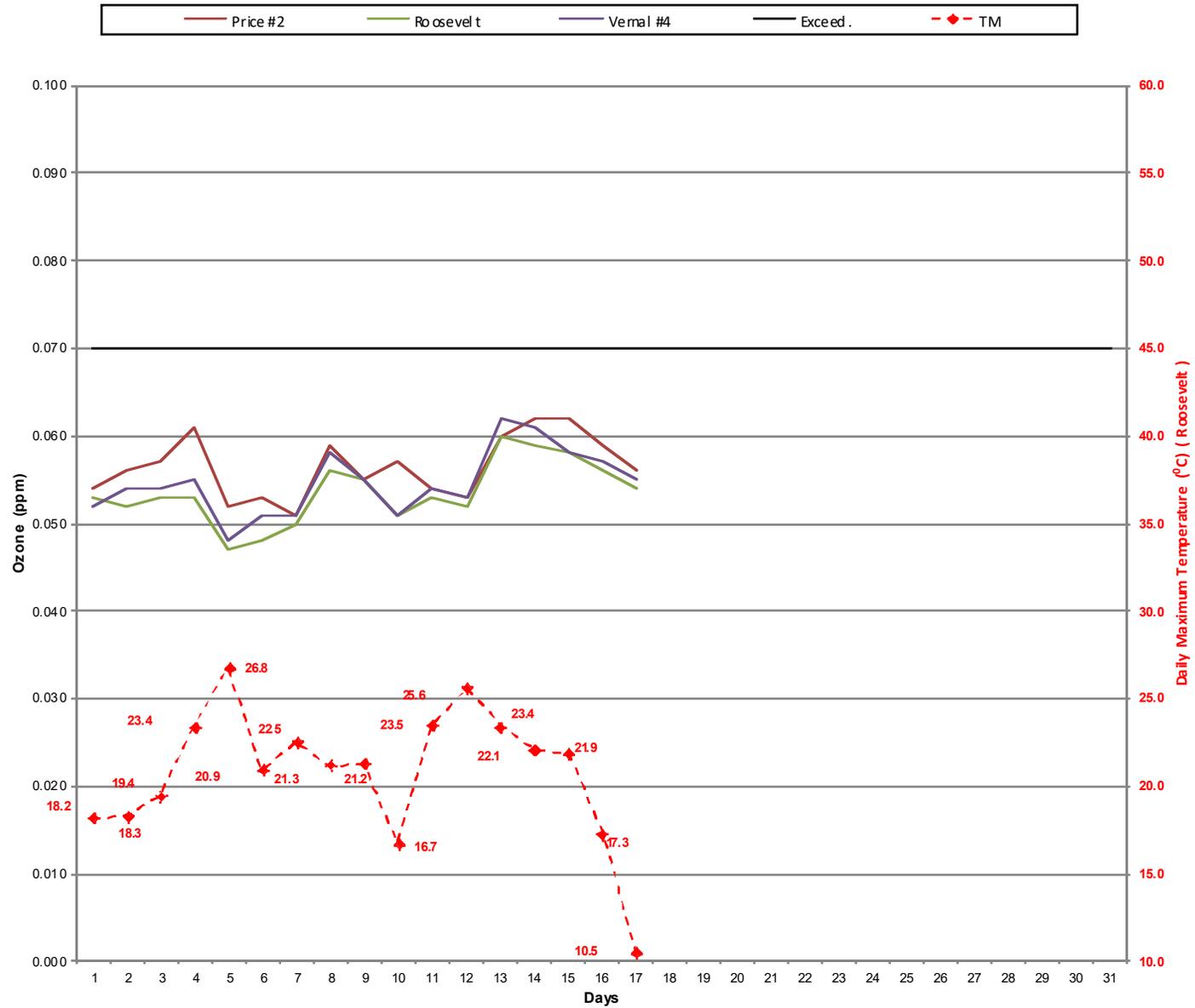
Highest 8-hr Ozone Concentration & Daily Maximum Temperature April 2017



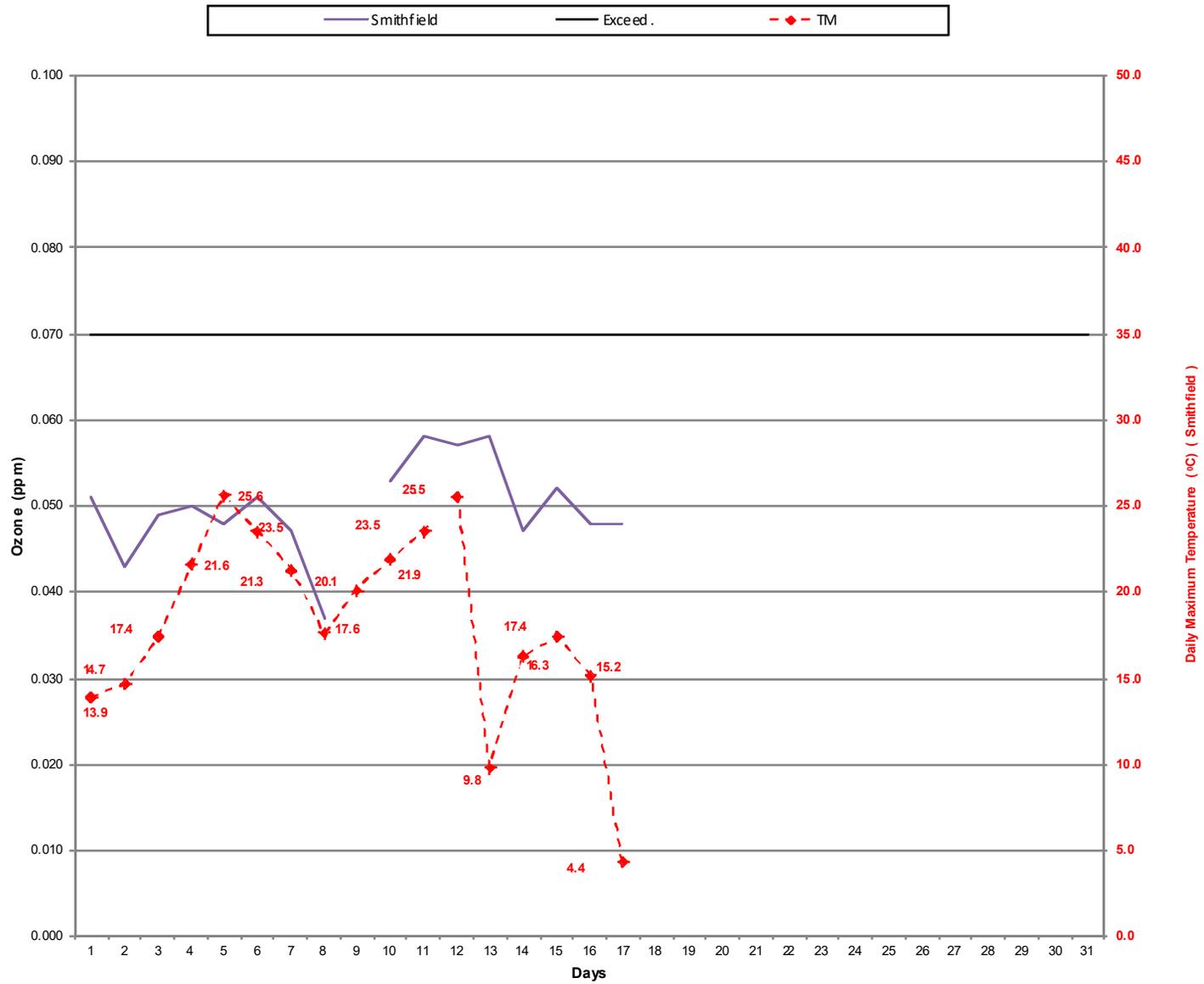
Highest 8-hr Ozone Concentration & Daily Maximum Temperature May 2017



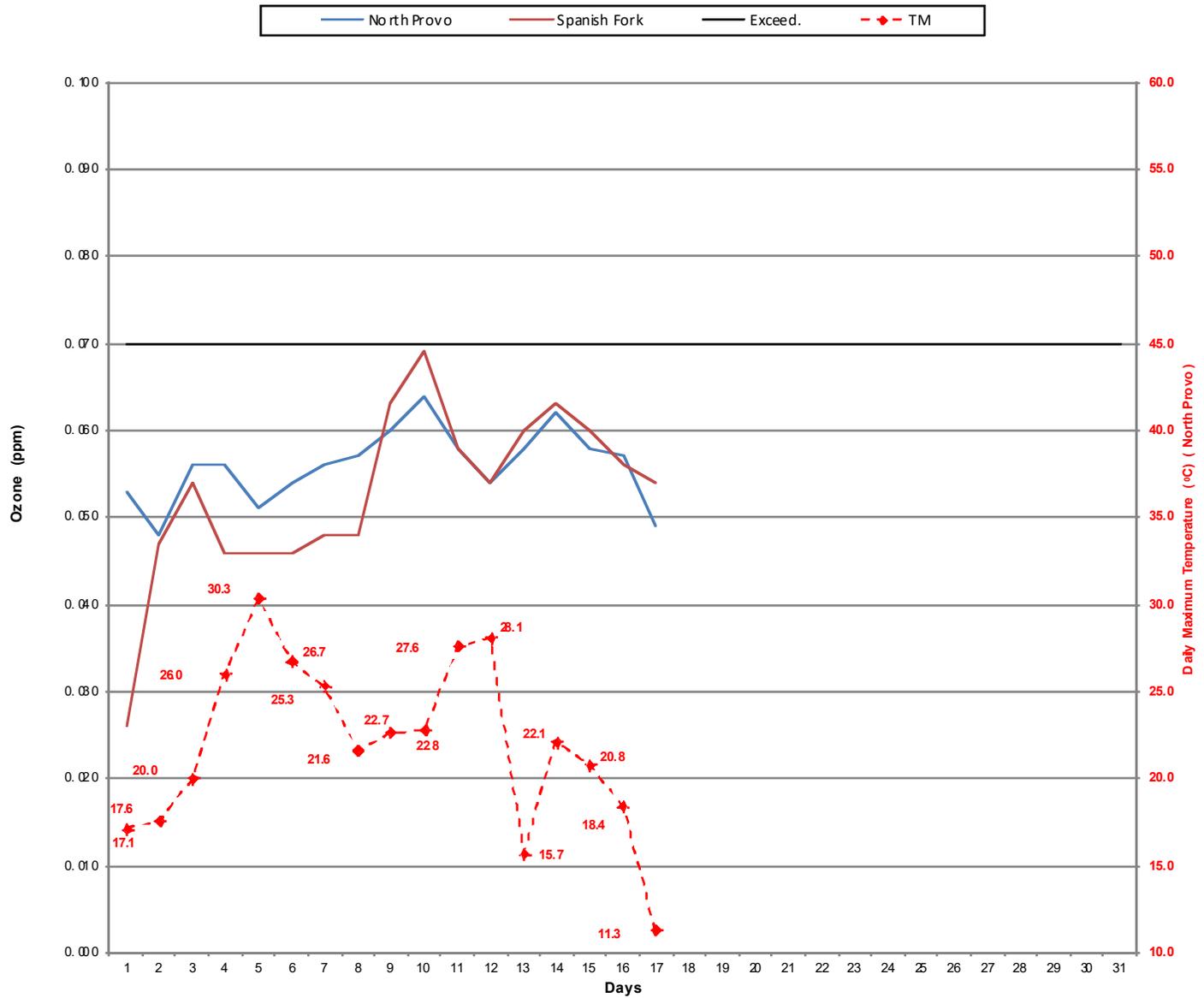
Highest 8-hr Ozone Concentration & Daily Maximum Temperature May 2017



Highest 8-hr Ozone Concentration & Daily Maximum Temperature May 2017



Highest 8-hr Ozone Concentration & Daily Maximum Temperature May 2017



Highest 8-hr Ozone Concentration & Daily Maximum Temperature May 2017

