



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**  
Michael Smith, *Chair*  
Erin Mendenhall, *Vice-Chair*  
Kevin R. Cromar  
Cassady Kristensen  
Randal S. Martin  
Alan Matheson  
Arnold W. Reitze Jr  
William C. Stringer  
Bryce C. Bird,  
*Executive Secretary*

DAQ-071-17a

**UTAH AIR QUALITY BOARD MEETING**

**FINAL AGENDA**

**Wednesday, October 4, 2017 - 1:30 p.m.**  
**195 North 1950 West, Room 1015**  
**Salt Lake City, Utah 84116**

- I. Call-to-Order
- II. Date of the Next Air Quality Board Meeting: November 1, 2017
- III. Approval of the Minutes for September 6, 2017, Board Meeting.
- IV. Final Adoption: Amend R307-101-2. Definitions. Presented by Mat Carlile.
- V. Final Adoption: 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 Mat Carlile.
- VI. Final Adoption: R307-343. Wood Furniture Manufacturing Operations. Presented by Mat Carlile.
- VII. Final Adoption: Change in Proposed Rule. R307-348. Magnet Wire Coatings. Presented by Mat Carlile.
- VIII. Final Adoption: Change in Proposed Rule. R307-351. Graphic Arts. Presented by Mat Carlile.
- IX. Final Adoption: Change in Proposed Rule. R307-354. Automotive Refinishing Coatings. Presented by Mat Carlile.
- X. Final Adoption: Change in Proposed Rule. R307-355. Control of Emissions from Aerospace Manufacture and Rework Facilities. Presented by Mat Carlile.

- XI. Final Adoption: Change in Proposed Rule R307-335. Degreasing; and New Rule R307-304. Solvent Cleaning. Presented by Mat Carlile.
  
- XII. Propose for Public Comment with Department Fee Schedule: Operating Permit Program Fee for Fiscal Year 2019. Presented by David Beatty.
  
- XIII. Informational Items.
  - A. SO2 Area Designation Recommendation Update. Presented by Glade Sowards.
  - B. Volkswagen Mitigation Plan Update. Presented by Lisa Burr.
  - C. Air Toxics. Presented by Robert Ford.
  - D. Compliance. Presented by Jay Morris and Harold Burge.
  - E. Monitoring. Presented by Bo Call.
  - F. Other Items to be Brought Before the Board.
  - G. Board Meeting Follow-up Items.

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 [lwys@utah.gov](mailto:lwys@utah.gov).

# ITEM 3



State of Utah

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**UTAH AIR QUALITY BOARD MEETING**

**September 6, 2017 – 1:30 p.m.**  
**195 North 1950 West, Room 1015**  
**Salt Lake City, Utah 84116**

**DRAFT MINUTES**

**I. Call-to-Order**

Michael Smith called the meeting to order at 1:30 p.m.

Board members present: Michael Smith, Erin Mendenhall, Kevin Cromar, Cassady Kristensen, Randal Martin, Alan Matheson, Arnold Reitze, William Stringer

Executive Secretary: Bryce Bird

**II. Date of the Next Air Quality Board Meeting: October 4, 2017**

**III. Approval of the Minutes for June 7, 2017, Board Meeting and August 2, 2017, Working Lunch and Board Meeting.**

The minutes were corrected to include Randal Martin's name as a Board member present.

- Arnold Reitze motioned to approve the minutes as correction. Kevin Cromar seconded. The Board approved unanimously.

**IV. Propose for Public Comment: Amend R307-403. Permits: New and Modified Sources in Nonattainment Areas and Maintenance Areas. Presented by Ryan Stephens.**

Ryan Stephens, Environmental Planning Consultant at DAQ, stated that the amendments to R307-403 address deficiencies that EPA has identified in Utah's nonattainment new source review rules. The DAQ sent a letter to EPA committing to fix the deficiencies no later than December 8, 2017. The rule has been amended to regulate PM<sub>2.5</sub>, clarifications have been made to R307-403-3 regarding lowest achievable emission rate (LAER) requirements and applicable offset requirements, and the definition of "regulated NSR pollutant" has been modified to exclude ammonia as a precursor pollutant. These changes will enable EPA to approve R307-403 into Utah's state implementation plan (SIP). Staff spoke with EPA today and the memorandum to the Board has changes which include that language describing ammonia as a precursor subject to a demonstration was removed. Staff is now in the process of doing that study and if the

demonstration shows that ammonia is a precursor, the current proposed language will need to be changed. EPA wanted it one way or the other because if it's subject to the Code of Federal Regulations(CFR), then EPA was worried that that could be interpreted that they had to approve it first and sometimes that takes a long time for EPA approval. There were also language changes in R307-403-3(3) to match what is actually in the CFR, but it doesn't change the way DAQ interprets the rule or any substantive change in how the rule will take effect. Staff recommends that the Board propose the amendments to R307-403 for a 30-day public comment period.

Staff responded to several questions and comments. In response to questions if this is for areas that Governor Herbert proposed to EPA for nonattainment or are these existing nonattainment areas, it was answered that these are for the rules for existing nonattainment areas. When it is published in the Federal Register, the nonattainment designation occurs. Recommended areas would not be subject to nonattainment new source review, only the final nonattainment areas as published in the Federal Register. There was concern that ammonia is not declared a precursor, to which staff responded that the public can comment on ammonia being a precursor during the comment period, but in the meantime the demonstration is currently being done and staff is waiting for those results and will make changes at that time. This is for the moderate SIP nonattainment. When this is revisited in a year, if the serious area SIP contains a demonstration that defines ammonia as a precursor, then this rule would be in conflict with the SIP and it would need to be revised either as that SIP is approved or shortly after.

As far as limiting reagents, significant means that it will be the sensitivity analysis in the modeling. And it would be part of the technical support document where we would define what that is and do a technical demonstration that showed whether it was in or out. It is part of the SIP demonstration and subject to public comment at that time. Once it becomes final then again that would be determined at that point and be part of the attainment plan.

Finally, there were several suggested wording changes for clarity. Such as making it clear that a modification itself is read as a major modification, include a definition for PAL, and to clarify if the intent is to include both PM<sub>10</sub> and PM<sub>2.5</sub> nonattainment areas in certain parts of the rule. Staff will review those suggestions to make sure the current language was not made for a specific reason. In regards to the difference between "by the time" and "before" EPA has said that "by the time" was kind of ambiguous where "before a new or modified source commences construction" is pretty explicit. And finally, the reason that it has "Salt Lake and Davis Counties" versus "nonattainment area" is because the only designated maintenance areas are ozone maintenance areas which are only Salt Lake and Davis Counties. These areas are still nonattainment for PM10.

- Kevin Cromar moved to propose for comment the amended R307-403, Permits: New and Modified Sources in Nonattainment Areas and Maintenance Areas, with the changes. Erin Mendenhall seconded. The Board approved unanimously.

**V. Propose for Public Comment: Amend R307-150. Emission Inventories; R307-401. Permit: New and Modified Sources; R307-504. Oil and Gas Industry: Tank Truck Loading; and New Rules R307-505. Oil and Gas Industry: Registration Requirements; R307-506. Oil and Gas Industry: Storage Vessels; R307-507. Oil and Gas Industry: Dehydrators; R307-508. Oil and Gas Industry: VOC Control Devices; R307-509. Oil and Gas Industry: Leak Detection and Repair Requirements; and R307-510. Oil and Gas Industry: Natural Gas Engine Requirements. Presented by Ryan Stephens.**

Ryan Stephens, Environmental Planning Consultant at DAQ, stated that this item is a group of proposed amendments and new rules that make up a permit-by-rule (PBR) program for oil and gas

well sites and equipment. This PBR has been designed to eventually take the place of the individual small source permits that are currently issued for oil and gas wells today.

These rules will improve the permitting, compliance, and emission inventory processes for oil and gas sources. The change to PBR for future oil and gas well sites in lieu of issuing individual permits benefits both staff and industry. The PBR will eliminate several administrative steps in the permitting process. This will save sources the cost of obtaining a permit, which is about \$2,300 per permit, and it will also reduce permit engineer time. Compliance officers for DAQ will benefit because they will go from inspecting individualized permitted sites to a more general oversight of all sources with the same set of rules. Over the last year DAQ has worked extensively with stakeholders in this process, especially members of the oil and gas industry. The DAQ has taken many comments provided by industry into consideration and has used those comments to draft a version of the rule that is ready for public comment.

These rules will require owners to register sources with DAQ, to enable the state to create an accurate inventory of the sources that are out there. It will require new sources to follow the requirements in the PBR, which mirror the requirements that are in a permit that would be issued under the current program. Sources that currently operate under an approval order do not have to follow the PBR, and they can stay under their current individual permit. These rules also require all sources that are subject to the permit by rule to undertake leak detection and repair (LDAR) inspections.

Generally, these rules are a way to codify the current permits into the air quality rules. This is easy to do with oil and gas sites because the permits issued today are essentially uniform. The rules will not only improve the permitting, compliance, and emission inventory processes for oil and gas sources, but they will also save producers and the state valuable time and money that was involved in the permitting process. During the creation and drafting of these rules over the last year, it has been the most involved stakeholder process and it has been a good collaborative experience.

Sheila Vance, Environmental Scientist at DAQ, added that staff has been working on these rules for the past year and a half. The idea was first presented to stakeholders, which included industry, environmental advocates, and county government representatives in the spring and winter of 2016. Through this iterative process staff has addressed several concerns raised by stakeholders and feel the rules being proposed give a fair representation of the goals of DAQ with input from the stakeholders.

In the last few years DAQ's minor source permitting program has largely been in the oil and gas area ranging from 50% to 80% of the permits requested. By streamlining this process it benefits the producer, the regulator, and the public through reduced time, lower costs, and increased clarity. The rules reflect current best available control technology (BACT). In addition to the new PBR approach, these rules also address a registration of oil and gas sources. This registration will provide DAQ with the information necessary to understand what exists in the state in terms of equipment and controls associated with oil and gas. Also, because DAQ will no longer permit oil and gas wells, there needs to be some kind of written documentation of a source of what equipment they have and their operation as well as a certification that they'll follow these proposed rules. Staff feels that these rules are ready to be proposed for public comment so that comments and staff responses can be documented and that there is full transparency as we get towards potential adoption. With the anticipated interest and need for discussion, staff will schedule a public hearing for October if the Board proposes these rules for public comment. Therefore, staff recommends that the Board propose the amended rules and new rules as identified as agenda item five for public comment.

In discussion, staff responded to the Board's comments and questions. In response to what some of the most critical elements DAQ wanted to bring into these rules, staff replied that the rules originally started as a registration because there are so many of these sources in the state that fall below the threshold of 5 tons per year for a minor source. Therefore they could be considered a de minimus source in state rules. De minimus sources are not required to register with the state, and the state felt a registration would be important to see how many of these sources were in the state. As the rule evolved it was apparent that there were so many of these sources and so many permits were being issued that a PBR approach seemed appropriate for this particular source category.

Staff was not sure why some of the regulations included ammonia and some excluded ammonia as well as some other inconsistencies of total pollutants listed, and so staff committed to research this and respond back to the Board.

If a source fails to report their emissions inventories in a timely manner, they can be issued a notice of violation through the general violation process for all Utah air quality rules and as contained in statute.

Mr. Stringer presented several concerns for the Uinta Basin on these rules. First, why are these rules being done now and will they have unintended consequences especially since these rules would apply statewide and the majority of the wells are in the Uinta Basin. The state needs to be careful not to disadvantage itself by going too far too fast ahead of the federal government. Also, what about the economic analysis and how was that reached. In response, staff indicated that these rules were not written to try to reduce emissions or to address the ozone nonattainment recommendation for the Uinta Basin but that these rules, specifically the ones relating to equipment, reflect what are in current requirements for these facilities and the PBR will express them in rule format. One of the economic issues that the DAQ is trying to address with the PBR is that right now sources are charged a \$2,300 application fee for an individual permit for each of the sources and the time it takes to get a permit issued can sometimes take 90 days, 120 days, or up to 300 days. The sooner a PBR is in place, it will eliminate both the time delay and the permitting costs incurred by both the sources and the state.

Staff added that it is important to remember that the state needs to verify to EPA that all of its existing rules have been implemented. Under state law we are required to do BACT on all minor sources which is something the EPA is not required to do but that EPA has required it of the state. Currently, inspections can be challenging for compliance staff as they try to differentiate which source needs a permit and which do not. So by having a register it will make save time for staff and bring everyone to the same level which is what needs to be done when the SIP is prepared. All these rules do is verifying that we are enforcing our current rules. Another point, at the same time EPA is looking at what they are going to do on federally controlled lands, and the Ute Tribe is also looking at what they would like to do on their own land. By doing these rules, it sets a low bar that is a very low hurdle for everyone to meet. DAQ has been working in conjunction with the Tribe and EPA through this whole process.

Public comment from Ryan Streams of Western Energy Alliance (WEA) was introduced. Mr. Streams wanted to state a few points of concern in terms of what the exact impacts will be and also that there is a lot of potential for uncertainty to be created as an example, the registration process. If the small source exemption path is taken, a source will be in the situation where they will have to register and they understand the value DAQ sees in that process, but there are potential situations where they think existing sources could be impacted and be subject to changing requirements. Prior to WEA being able to develop written comments there needs to be face-to-face

dialogue to get a clear understanding of what is the intent behind the way the rules are written. In addition, it takes time to develop those comments as WEA needs to get input from their 300 member companies. A stakeholder process will allow transparency and also assist in developing detailed technical comments. As far as unintended consequences, we have seen other states do equivalency determinations with federal rules and will these rules today be able to satisfy federal standards. In some situations they are more stringent. Another concern is the registration requirement where there is potential for overlap in terms of reporting the same information that sources already report with emissions inventory.

Public comment from Kathy Van Dame of Breathe Utah was introduced. Ms. Van Dame encouraged the Board to vote this out to comment and stated that these issues have been ongoing for about two years. After the comment period, if the Board does not feel they should be finalized then that is their option. It is time to put them out to the public so that comments and dialogue from various stakeholders can be made available to the public. That is the advantage of a public comment. In addition it will allow staff to address everything at one time. In addition, she added that at an interim update to Utah's Natural Resources, Agriculture, and Environmental Quality Appropriations Subcommittee that it was reported that the fourth highest 8-hour average ozone was 79 in Roosevelt, so ozone is impacting human health in the Uinta Basin and not just in the lower levels of the Basin. Finally, as a prior Board member she mentions that she would contact staff on questions she had on items that were going to be presented prior to a meeting which gave staff better opportunity to prepare which made the process flow better.

Public comment from Linda Johnson of Breathe Utah was introduced. Ms. Johnson mentions that she has been coming to Air Quality Board meetings for about 10 years and has followed the process. She fully endorses Ms. Van Dame's comments and is particularly concerned that the air is getting worse. She would like to address the previous question of "why now?" It seems to her that this has been going on longer than two years. She recalls at a meeting where she was first exposed to these issues by Brock LeBaron and at that time the oil and gas people loved the idea of a streamlined permitting process. Putting it out to comment does not mean that in 30 days the Board has to vote yes or no. These rules can be rewritten but it is time to put them out to comment.

In response to a Board motion for a 75-day public comment period, it was explained that state statute requires that a rule has to be acted on 120 days after it is published. If proposed today, the rules would be published October 1, 2017. In order to have enough time to respond to all the technical comments, 45 days would be the maximum time to allow for response to comments. The motion was amended.

- Erin Mendenhall moved that the Board propose for a 45-day public comment period the amended R307-150, Emission Inventories; R307-401, Permit: New and Modified Sources; R307-504, Oil and Gas Industry: Tank Truck Loading; and new rules R307-505, Oil and Gas Industry: Registration Requirements; R307-506, Oil and Gas Industry: Storage Vessels; R307-507, Oil and Gas Industry: Dehydrators; R307-508, Oil and Gas Industry: VOC Control Devices; R307-509, Oil and Gas Industry: Leak Detection and Repair Requirements; and R307-510, Oil and Gas Industry: Natural Gas Engine Requirements. Arnold Reitze seconded. The Board approved unanimously.

**VI. Five-Year Review: R307-214. National Emission Standards for Hazardous Air Pollutants. Presented by Ryan Stephens.**

Ryan Stephens, Environmental Planning Consultant at DAQ, stated that Utah Code 63G-3-305 requires each agency to review and justify each of its rules within five years of a rule's original effective date or within five years of the filing of the last five-year review. This review process is not a time to revise or amend the rules. The purpose of the review process is to verify that the rule is still necessary and allowed under state and federal law. R307-214 has been amended five times since its last review, and DAQ has not received any comments on the rule since that time. Staff recommends that the Board continue R307-214 by approving the attached form to be filed with the Office of Administrative Rules.

- Erin Mendenhall moved to continue and approve R307-214, National Emission Standards for Hazardous Air Pollutants, to be filed with the Office Administrative Rules. Kevin Cromar seconded. The Board approved unanimously.

**VII. Informational Items.**

Bryce Bird, Division Director, announced that Brock LeBaron is retiring from the state after 28 years with the Division of Air Quality. Mr. LeBaron was publically acknowledged for his work and many hours of dedicated service to the state especially increasing DAQ's technical capabilities, reliance on good science to make good air quality decisions, and he will certainly be missed. It was also announced that Ryan Stephens, DAQ's Rules Coordinator, has accepted a job with the Attorney General's Office and we congratulate him and thank him for the great work he has done on rulemaking here in the state.

**A. PM<sub>2.5</sub> Serious Area State Implementation Plan Update. Presented by Bill Reiss.**

Bill Reiss, Environmental Engineer at DAQ, updated the Board on the status of the serious SIP. Staff has essentially completed many of the technical elements that are necessary to compile these SIPs. They have a validated air quality model that can be used to make predictions, have a base year emissions inventory that serves as a reference point, and they have in draft form the emissions inventories for all the other years that could potentially be used in the SIPs.

These draft emissions inventories will ultimately become final when staff quantifies the benefits of the BACM/BACT requirement that essentially takes us from moderate to serious. Looking more closely at that task I think we can differentiate between the best available control measures (BACM) that applies basically to the area sources and the BACT that essentially applies to the stationary sources that we've identified as significant.

In regards to BACM, staff has completed the review of our existing area source rules to see that they will meet not just reasonably available control measures (RACM) as was required in the moderate SIP, but BACM as well. In many cases the rules were modified such that they would apply to more sources than they had. In other cases, rules were modified to tighten restrictions. Also, DAQ is working on two new rules, solvent cleaning and water heaters, with plans to bring them to the Board in October. This work has been completed to such a large degree that allows us to quantify the emissions reductions from these measures into the emissions projections for these area sources. Add to that the fact that our inventory projections for mobile sources, both on and off road, are also essentially

complete. And what is left is that sector of these inventories belonging to the large stationary sources.

In regards to BACT, Mr. Reiss pointed out that this will be the most challenging aspect of the project, and staff would rather take the time to do it correctly than simply turn-in whatever to meet the December deadline. There is still quite a bit of work to be done before a complete SIP is ready. There are also some other complicating factors and we have compiled a lot of the pieces necessary to build the SIP, but we are still not entirely sure what kind of SIP it will be, meaning that we don't know if we can model our way under the line by the end of 2019. If we can, the SIP will be relatively simple to piece together. If not, there will be additional work that will take additional time to complete which will entail first demonstrate that with all the BACT in place it would be impracticable to do so by 2019 and then we'd have to go back and upgrade our analysis from BACT to most stringent measures (MSM) and incorporate that into the modeling and pick an alternate attainment date within the window of 2019 to 2024.

In summary, we are not going to meet the December 2017 deadline but with the goal to have something for the Board early next year. This will allow us some additional time to continue working with all the stakeholders as we refine all our strategies regarding the BACT, the BACM, or the most stringent measures (MSM), whatever it may be. It will also give us the opportunity to incorporate the data we collect for this year, 2017, into the design values that are used as the starting point for the SIPs to see if we get under the line. We have been in this situation before with the 2012 moderate SIPs and we do not take it lightly. The Clean Air Act (CAA) does call for EPA to make a completeness finding six months after the due date, which in this case would be June 2018. The completeness finding is when EPA reviews the SIP to see that it contains all the elements that are necessary to have an approvable SIP. We do not want to put them in that position and we will continue to work closely with EPA's regional office to turn in correct SIPs rather than give them something they cannot approve. The latest this might be presented to the Board is June 2018. By working closely with the EPA region it allows them to know where we are in the process. However the CAA is unclear concerning the time required for EPA to promulgate a notice in the Federal Register.

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

Bo Call, Monitoring Section Manager at DAQ, updated the Board on the monitoring graphs. Compared with last year's ozone levels that only had one or two occasions over the standard, this year there have been 19 times over the standard and this year's season is not complete. The high levels for Escalante in June and July were not due to stratospheric intrusion but were due to instrument error.

Mr. Call was asked if the DAQ monitoring web pages could be fixed to reflect not just the seasonal pollutant but the high value, and there was questioning about the usefulness of the posted information if what people first see is not reflecting what people need to know to make behavior modification decision. In response, the forecast is made on the seasonal pollutant of concern, so the mandatory action or whether it's going to be unhealthy or unhealthy for sensitive groups is based on that. There are two different templates for

particulate strategies during the winter and ozone strategies during the summer which makes switching back and forth challenging. This technical issue is something that staff can look into for possible changes.

**E. Other Items to be Brought Before the Board.**

In discussion, it was asked if the state was going to prepare a response to EPA on the pending determination in finalizing definitions for categorization in nonattainment areas not based on location, such as moderate, marginal, etc. Under the implementation rule before EPA makes the final designations they are required to send the state a 120-day letter which tells the state what EPA is going to do. The state has not received such a letter and will submit comment to EPA at that time.

**F. Board Meeting Follow-up Items.**

- It was previously suggested that the meeting start times might be changed for an earlier time, but after discussion among all Board members it was decided to keep the current schedule.
- In regard to the discussions on R307-403 and the oil and gas rules about the differences in listed pollutants, such as ammonia, and some other differences, staff will prepare a response to the Board's questions and present those responses at a later meeting.

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Meeting adjourned at 3:13 p.m.

# ITEM 4



State of Utah

GARY R. HERBERT  
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DAQ-064-17

**MEMORANDUM**

**TO:** Air Quality Board

**THROUGH:** Bryce C. Bird, Director

**FROM:** Joel Karmazyn, Environmental Scientist

**DATE:** September 20, 2017

**SUBJECT:** FINAL ADOPTION: Amend R307-101-2. Definitions.

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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.<sup>1</sup>

This rule amendment also adds definitions for “VOC content” and “composite vapor pressure.” These definitions are being added in response to requests from industry for clarification on how to calculate the weight of VOC per volume of material and the vapor pressure for determining compliance with the new coatings rules.

A public comment period was held from July 1 to August 15, 2017, and a public hearing was held on July 27, 2017. No comments were submitted.

Recommendation: Staff recommends that the Board adopt the amendments to R307-101-2 as proposed.

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<sup>1</sup> Preliminary Industry Characterization: Surface Coating of Plastic Parts and Products, U.S. Environmental Protection Agency, July 12, 2016, <https://www3.epa.gov/ttn/atw/plastic/pic-apdx.pdf>; See also Plastic Parts and Products, U.S. Environmental Protection Agency, July 12, 2016, [https://www3.epa.gov/airtoxics/plastic/plas\\_parts.html](https://www3.epa.gov/airtoxics/plastic/plas_parts.html).

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

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

3  
4 **R307-101-2. Definitions.**

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

9  
10 ...

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

17  
18 ...

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

22  
23 ...

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

28  
29  
30 Grams of VOC per Liter of Material= 
$$\frac{Ws - Ww - Wes}{Vm}$$
  
31  
32

33  
34 Where:

- 35  
36 Ws = weight of volatile organic compounds  
37 Ww = weight of water  
38 Wes = weight of exempt compounds  
39 Vm = volume of material  
40

41  
42 **KEY: air pollution, definitions**

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

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

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

# ITEM 5



State of Utah

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DIVISION OF AIR QUALITY  
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*Director*

DAQ-063-17

**MEMORANDUM**

**TO:** Air Quality Board

**THROUGH:** Bryce C. Bird, Director

**FROM:** Joel Karmazyn, Environmental Scientist

**DATE:** September 20, 2017

**SUBJECT:** FINAL ADOPTION: 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.

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On June 7, 2017, the Board approved for public comment 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<sub>2.5</sub> State Implementation Plan (SIP). These amendments were based on the best available control measures (BACM) analysis conducted by DAQ.

The findings of the BACM analysis were:

1. The Utah rule coating limits currently represent BACM.
2. The comparable California rules used in the BACM analysis have lower applicability thresholds than 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.

The two major proposed amendments to the rules were:

1. The applicability thresholds were 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 would allow DAQ to differentiate between hobbyists and those who conduct coating operations from commercial/industrial sources.

2. The form of the solvent cleaning limit was changed from a lb/gal limit to a composite vapor pressure limit.

The public comment period was held from July 1 to August 15, 2017. A public hearing was held on July 27, 2017. A representative from Breathe Utah gave testimony supporting the rulemaking.

Staff received multiple written comments on this proposal that are summarized below. As a general note, there is overwhelming support from commenters for the proposed vapor pressure limit for cleaning solvents.

### General Comments

American Coating Association (ACA)

Comment: Reducing the applicability threshold to 20 gallons sets a bad precedent for states outside of California. This will adversely economically impact smaller companies.

UDAQ Response: The proposed lowering of the applicability thresholds was based on a BACM analysis of the rules in accordance with the Environmental Protection Agency (EPA) specifications established in the PM Implementation Rule for serious nonattainment areas.

The costs, as presented to the Board in the proposal, are reasonable for a serious nonattainment area. Despite this, UDAQ shares ACA's concern regarding impact to small business. Consequently, we have added rule implementation schedules in all coating rules.

Brigham Young University (BYU)

Comment: BYU questioned whether we could apply the SCAMD (South Coast) coating rule applicability thresholds in our BACM analysis when their definition of VOC varies from EPA's.

BYU has presented a number of further questions along the line of how to determine exempt solvents and which solvents must meet the proposed vapor limits.

UDAQ Response: SCAMD includes all volatile compounds (with some exceptions) as VOC's. This comprehensive definition is inclusive of the compounds EPA considers to be a VOC.

All of BYU's questions along this line of inquiries can be resolved by just focusing on the Utah definition of VOC in R307-101-2. The definition incorporates by reference the definition of VOC (along with exempt solvents) in 40 CFR 51.100(s)(1).

Comment: Changing the solvent cleaning limits in the coating rules from a lb/gal to a composite vapor pressure limit would make calculating VOC emissions and PTE determinations difficult. Currently manufacturers list the VOC content as a percent and the density may be used to calculate the emissions assuming all VOCs will be released. Calculating emissions based on a composite vapor pressure is nearly impossible due to the lack of information available to the product users (MSDS, SDS, product labels).

UDAQ Response: Our experience of reviewing the MSDS and SDS when we assist sources in conducting their VOC analyses is that they typically include a VOC content either in lb/gal or g/L. Occasionally, an MSDS/SDS may also include the vapor pressure. When this is the case, sources should request vapor pressure information from vendors.

Comment: BYU questions the basis for replacing the 0.21 lb/gal solvent cleaning limit with a 1 mm Hg vapor pressure limit.

UDAQ Response: We acknowledge that there is no direct conversion by replacing a density limit with a comparable vapor pressure limit. The Clean Air Act prohibits back sliding in SIP approved rules. Consequently, we had to find a vapor pressure limit that would result in comparable or less VOC emissions.

Comment on R307-345

Hill Air Force Base (AFB) Comment: Recommend retaining the definition of vinyl coating.

UDAQ Response: We agree.

Comments on R307-350

Hill AFB Comment: UDAQ has exempted canned aerosol coating products up to 22 fl. oz. used exclusively for touch-up and repairs from the requirements of R307-350 (see R307-350-3(1)(i)). Hill AFB currently has 412 aerosol paints subject to the Miscellaneous Metal Parts rule in 57 shops. These materials are used primarily for touch-up and repair operations, coating small parts, and stenciling. If the rule went into effect today, Hill AFB would have to waste out 5,771 containers because there is no cost effective method to determine and document if the materials are being used for repair and touch-up or to paint small parts or for stenciling. Hill AFB may switch to using other spray methods that would generate more waste and have higher VOC emissions as a result. In addition to the potential negative impact on the environment of wasting out these containers, discarding VOC containing materials would result in purchasing new materials at a significant expense to the tax payer.

UDAQ should exempt all aerosol coating products and not just those used for touch-up and repair. Such an approach is supported by the CTG for Miscellaneous Metal and Plastic Coatings which does include an exemption for coatings applied using aerosol cans and not just those used for touch-up and repair operations. The CTG exempts all aerosol coating products as they are covered under CAA Section 183(e).

UDAQ Response: We have reviewed the cited documents and concur with the comment. The change has been made.

Hill AFB Comment: UDAQ has included an exemption in R307-350-3(2)(a) for stenciling and hand lettering coatings. However, UDAQ included the definition of hand lettering under the definition of stenciling with no modification to the definition. As a result, none of Hill AFB's hand lettering operations will be exempt from the VOC coating limits in R307-350-5. UDAQ needs to include a separate definition for hand lettering.

UDAQ Response: Adjustments to the definition have been made.

Hill AFB Comment: The Control Techniques Guidelines (CTG) for Miscellaneous Metal and Plastic Coatings states "...coatings that are applied to test panels and coupons as part of research and development, quality control, or performance testing activities at paint research or manufacturing facilities are not included in the miscellaneous metal products and plastic parts coatings categories under section 183(e) and are therefore not addressed in this CTG." Due to the innovative nature of national defense activities there is a need to conduct activities of this nature to determine effectiveness and feasibility of utilizing new coatings to support the mission.

During the research and development process, technical orders have not yet been created for the proposed coating operation. As a result, the research and development could only proceed if the coating met the limits of the rule. Without the ability to test the new coatings that exceed limits, the mission of Hill AFB to support our national security would suffer significantly.

As the quantity of coating used during the research and development process is small, the CTG does not address research and development, and the potential impacts to national security of not being allowed to develop new coatings, UDAQ should exempt research and development, quality control, or performance testing activities from R307-350.

UDAQ Response: We have reviewed the cited documents and concur with the comment. The exemption has been added.

Hill AFB Comment: Define “hand application method” and re-instate airless or air-assist spray method.

UDAQ Response: “Hand application method” is self-explanatory. We have replaced airless or air-assist with a broader statement that any method that achieves at least 65% transfer efficiency.

Hill AFB Comment: R307-350 needs to clarify that it only applies where another rule does not apply. Specifically, the rule needs to exempt coating operations covered under R307-348 and R307-352.

UDAQ Response: R307-348, Magnet Wire Coatings, and R307-352, Metal Container, Closure, and Coil Coatings are very specific to those coating activities. R307-350 is intended to apply to all other metal coating categories not already identified in specific rules such as R307-348 and R307-352.

Hill AFB Comment: Chemical agent resistant coating (CARC) waste streams can produce CO<sub>2</sub> during storage in waste containers. UDAQ should allow alternative storage options in R307-350-7.

UDAQ Response: UDAQ has reviewed the military literature pertaining to CARC and agrees that R307-350-7 should be amended to include a broader range of storage options.

Joint Commenters: Orbital ATK, The Boeing Company, L3 Technologies, Barnes Aerospace, Albany Engineered Composites (Albany), and Pilkington Metal Finishing

Comment: Retain the source type exemptions in descriptive form instead of using the industry specific Utah rule numbers.

UDAQ Response: It is important that we specifically reference the Utah air quality rules that address operations exempt from R307-350.

Comment: Broaden the definition of “aerospace vehicle or component” or refer to the definition used in R307-355-4 for continuity.

Albany also suggested using the same definition for aerospace found in R307-355-4

UDAQ Response: The definition has been revised by pointing back to the aerospace rule R307-355 in order to be consistent with any future amendments of the definition.

BD Medical

BD Medical has requested an exemption from the rule because a coating material used in their process does not meet the coating limit in the rule. A modification to the process may trigger a product manufacturing evaluation by the U.S. Food and Drug Administration (FDA) under 21 CFR 807.81 (i) for “Premarket Notification (i) A change or modification in the device that could significantly affect the safety or effectiveness of the device, e.g., a significant change or modification in design, material, chemical composition, energy source, or manufacturing process.” Should this occur, it is uncertain how long BD Medical would have to suspend their production.

UDAQ response: We have added a small quantity exemption in the rule consistent with the San Joaquin rule 1145.

Comments on R307-352

Hill AFB Comment: Aerosol coating products should be exempt from R307-352. This rule is based on South Coast Rule 1125 which does include an exemption stating the rule shall not apply to aerosol coating products. If R307-352 was effective today without an aerosol exemption, Hill AFB would have to waste out 3,924 containers of aerosol materials.

UDAQ Response: Agreed.

Comments on R307-353

Joint Commenters: Orbital ATK, The Boeing Company, L3 Technologies, Barnes Aerospace, Albany Engineered Composites, and Pilkington Metal Finishing

Comment: An increasing number of aerospace vehicles and components are constructed of reinforced plastic composites which are subject to cleaning and coating regulation. We suggest exempting aerospace vehicles and components in R307-353-3 as defined in R307-355-4.

UDAQ Response: We have added an exemption in R307-353-3 for aerospace vehicles and components subject to R307-355, similar to the exemption in the San Joaquin Rule 4603 in order to be consistent in our BACM analysis.

BD Medical has requested an exemption from the rule due to the following:

- The catheter coating does not meet the proposed VOC limits. A modification to the printing process may trigger a product manufacturing evaluation by the U.S. Food and Drug Administration (FDA) under 21 CFR 807.81 (i) for “Premarket Notification (i) A change or modification in the device that could significantly affect the safety or effectiveness of the device, e.g., a significant change or modification in design, material, chemical composition, energy source, or manufacturing process.” Should this occur, it is uncertain how long BD Medical would have to suspend their production.

UDAQ response: We have added a small quantity exemption in the rule consistent with the San Joaquin rule 1145.

Recommendation: Staff recommends the Board adopt the proposed amendments to the included coatings rules.

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 paper, film, and foil coating operations.  
6

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

8 [~~R307-344 applies to paper, film, and foil coating operations and  
9 related cleaning activities that use a combined 20 gallons or more of  
10 coating products and associated solvents per year and are located in  
11 Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber counties.~~]

12 (1) R307-344 applies to paper, film, and foil coating operations  
13 located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber  
14 counties.

15 (2) Before September 1, 2018, R307-344 applies to a paper, film  
16 and foil coating operations that have the potential to emit 2.7 tons  
17 per year or more of VOC, including related cleaning activities.

18 (3) Effective September 1, 2018, R307-344 shall apply to a paper,  
19 film and foil coating operations that use a combined 20 gallons or more  
20 of coating products and associated solvents per year.

21

22 **R307-344-3. Definitions.**

23 The following additional definitions apply to R307-344:

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

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

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

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

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

45 "Web" means a continuous sheet of substrate.

1

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

3 No owner or operator shall apply coatings with a VOC content  
4 greater than the amounts specified in Table 1, unless the owner or  
5 operator uses an add-on control device as specified in R307-344-6.

6

7

TABLE 1

8

9 Paper, Film, and Foil Coating Limitations

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

13

14 Coating Category VOC Content Limits (lb/lb)

15

16 Paper, film and foil 0.08

17

18 Pressure sensitive tape

19

and label 0.067

20

21 **R307-344-5. Work Practices.**

22 (1) Control techniques and work practices are to be implemented  
23 at all times to reduce VOC emissions. Control techniques and work  
24 practices include:

25

(a) Using covered containers for solvent wiping cloths;

26

(b) Using collection hoods for areas where solvent is used for  
27 cleanup;

28

(c) Minimizing spills of VOC-containing cleaning materials;

29

(d) Conveying VOC-containing materials from one location to  
30 another in closed containers or pipes; and

31

(e) Cleaning spray guns in enclosed systems

32

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

35

(a) Flow coater;

36

(b) Roll coater;

37

(c) Dip coater;

38

(d) Foam coater;

39

(e) Die coater;

40

(f) Hand application methods;

41

(g) High-volume, low pressure (HVLPP) spray; or

42

(h) Other application method capable of achieving 65% or greater  
43 transfer efficiency, as certified by the manufacturer.

44

(3) Solvent cleaning operations shall be performed using  
45 cleaning materials having a VOC composite vapor pressure no greater

1 than 1 mm Hg at 20 degrees Celsius, unless an add-on control device  
2 is used as specified in R307-344-6.

3  
4 **R307-344-6. Add-On Controls Systems Operations.**

5 (1) If an add-on control system is used, the owner or operator  
6 shall install and maintain the add-on emission control system in  
7 accordance with the manufacturer recommendations and maintain 90% or  
8 greater capture and control efficiency. The overall capture and  
9 control efficiency shall be determined using EPA approved methods, as  
10 follows.

11 (a) The capture efficiency of a VOC emission control system's  
12 VOC collection device shall be determined according to EPA's  
13 "Guidelines for Determining Capture Efficiency," January 9, 1995 and  
14 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

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

20 (c) An alternative test method may be substituted for the  
21 preceding test methods after review and approval by the EPA  
22 Administrator.

23  
24 **R307-344-7. Recordkeeping.**

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

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

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

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

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

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

38 (3) Records shall be made available to the director upon request.  
39  
40

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

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

43 **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.  
6

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

8 (1) R307-345 applies to fabric and vinyl coating operations [~~and~~  
9 ~~related cleaning activities that use a combined 20 gallons or more of~~  
10 ~~coating products and associated solvents per year and are~~] located in  
11 Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber counties.

12 (2) Before September 1, 2018, R307-345 applies to fabric and  
13 vinyl coating operations that have the potential to emit 2.7 tons per  
14 year or more of VOC, including related cleaning activities.

15 (3) Effective September 1, 2018, R307-345 shall apply to fabric  
16 and vinyl coating operations that use a combined 20 gallons or more  
17 of coating products and associated solvents per year.  
18

19 **R307-345-3. Definitions.**

20 The following additional definitions apply to R307-345:

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

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

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

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

43 "Vinyl coating" means applying a decorative or protective top  
44 coat, or printing on vinyl coated fabric or vinyl sheets.  
45

1 **R307-345-4. VOC Content Limits.**

2 (1) No owner or operator shall apply fabric or vinyl coatings  
3 with a VOC content greater than 2.2 pounds of VOC per gallon of coating,  
4 minus water and exempt solvents (compounds not classified as VOC as  
5 defined in R307-101-2), as applied, unless the owner or operator uses  
6 an add-on device as specified in R307-345-6.

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

9  
10 **R307-345-5. Work Practices~~[-and Recordkeeping]~~.**

11 (1) Control techniques and work practices are to be implemented  
12 at all times to reduce VOC emissions. Control techniques and work  
13 practices include:

14 (a) Covered containers for solvent wiping cloths;

15 (b) Collection hoods for areas where solvent is used for  
16 cleanup;

17 (c) Covered mixing tanks; and

18 (d) Covered hoods and oven routed to add-on control devices,  
19 which may include, but are not limited to, after burners, thermal  
20 incinerators, catalytic oxidation, or carbon adsorption.

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

23 The following applications achieve a minimum of 65% transfer  
24 efficiency and must be operated in accordance with the manufacturers  
25 specifications:

26 (a) Foam coat;

27 (b) Flow coat;

28 (c) Roll coat;

29 (d) Dip coat;

30 (e) Die coat;

31 (e) High-volume, low-pressure (HVLP) spray;

32 (f) Hand application methods; or

33 (g) Other application method capable of achieving 65% or greater  
34 transfer efficiency, as certified by the manufacturer.

35 (3) Solvent cleaning operations shall be performed using  
36 cleaning materials having a VOC composite vapor pressure no greater  
37 than 1 mm Hg at 20 degrees Celsius, unless an add-on control device  
38 is used as specified in R307-345-6.

39  
40 **R307-345-6. Add-On Controls Systems Operations.**

41 (1) If an add-on control system is used, the owner or operator  
42 shall install and maintain the add-on emission control system in  
43 accordance with the manufacturer recommendations and maintain 90% or  
44 greater capture and control efficiency. The overall capture and  
45 control efficiency shall be determined using EPA approved methods, as

1 follows.

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

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

11 (c) An alternative test method may be substituted for the  
12 preceding test methods after review and approval by the EPA  
13 Administrator.

14  
15 **R307-345-7. Recordkeeping.**

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

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

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

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

24 (ii) Key inspection 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 (2) All records shall be maintained for a minimum of 2 years.

29 (3) Records shall be made available to the director upon request.  
30

31 **KEY: air pollution, emission controls, fabric coating, vinyl coating**

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

33 **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 metal furniture surface coating operations~~  
11 ~~and related cleaning activities that use a combined 20 gallons or more~~  
12 ~~of coating products and associated solvents per year and are located~~  
13 ~~in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber~~  
14 ~~counties.]~~

15 (1) R307-346 applies to metal furniture surface coating  
16 operations located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah  
17 and Weber counties.

18 (2) Before September 1, 2018, R307-346 applies to metal  
19 furniture surface coating operations that have the potential to emit  
20 2.7 tons per year or more of VOC, including related cleaning  
21 activities.

22 (3) Effective September 1, 2018, R307-346 shall apply to metal  
23 furniture surface coating operations that use a combined 20 gallons  
24 or more of coating products and associated solvents per year.

25  
26  
27 **R307-346-3. Exemptions.**

- 28 (1) The requirements of R307-346 do not apply to the following:  
29 (a) Stencil coatings;  
30 (b) Safety-indicating coatings;  
31 (c) Solid-film lubricants;  
32 (d) Electrical-insulating and thermal-conducting coatings;  
33 (e) Touch-up and repair coatings; or  
34 (f) Coating applications utilizing hand-held aerosol cans.

35  
36 **R307-346-4. Definitions.**

37 The following additional definitions apply to R307-346:

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

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

42 "As applied" means the VOC and solids content of the finishing  
43 material that is actually used for coating the substrate. It includes  
44 the contribution of materials used for in-house dilution of the  
45 finishing material.

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

3 "Extreme performance coatings" means coatings designed for harsh  
4 exposure or extreme environmental conditions.

5 "Metal furniture surface coating" means the surface coating of  
6 any furniture made of metal or any metal part that will be assembled  
7 with other metal, wood fabric, plastic, or glass parts to form a  
8 furniture piece.

9

10 **R307-346-5. VOC Content Limits.**

11 No owner or operator shall apply coatings with a VOC content  
12 greater than the amounts specified in Table 1, unless the owner or  
13 operator uses an add-on control device as specified in R307-346-7.

14

15

TABLE 1

16

17 METAL FURNITURE SURFACE COATING VOC LIMITS  
18 (values in pounds of VOC per gallon of coating, minus water and  
19 exempt solvents (compounds not classified as VOC as defined in  
20 R307-101-2), as applied)

21

Coating Category	VOC Content Limits (lb/gal)	
	Baked	Air Dried
General, One Component	2.3	2.3
General, Multi-Component	2.3	2.8
Extreme High Gloss	3.0	2.8
Extreme Performance	3.0	3.5
Heat Resistant	3.0	3.5
Metallic	3.5	3.5
Pretreatment Coatings	3.5	3.5
Solar Absorbent	3.0	3.5

41

42 **R307-346-6. Work Practices.**

43 (1) The owner or operator shall:

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

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

3 (c) Clean up spills immediately;

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

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

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

10 (2) No person shall apply any coating unless the coating  
11 application method achieves a demonstrated 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) Electrodeposition;

17 (c) Brush coat;

18 (d) Flow coat;

19 (e) Roll coat;

20 (f) Dip coat;

21 (g) Continuous coating;

22 (h) High-volume, low-pressure (HVLV) spray; or

23 (i) Other application method capable of achieving 65% or greater  
24 transfer efficiency, as certified by the manufacturer.

25 (3) Solvent cleaning operations shall be performed using  
26 cleaning materials having a VOC composite vapor pressure no greater  
27 than 1 mm Hg at 20 degrees Celsius, unless an add-on control device  
28 is used as specified in R307-346-7.

29  
30 **R307-346-7. Add-On Controls Systems Operations.**

31 (1) If an add-on control system is used, the owner or operator  
32 shall install and maintain the add-on emission control system in  
33 accordance with the manufacturer recommendations and maintain 90% or  
34 greater capture and control efficiency. Determination of overall  
35 capture and control efficiency shall be determined using EPA approved  
36 methods, as follows.

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

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

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

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 to,  
13 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: 2017**

25 **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 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.]~~

13 (1) R307-347 applies to large appliance surface coating  
14 operations located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah  
15 and Weber counties.

16 (2) Before September 1, 2018, R307-347 applies to large  
17 appliance surface coating operations that have the potential to emit  
18 2.7 tons per year or more of VOC, including related cleaning  
19 activities.

20 (3) Effective September 1, 2018, R307-347 shall apply to large  
21 appliance surface coating operations that use a combined 20 gallons  
22 or more of coating products and associated solvents per year.  
23

24 **R307-347-3. Exemptions.**

- 25 (1) The requirements of R307-347 do not apply to the following:  
26 (a) Stencil coatings;  
27 (b) Safety-indicating coatings;  
28 (c) Solid-film lubricants;  
29 (d) Electric-insulating and thermal-conducting coatings;  
30 (e) Touch-up and repair coatings; or  
31 (f) Coating applications utilizing hand-held aerosol cans.  
32

33 **R307-347-4. Definitions.**

34 The following additional definitions apply to R307-347:

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

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

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

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

45 "Large appliances" means doors, cases, lids, panels, and interior

1 support parts of residential and commercial washers, dryers, ranges,  
2 refrigerators, freezers, water heaters, dishwashers, trash  
3 compactors, air conditioners, and other similar products.

4  
5 **R307-347-5. VOC Content Limits.**

6 No owner or operator shall apply coatings with a VOC content  
7 greater than the amounts specified in Table 1, unless the owner or  
8 operator uses an add-on control device as specified in R307-347-7.

9  
10 TABLE 1

11  
12 Large Appliance Surface Coating Limitations  
13 (values in pounds VOC per gallon of coating, minus water and  
14 exempt solvents(compounds not classified as VOC as defined in  
15 R307-101-2), as applied)

16 Coating Category	17 VOC Content Limits (lb/gal)	
	19 Baked	20 Air Dried
21 General, one component	2.3	2.3
22 General, multi-component	2.3	2.8
23 Extreme high gloss	3.0	2.8
24 Extreme performance	3.0	3.5
25 Heat resistance	3.0	3.5
26 Solar absorbent	3.0	3.5
27 Metallic	3.5	3.5
28 Pretreatment coatings	3.5	3.5

29  
30  
31  
32  
33  
34  
35 **R307-347-6. Work Practices.**

36  
37 (1) The owner or operator shall:

- 38 (a) Store all VOC-containing coatings, thinners, and cleaning
- 39 materials in closed containers;
- 40 (b) Minimize spills of VOC-containing coatings, thinners, and
- 41 cleaning materials;
- 42 (c) Clean up spills immediately;
- 43 (d) Convey any coatings, thinners, and cleaning materials in
- 44 closed containers or pipes;
- 45

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

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

5 (2) No person shall apply any coating unless the coating  
6 application method achieves a 65% or greater transfer efficiency. The  
7 following applications achieve a minimum of 65% transfer efficiency  
8 and shall be operated in accordance with the manufacturers  
9 specifications:

10 (a) Electrostatic application;

11 (b) Electrodeposition;

12 (c) Brush coat;

13 (d) Flow coat;

14 (e) Roll coat;

15 (f) Dip coat;

16 (g) High-volume, low-pressure (HVLV) spray; or

17 (h) Other application method capable of achieving 65% or greater  
18 transfer efficiency, as certified by the manufacturer.

19 (3) Solvent cleaning operations shall be performed using  
20 cleaning materials having a VOC composite vapor pressure no greater  
21 than 1 mm Hg at 20 degrees Celsius, unless an add-on control device  
22 is used as specified in R307-347-7.

23  
24 **R307-347-7. Add-On Controls Systems Operations.**

25 (1) If an add-on control system is used, the owner or operator  
26 shall install and maintain the add-on emission control system in  
27 accordance with the manufacturer recommendations and maintain 90% or  
28 greater capture and control efficiency. The overall capture and  
29 control efficiency shall be determined using EPA approved methods, as  
30 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, as  
39 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  
44 **R307-347-8. Recordkeeping.**

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

1 (a) Records that demonstrate compliance with R307-347. Records  
2 shall include, but are not limited to, inventory and product data  
3 sheets of all coatings and solvents subject to R307-347.

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

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

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

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

13 (3) Records shall be made available to the director upon request.  
14

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

17 **Date of Enactment or Last Substantive Amendment: 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 flat wood panel coating operations and~~  
9 ~~related cleaning activities that use a combined 20 gallons or more of~~  
10 ~~coating products and associated solvents per year and are located in~~  
11 ~~Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber counties.]~~

12 (1) R307-349 applies to flat wood paneling coating operations  
13 located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber  
14 counties.

15 (2) Before September 1, 2018, R307-349 applies to flat wood  
16 paneling coating operations that have the potential to emit 2.7 tons  
17 per year or more of VOC, including related cleaning activities.

18 (3) Effective September 1, 2018, R307-349 shall apply to flat  
19 wood paneling coating operations that use a combined 20 gallons or more  
20 of coating products and associated solvents per year.

21  
22 **R307-349-3. Definitions.**

23 The following additional definitions apply to R307-349:

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

28 "Finishing material" means a coating used in the flat wood panel  
29 industry, including basecoats, stains, washcoats, sealers, and  
30 topcoats.

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

35 "Strippable booth coating" means a coating that is applied to a  
36 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  
41 **R307-349-4. VOC Content Limit.**

42 (1) No owner or operator shall apply coatings with a VOC content  
43 greater than 2.1 pounds of VOC per gallon, excluding water and exempt  
44 solvents (compounds not classified as VOC as defined in R307-101-2),  
45 unless an add-on control device is used as specified in R307-349-6.

1 (2) No owner or operator shall use a strippable booth coating  
2 with a VOC content greater than 3.8 pounds VOC per gallon, excluding  
3 water and exempt solvents (compounds that are not defined as VOC),  
4 unless an add-on control device is used as specified in R307-349-6.  
5

6 **R307-349-5. Work Practice.**

7 (1) The owner or operator shall:

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

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

12 (c) Clean up spills immediately;

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

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

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

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

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

24 (a) Paint brush;

25 (b) Flow coat;

26 (c) Roll coat;

27 (d) Dip coat;

28 (e) Detailing or touch-up guns;

29 (e) High-volume, low-pressure (HVLP) spray;

30 (f) Hand application methods; or

31 (g) Other application method capable of achieving 65% or greater  
32 transfer efficiency, as certified by the manufacturer.

33 (3) No owner or operator shall perform solvent cleaning  
34 operations using materials with a VOC composite vapor pressure greater  
35 than 1 mm Hg at 20 degrees Celsius, unless an add-on control device  
36 is used as specified in R307-349-6.  
37

38 **R307-349-6. Add-On Controls Systems Operations.**

39 (1) If an add-on control system is used, the owner or operator  
40 shall install and maintain the add-on emission control system in  
41 accordance with the manufacturer recommendations and maintain 90% or  
42 greater capture and control efficiency. The overall capture and  
43 control efficiency shall be determined using EPA approved methods, as  
44 follows.

45 (a) The capture efficiency of a VOC emission control system's

1 VOC collection device shall be determined according to EPA's  
2 "Guidelines for Determining Capture Efficiency," January 9, 1995 and  
3 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

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

9 (c) An alternative test method may be substituted for the  
10 preceding test methods after review and approval by the EPA  
11 Administrator.

12  
13 **R307-349-7. Recordkeeping.**

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

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

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

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

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

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

27 (3) Records shall be made available to the director upon request.  
28  
29  
30

31 **KEY: air pollution, emission controls, flat wood paneling, coatings**

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

33 **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 ~~[(1) R307-350 applies to miscellaneous metal parts and products  
10 coating operations and related cleaning activities that use a combined  
11 20 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.]~~

14 (1) R307-350 applies to miscellaneous metal parts and products  
15 coating operations located in Box Elder, Cache, Davis, Salt Lake,  
16 Tooele, Utah and Weber counties.

17 (2) Before September 1, 2018, R307-350 applies to miscellaneous  
18 metal parts and products coating operations that have the potential  
19 to emit 2.7 tons per year or more of VOC, including related cleaning  
20 activities.

21 (3) Effective September 1, 2018, R307- shall apply to  
22 miscellaneous metal parts and products coating operations that use a  
23 combined 20 gallons or more of coating products and associated solvents  
24 per year.

25 ([2]4) R307-350 applies to, but is not limited to, the  
26 following:

27 (a) Large farm machinery (harvesting, fertilizing, planting,  
28 tractors, combines, etc.);

29 (b) Small farm machinery (lawn and garden tractors, lawn mowers,  
30 rototillers, etc.)

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

33 (d) Commercial machinery (computers, typewriters, calculators,  
34 vending machines, etc.);

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

37 (f) Fabricated metal products (metal covered doors, frames,  
38 trailer frames, etc.); and

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

1

2 **R307-350-3. Exemptions.**

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

4 (a) The surface coating of automobiles [~~regulated under~~  
5 ~~R307-354~~] subject to R307-354 and light-duty trucks;

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

7 (c) Surface coating of aerospace vehicles and components  
8 [~~regulated under R307-355~~] subject to R307-355;

9 (d) The exterior of marine vessels;

10 (e) Customized top coating of automobiles and trucks if  
11 production is less than 35 vehicles per day;12 (f) Military munitions manufactured by or for the Armed Forces  
13 of the United States;14 (g) Operations that are exclusively covered by Department of  
15 Defense military technical data and performed by a Department of  
16 Defense contractor and/or on site at installations owned and/or  
17 operated by the United States Armed Forces; [~~or~~]

18 (h) Stripping of cured coatings and adhesives;

19 (i) Canned aerosol coating products [~~up to 22 fl. oz. used~~  
20 ~~exclusively for touch up and repairs.~~];21 (j) Research and development, quality control, or performance  
22 testing activities; or23 (k) The provisions of R307-350 shall not apply to coating products  
24 on medical devices up to 800 pounds of VOC per year.25 (2) The requirements of R307-350-5 do not apply to the  
26 following:

27 (a) Stencil and hand lettering coatings;

28 (b) Safety-indicating coatings;

29 (c) Solid-film lubricants;

30 (d) Electric-insulating and thermal-conducting coatings;

31 (e) Magnetic data storage disk coatings; or

32 (f) Plastic extruded onto metal parts to form a coating.

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

35 (a) Touch-up coatings;

36 (b) Repair coatings; or

37 (c) Textured finishes.

38

39 **R307-350-4. Definitions.**

40 The following additional definitions apply to R307-350:

41 "Aerospace vehicles and components" [~~means any fabricated part,~~  
42 ~~processed part, assembly of parts, or completed unit, with the~~  
43 ~~exception of electronic components, of any aircraft including but not~~  
44 ~~limited to airplanes, helicopters, missiles, rockets and space~~  
45 ~~vehicles.~~] is defined in R307-355.

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

3 "As applied" means the VOC and solids content of the finishing  
4 material that is actually used for coating the substrate. It includes  
5 the contribution of materials used for in-house dilution of the  
6 finishing material.

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

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

11 "Cured coating or adhesive" means a coating or adhesive, which  
12 is dry to the touch.

13 "Department of Defense military technical data" means a  
14 specification that specifies design requirements, such as materials  
15 to be used, how a requirement is to be achieved, or how an item is to  
16 be fabricated or constructed.

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

19 "Hand lettering" means an application method utilizing small paint  
20 markers, paint brush, or other similar appliance that is administered  
21 by hand application equipment to add identification letters, numbers,  
22 or markings on a substrate.

23 "Electric-insulating varnish" means a non-convertible-type  
24 coating applied to electric motors, components of electric motors, or  
25 power transformers, to provide electrical, mechanical, and  
26 environmental protection or resistance.

27 "Electric-insulating and thermal-conducting" means a coating  
28 that is characterized as having an electrical insulation of at least  
29 1000 volts DC per mil on a flat test plate and an average thermal  
30 conductivity of at least 0.27 BTU per hour-foot-degree-Fahrenheit.

31 "Electrostatic application" means a method of applying coating  
32 particles or coating droplets to a grounded substrate by electrically  
33 charging them.

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

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

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

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

45 "Heat-resistant coating" means a coating that must withstand a

1 temperature of at least 400 degrees Fahrenheit during normal use.

2 "High-performance architectural coating" means a coating used to  
3 protect architectural subsections and which meets the requirements of  
4 the Architectural Aluminum Manufacturer Association's publication  
5 number AAMA 605.2-1980.

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

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

13 "Magnetic data storage disk coating" means a coating used on a  
14 metal disk which stores data magnetically.

15 Medical device" means an instrument, apparatus, implement,  
16 machine, contrivance, implant, in vitro reagent or other similar  
17 article including any component or accessory, that is intended for use  
18 in the diagnosis of disease or other conditions or in the cure,  
19 mitigation, treatment, or prevention of disease, or is intended to  
20 affect the structure or any function of the body. For the purpose of  
21 this rule, a medical device shall also include associated  
22 manufacturing or assembly apparatus.

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

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

28 "Mold-seal coating" means the initial coating applied to a new  
29 mold or repaired mold to provide a smooth surface which, when coated  
30 with a mold release coating, prevents products from sticking to the  
31 mold.

32 "Multi-component coating" means a coating requiring the addition  
33 of a separate reactive resin, commonly known as a catalyst or hardener,  
34 before application to form an acceptable dry film.

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

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

42 "Prefabricated architectural component coatings" means coatings  
43 applied to metal parts and products that are to be used as an  
44 architectural structure or their appurtenances including, but not  
45 limited to, hand railings, cabinets, bathroom and kitchen fixtures,

1 fences, rain-gutters and down-spouts, window screens, lamp-posts,  
2 heating and air conditioning equipment, other mechanical equipment,  
3 and large fixed stationary tools.

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

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

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

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

14 "Silicone release coating" means any coating which contains  
15 silicone resin and is intended to prevent food from sticking to metal  
16 surfaces.

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

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

23 "Stencil [~~and hand lettering~~] coating" means an ink or a coating  
24 which is rolled or brushed onto a template or stamp in order to add  
25 identifying letters, ~~[or]~~ numbers, or markings to metal parts and  
26 products.

27 "Textured finish" means a rough surface produced by spraying and  
28 splattering large drops of coating onto a previously applied coating.  
29 The coatings used to form the appearance of the textured finish are  
30 referred to as textured coatings.

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

33 "Vacuum-metalizing coating" means the undercoat applied to the  
34 substrate on which the metal is deposited or the overcoat applied  
35 directly to a metal film.

36  
37 **R307-350-5. VOC Content Limits.**

38 (1) No owner or operator shall apply coatings with a VOC content  
39 greater than the amounts specified in Table 1, unless the owner or  
40 operator uses an add-on control device as specified in R307-350-8.

41  
42 TABLE 1

43  
44 METAL PARTS AND PRODUCTS VOC CONTENT LIMITS

45 (values in pounds of VOC per gallon of coating, minus water and

1 exempt solvents (compounds not classified as VOC as defined in  
2 R307-101-2), as applied)

3			
4	Coating Category	VOC Content Limits (lb/gal)	
5			
6		Air Dried	Baked
7			
8	General One Component	2.8	2.3
9			
10	General Multi Component	2.8	2.3
11			
12	Camouflage	3.5	3.5
13			
14	Electric-Insulating	3.5	3.5
15	varnish		
16			
17	Etching Filler	3.5	3.5
18			
19	Extreme High-Gloss	3.5	3.0
20			
21	Extreme Performance	3.5	3.0
22			
23	Heat-Resistant	3.5	3.0
24			
25	High-Performance	6.2	6.2
26	architectural		
27			
28	High-Temperature	3.5	3.5
29			
30	Metallic	3.5	3.5
31			
32	Military Specification	2.8	2.3
33			
34	Mold-Seal	3.5	3.5
35			
36	Pan Backing	3.5	3.5
37			
38	Prefabricated Architectural	3.5	2.3
39	Multi-Component		
40			
41	Prefabricated Architectural	3.5	2.3
42	One-Component		
43			
44	Pretreatment Coatings	3.5	3.5
45			

1	Repair and Touch Up	3.5	3.0
2			
3	Silicone Release	3.5	3.5
4			
5	Solar-Absorbent	3.5	3.0
6			
7	Vacuum-Metalizing	3.5	3.5
8			
9	Drum Coating, New, Exterior	2.8	2.8
10			
11	Drum Coating, New, Interior	3.5	3.5
12			
13	Drum Coating, Reconditioned,	3.5	3.5
14	Exterior		
15			
16	Drum Coating, Reconditioned,	4.2	4.2
17	Interior		
18			

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

#### 22 23 **R307-350-6. Application Methods.**

24 No owner or operator shall apply VOC containing coatings to metal  
25 parts and products unless the coating is applied with equipment  
26 operated according to the equipment manufacturer specifications, and  
27 by the use of one of the following methods:

- 28 (1) Electrostatic application;
- 29 (2) Flow coat;
- 30 (3) Dip/electrodeposition coat;
- 31 (4) Roll coat;
- 32 (5) Hand Application Methods;
- 33 (6) High-volume, low-pressure (HVLPP) spray; or
- 34 (7) Other application method capable of achieving 65% or greater  
35 transfer efficiency equivalent or better to HVLPP spray, as certified  
36 by the manufacturer.

#### 37 38 **R307-350-7. Work Practices.**

39 (1) Control techniques and work practices shall be implemented  
40 at all times to reduce VOC emissions. Control techniques and work  
41 practices shall include:

- 42 (a) Storing all VOC-containing coatings, thinners, and  
43 coating-related waste materials in closed containers, containers with  
44 activated carbon or other control method approved by the EPA  
45 Administrator;

1 (b) Ensuring that mixing and storage containers used for  
2 VOC-containing coatings, thinners, and coating-related waste material  
3 are kept closed at all times except when depositing or removing these  
4 materials, unless a container has activated carbon or other control  
5 method approved by the EPA Administrator;

6 (c) Minimizing spills of VOC-containing coatings, thinners, and  
7 coating-related waste materials; and

8 (d) Conveying VOC-containing coatings, thinners, and  
9 coating-related waste materials from one location to another in closed  
10 containers, containers with activated carbon or other control method  
11 approved by the EPA Administrator, or pipes; and

12 (e) Minimizing VOC emission from cleaning of application,  
13 storage, mixing, and conveying equipment by ensuring that equipment  
14 cleaning is performed without atomizing the cleaning solvent and all  
15 spent solvent is captured in closed containers.

16 (2) Solvent cleaning operations shall be performed using  
17 cleaning materials having a VOC composite vapor pressure no greater  
18 than 1 mm Hg at 20 degrees Celsius, unless an add-on control device  
19 is used as specified in R307-350-8.  
20

#### 21 **R307-350-8. Add-On Controls Systems Operations.**

22 (1) If an add-on control system is used, the owner or operator  
23 shall install and maintain the add-on emission control system in  
24 accordance with the manufacturer recommendations and maintain 90% or  
25 greater capture and control efficiency. The overall capture and  
26 control efficiency shall be determined using EPA approved methods, as  
27 follows.

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

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

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

#### 41 **R307-350-9. Recordkeeping.**

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

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

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

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

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

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

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

11  
12  
13 **KEY: air pollution, emission controls, coatings, miscellaneous metal**  
14 **parts**

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

16 **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 and  
6 coils in the manufacturing or reconditioning process.

7  
8 **R307-352-2. Applicability.**

9 ~~[R307-352 applies to metal container, closure and coil 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.]~~

14 (1) R307-352 applies to metal containers, closure and coil  
15 coating operations located in Box Elder, Cache, Davis, Salt Lake,  
16 Tooele, Utah and Weber counties.

17 (2) Before September 1, 2018, R307-352 applies to metal  
18 containers, closure and coil coating operations that have the  
19 potential to emit 2.7 tons per year or more of VOC, including related  
20 cleaning activities.

21 (3) Effective September 1, 2018, R307-352 shall apply to metal  
22 containers, closure and coil coating operations that use a combined  
23 20 gallons or more of coating products and associated solvents per  
24 year.

25  
26 **R307-352-3. Definitions.**

27 The following additional definitions apply to R307-352:

28 "Aerosol coating product" means a pressurized spray system that  
29 dispenses product ingredients by means of a propellant or mechanically  
30 induced force but does not include pump sprays.

31 "As applied" means the volatile organic compound and solids  
32 content of the finishing material that is actually used for coating  
33 the substrate. It includes the contribution of materials used for  
34 in-house dilution of the finishing material.

35 "End sealing compound" means a compound which is coated onto can  
36 ends and which functions as a gasket when the end is assembled onto  
37 the can.

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

40 "Interior body spray" means a coating sprayed on the interior of  
41 the container body to provide a protective film between the product  
42 and the can.

43 "Metal container or closure coating" means any coating applied  
44 to either the interior or exterior of formed metal cans, pails, lids  
45 or crowns or flat metal sheets which are intended to be formed into



1	Three-piece can side seam spray	5.5
2	End sealing compound: Food cans, non-food	
3	cans, and beverage cans	0.1
4	Exterior body spray	3.5
5		
6	PAILS AND LIDS	
7		
8	Body spray	
9		
10	Reconditioned interior	4.2
11		
12	Reconditioned exterior	3.5
13		
14	New interior	3.5
15		
16	New exterior	2.8
17		
18	End sealing compound	0.5
19		
20	Inks, all applications	2.5
21		
22	Coil	
23	Coil coating	1.7
24		

25 **R307-352-5. Work Practices.**

26 (1) The owner or operator shall:

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

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

31 (c) Clean up spills immediately;

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

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

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

38 (2) No person shall apply any coating unless the coating  
39 application method has a transfer efficiency of at least 65%.

40 The following applications achieve a minimum of 65% transfer  
41 efficiency and shall be operated in accordance with the manufacturers  
42 specifications:

43 (a) Electrostatic application;

44 (b) Flow coat;

45 (c) Roll coat;

- 1 (d) Dip coat;  
2 (e) High-volume, low-pressure (HVLV) spray;  
3 (f) Hand application methods;  
4 (g) Printing techniques; or  
5 (h) Other application method capable of achieving at least 65%  
6 transfer efficiency, as certified by the manufacturer.  
7 (3) Solvent cleaning operations shall be performed using  
8 cleaning materials having a VOC composite vapor pressure no greater  
9 than 1 mm Hg at 20 degrees Celsius, unless an add-on control device  
10 is used as specified in R307-352-6.  
11

12 **R307-352-6. Add-On Controls Systems Operations.**

13 (1) If an add-on control system is used, the owner or operator  
14 shall install and maintain the add-on emission control system in  
15 accordance with the manufacturer recommendations and maintain 90% or  
16 greater capture and control efficiency. The overall capture and  
17 control efficiency shall be determined using EPA approved methods, as  
18 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, as  
27 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

32 **R307-352-7. Recordkeeping.**

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

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

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

39 (i) Key system parameters shall include, but are not limited to,  
40 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.

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

2

3

4

5 **KEY: air pollution, emission controls, metal containers, coil**  
6 **coatings**

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

8 **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.]~~

13 (1) R307-353 applies to plastic parts coating operations  
14 located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah and Weber  
15 counties.

16 (2) Before September 1, 2018, R307-353 applies to plastic parts  
17 coating operations that have the potential to emit 2.7 tons per year  
18 or more of VOC, including related cleaning activities.

19 (3) Effective September 1, 2018, R307-353 shall apply to plastic  
20 parts coating operations that use a combined 20 gallons or more of  
21 coating products and associated solvents per year.

22

23

24 **R307-353-3. Exemptions.**

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

27 (a) Stencil coatings;

28 (b) Safety-indicating coatings;

29 (c) Electric-insulating and thermal-conducting coatings;

30 (d) Magnetic data storage disk coatings;

31 (e) Plastic extruded onto metal parts to form a coating; and

32 (f) Textured finishes.

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

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

39 (4) Aerospace vehicles and components subject to R307-355.

40 (5) The provisions of R307-353 shall not apply to coating  
41 products on medical devices up to 800 pounds of VOC per year.

42 (6) Research and development, quality control, or performance  
43 testing activities.

44

45 **R307-353-4. Definitions.**

46 The following additional definitions apply to R307-353:

47 "Air dried coating" means coatings that are dried by the use of

1 air or a forced warm air at temperatures up to 194 degrees Fahrenheit.

2 "As applied" means the volatile organic compound and solids  
3 content of the finishing material that is actually used for coating  
4 the substrate. It includes the contribution of materials used for  
5 in-house dilution of the finishing material.

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

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

12 "Magnetic data storage disk coating" means a coating used on a  
13 metal disk which stores data magnetically.

14 "Medical device" means an instrument, apparatus, implement,  
15 machine, contrivance, implant, in vitro reagent or other similar  
16 article including any component or accessory, that is intended for use  
17 in the diagnosis of disease or other conditions or in the cure,  
18 mitigation, treatment, or prevention of disease, or is intended to  
19 affect the structure or any function of the body. For the purpose of  
20 this rule, a medical device shall also include associated  
21 manufacturing or assembly apparatus.

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

24 "Military specification coating" means a coating which has a  
25 formulation approved by a United States military agency for use on  
26 military equipment.

27 "Mirror backing" means the coating applied over the silvered  
28 surface of a mirror.

29 "Mold-seal coating" means the initial coating applied to a new  
30 mold or a repaired mold to provide a smooth surface which, when coated  
31 with a mold release coating, prevents products from sticking to the  
32 mold.

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

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

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

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

44 "Plastic" means a substrate containing one or more resins that  
45 may be solid, porous, flexible, or rigid, and includes fiber reinforced

1 plastic composites.

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

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

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

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

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

15 "Textured finish" means a rough surface produced by spraying and  
16 splattering large drops of coating onto a previously applied coating.  
17 The coatings used to form the appearance of the textured finish are  
18 referred to as textured coatings.

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

21 "Topcoat" means the last film-building finishing material  
22 applied in a finishing system. Non-permanent final finishes are not  
23 topcoats.

24

25 **R307-353-5. VOC Content Limits.**

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

27 (a) No owner or operator shall apply coatings with a VOC content  
28 greater than the amounts specified in Table 1, unless the owner or  
29 operator uses an add-on control device as specified in R307-353-8.

30 (b) For red and black coatings, the content limitation shall be  
31 determined by multiplying the appropriate limit in Table 1 by 1.15.

32 (c) When EPA Method 24 is used to determine the VOC content of  
33 a high bake coating, the applicable content limitation shall be  
34 determined by adding 0.5 to the appropriate limit in Table 1.

35 (d) When EPA Method 24 is used to determine the VOC content of  
36 an air-dried coating, the applicable content limitation shall be  
37 determined by adding 0.1 to the appropriate limit in Table 1.

38

39

TABLE 1

40

41 AUTOMOBILE AND TRUCK PLASTIC PARTS COATING LINES

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

45

Coating Category	VOC Content Limits (lb/gal)
High bake coating - exterior and interior parts	
Prime	
Flexible coating	4.5
Nonflexible coating	3.5
Topcoat	
Basecoat	4.3
Clearcoat	4.0
Non-basecoat/clearcoat	4.3
Air-dried coating - exterior parts	
Prime	4.8
Topcoat	
Basecoat	5.0
Clearcoat	4.5
Non-basecoat/clearcoat	5.0
Air-dried coating - interior parts	5.0
Touch-up and repair	5.2

(2) No owner or operator of a business machine plastic parts coating line shall apply coatings 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 R307-353-8.

TABLE 2

BUSINESS MACHINE PLASTIC PARTS COATING LINES  
(values in pounds of VOC per gallon of  
coating, minus water and exempt solvents (compounds not

1 classified as VOC as defined in R307-101-2), as applied)

2

3 Coating Category VOC Content Limits (lb/gal)

4

5 Prime 2.9

6

7 Topcoat 2.9

8

9 Texture coat 2.9

10

11 Fog coat 2.2

12

13 Touch-up and repair 2.9

14

15 (3) No owner or operator engaged in the other plastic product  
 16 coating operations listed in Table 3 shall apply coatings with a VOC  
 17 content greater than the amounts specified in Table 3, unless the owner  
 18 or operator uses an add-on control device as specified in R307-353-8.

19

20 TABLE 3

21

22 OTHER PLASTIC PRODUCT COATING CATEGORIES

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

26

27 Coating Category VOC Content Limits (lb/gal)

28

29 General One-Component 2.3

30

31 General Multi-Component 3.5

32

33 Electric Dissipating Coatings  
 34 And Shock-Free Coatings 3.0

35

36 Extreme Performance 3.5  
 37 (2-pack coatings)

38

39 Metallic 3.5

40

41 Military Specification 2.8 (1 pack)

42

43 3.5 (2 pack)

43

44 Mold-Seal 6.3

45

1	Multi-colored Coatings	5.7
2		
3	Optical Coatings	6.7
4		
5	Vacuum-Metalizing	6.7
6		
7	Mirror Backing	
8	Curtain Coated	4.2
9	Roll Coated	3.6

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11       (4) If a part consists of both plastic and metal surfaces, then  
12 the coatings applied to the part must comply with the content limits  
13 of this rule.

14  
15  
16 **R307-353-6. Application Methods.**

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

- 20       (1) Electrostatic application;  
21       (2) Flow coat;  
22       (3) Roller coat;  
23       (4) Dip/electrodeposition coat;  
24       (5) Airless Spray;  
25       (6) High-volume, low-pressure (HVLP) spray; or  
26       (7) Other application method equal to or better than HVLP, as  
27 certified by the manufacturer.

28  
29 **R307-353-7. Work Practices.**

- 30       (1) The owner or operator shall:  
31       (a) Store all VOC-containing coatings, thinners, and cleaning  
32 materials in closed containers;  
33       (b) Minimize spills of VOC-containing coatings, thinners, and  
34 cleaning materials;  
35       (c) Clean up spills immediately;  
36       (d) Convey any coatings, thinners, and cleaning materials in  
37 closed containers or pipes;  
38       (e) Close mixing vessels that contain VOC coatings and other  
39 materials except when specifically in use; and  
40       (f) Minimize usage of solvents during cleaning of storage,  
41 mixing, and conveying equipment.  
42       (2) Solvent cleaning operations shall be performed using  
43 cleaning material having a VOC composite vapor pressure no greater than  
44 1 mm Hg at 20 degrees Celsius, unless an add-on control device is used  
45 as specified in R307-353-8.

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

(1) If an add-on control system is used, the owner or operator shall install and maintain 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.

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

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

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

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

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

(ii) Key inspection 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.

(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, emission controls, coatings, plastic parts**  
**Date of Enactment or Last Substantive Amendment: 2017**  
**Authorizing, and Implemented or Interpreted Law: 19-2-104(1)(a)**

# ITEM 6



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-065-17

**MEMORANDUM**

**TO:** Air Quality Board

**THROUGH:** Bryce C. Bird, Director

**FROM:** Joel Karmazyn, Environmental Scientist

**DATE:** September 20, 2017

**SUBJECT:** FINAL ADOPTION: R307-343. Wood Furniture Manufacturing Operations.

---

On June 7, 2017, the Board proposed the following major amendments to R307-343:

- The applicability threshold was 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 coating categories were updated to current types of coatings used in the industry. The proposed amendments separated out the types of polyurethanes that currently fall under the topcoat or sealer category.

The volatile organic compound (VOC) limits for the two component polyurethanes were proposed to be 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 worked with the coating industry to derive the lowest workable VOC limits for these categories. The American Coating Association concurred on this proposal.

Section 110(1) of the Clean Air Act prohibits EPA from approving a state implementation plan 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(1). 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 was documented in the 110(l) demonstration that was released for public comment along with the amendments to R307-343.

- Canned aerosol coating products used exclusively for touch-up or repair were exempt. Adding this exemption was 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.
- The form of the cleaning solvent VOC limit of 0.21 lb/gal in R307-343-7(3) was replaced with a VOC composite vapor pressure of up to 1 mm Hg or less at 20 degrees Celsius. 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.

The public comment period was held from July 1 to August 15, 2017. A public hearing was held on July 27, 2017. No one gave testimony at the hearing on this proposal. No one provided a written comment directly addressing this rulemaking. However, a number of commenters provided written support for the change in form for the solvent cleaning limit in other coating rules, which would carry over to this proposal. An additional comment was made by The American Coating Association in another rulemaking regarding the economic impact to small business of the new applicability limits proposed throughout the coatings rules. UDAQ shares this concern; consequently, we have added a rule implementation schedule to this rule to ease the burden to small business.

Recommendation: Staff recommends that the Board adopt R307-343 as amended.

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

2 **R307-343. Wood Furniture Manufacturing Operations.**

3 **R307-343-1. Purpose.**

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

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

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

13 (1) R307-343 applies to wood furniture manufacturing coating  
14 operations located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah  
15 and Weber counties.

16 (2) Before September 1, 2018, R307-343 applies to wood furniture  
17 manufacturing operations that have the potential to emit 2.7 tons per  
18 year or more of VOC, including related cleaning activities.

19 (3) Effective September 1, 2018, R307-343 shall apply to wood  
20 furniture manufacturing operations that use a combined 20 gallons or  
21 more of coating products and associated solvents per year.  
22

23 **R307-343-3. Definitions.**

24 The following additional definitions apply to R307-343:

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

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

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

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

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

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

4 "Stain" means any color coat having a solids content by weight  
5 of no more than 8.0% that is applied in single or multiple coats  
6 directly to the substrate, including nongrain raising stains,  
7 equalizer stains, sap stains, body stains, no-wipe stains, penetrating  
8 stains, and toners.

9 "Topcoat" means the last film-building finishing material  
10 applied in a finishing system. Non-permanent final finishes are not  
11 topcoats.

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

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

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

20 "Wood furniture" means any product made of wood that is  
21 manufactured under any of the following standard industrial  
22 classification codes: 2434, 2511, 2512, 2517, 2519, 2521, 2531, 2541,  
23 2599, or 5712. This includes wood products such as rattan or wicker  
24 and engineered wood products such as particleboard.

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

28  
29 **R307-343-4. VOC Content Limits.**

30 (1) No owner or operator shall apply coatings with a VOC content  
31 in excess of the amounts specified in Table 1, unless the owner or  
32 operator uses an add-on control device as specified in R307-343-6.  
33

34  
35 Table 1

36  
37 WOOD MANUFACTURING COATING LIMITS

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

41 Coating Category	VOC Content Limit (lb/lb)
42 Topcoat	0.4

43  
44  
45

1	Single component, non-catalyzed sealer	0.9
2		
3	Single component, non-catalyzed topcoat	0.9
4		
5	Acid - cured single and 2 component sealer	1.2
6		
7	Acid - cured single and 2 component topcoat	1.0
8		
9	2 component polyurethane topcoat	1.0
10		
11	2 component polyurethane sealer	1.0
12		
13	Cobalt peroxide cured polyester sealer/topcoat	1.0
14		
15	Formaldehyde free acid catalyzed sealer/topcoat	1.0
16		
17	Strippable spray booth coatings	0.8
18		

19 (2) The limits in Table 1 do not apply to canned aerosol coating  
20 products [~~less than 22 fl. oz. (0.66 liter) capacity and~~] used  
21 exclusively for touch-up or repair.  
22

### 23 **R307-343-5. Application Equipment Requirements.**

24 (1) All coatings shall be applied using equipment having a  
25 minimum 65% transfer efficiency, except as allowed under R307-343-5(3)  
26 and operated according to the equipment manufacturer specifications.  
27 Equipment meeting the transfer efficiency requirement includes:

- 28 (a) Brush, dip, or roll coating;
- 29 (b) Electrostatic application; and
- 30 (c) High volume, low pressure (HVLPP) spray equipment.

31 (2) Other coating application methods that achieve transfer  
32 efficiency equivalent to HVLPP or electrostatic spray application  
33 methods may be used.

34 (3) Conventional air spray methods may be used under the  
35 following circumstances:

36 (a) To apply finishing materials that have no greater than 1.0  
37 pound of VOC per pound of solids, as applied;

38 (b) For touch-up and repair under the following circumstances:

39 (i) The touch-up and repair occurs after completion of the  
40 finishing operation; or

41 (ii) The touch-up and repair occurs after the application of  
42 stain and before the application of any other type of finishing  
43 material, and the materials used for touch-up and repair are applied  
44 from a container that has a volume of no more than 2.0 gallons;

45 (c) When the spray gun is aimed and operated automatically, not

1 manually;

2 (d) When the emissions from the finishing application station  
3 are directed to a control device as specified in R307-343-6;

4 (e) When the conventional air gun is used to apply no more than  
5 10% of the total gallons of finishing material used during the calendar  
6 year; or

7 (f) When the conventional air gun is used to apply stain on a  
8 part for which it is technically or economically infeasible to use any  
9 other spray application technology. The following criteria shall be  
10 used, either independently or in combination, to support the affected  
11 source's claim of technical or economic infeasibility:

12 (i) The production speed is too high or the part shape is too  
13 complex for one operator to coat the part and the application station  
14 is not large enough to accommodate an additional operator; or

15 (ii) The excessively large vertical spray area of the part makes  
16 it difficult to avoid sagging or runs in the stain.

17  
18 **R307-343-6. Add-on Controls Systems Operations.**

19 (1) If an add-on control system is used, the owner or operator  
20 shall install and maintain the add-on emission control system in  
21 accordance with the manufacturer recommendations and maintain 85% or  
22 greater capture and control efficiency. The overall capture and  
23 control efficiency shall be determined using EPA approved methods, as  
24 follows.

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

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

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

37  
38 **R307-343-7. Work Practices.**

39 (1) Control techniques and work practices for coatings shall be  
40 implemented at all times to reduce VOC emissions. Control techniques  
41 and work practices shall include:

42 (a) Storing all VOC-containing coatings, thinners, and  
43 coating-related waste materials in closed containers;

44 (b) Ensuring that mixing and storage containers used for  
45 VOC-containing coatings, thinners, and coating-related waste material

1 are kept closed at all times except when depositing or removing these  
2 materials;

3 (c) Minimizing spills of VOC-containing coatings, thinners, and  
4 coating-related waste materials; and

5 (d) Conveying VOC-containing coatings, thinners, and  
6 coating-related waste materials from one location to another in closed  
7 containers or pipes.

8 (2) The work practices for cleaning materials shall be  
9 implemented at all times to reduce VOC emissions. The work practices  
10 shall include:

11 (a) Storing all VOC-containing cleaning materials and used shop  
12 towels in closed containers;

13 (b) Ensuring that storage containers used for VOC-containing  
14 cleaning materials are kept closed at all times except when depositing  
15 or removing these materials;

16 (c) Minimizing spills of VOC-containing cleaning materials;

17 (d) Conveying VOC-containing cleaning materials from one  
18 location to another in closed containers or pipes; and

19 (e) Minimizing VOC emissions from cleaning of application,  
20 storage, mixing, and conveying equipment by ensuring that equipment  
21 cleaning is performed without atomizing the cleaning solvent and all  
22 spent solvent is captured in closed containers.

23 (3) Solvent cleaning operations shall be performed using  
24 cleaning materials having a VOC composite vapor pressure no greater  
25 than 1 mm Hg or less at 20 degrees Celsius, unless an add-on control  
26 device is used as specified in R307-343-6.

27  
28 **R307-343-8. Recordkeeping.**

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

31 (a) Records that demonstrate compliance with R307-343. Records  
32 must include, but are not limited to, inventory and product data sheets  
33 of all coatings and solvents subject to R307-343.

34 (b) If an add-on control device is used, records of key system  
35 parameters necessary to ensure compliance with R307-343-6.

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

38 (ii) Key inspection 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 (2) All records shall be maintained for a minimum of 2 years.

43 (3) Records shall be made available to the director upon request.  
44  
45

1

2 **KEY: air pollution, wood furniture, coatings**

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

4 **Notice of Continuation: February 1, 2012**

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

6 **19-2-104(3)(e)**

# 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-067-17

**MEMORANDUM**

**TO:** Air Quality Board

**THROUGH:** Bryce C. Bird, Director

**FROM:** Joel Karmazyn, Environmental Scientist

**DATE:** September 20, 2017

**SUBJECT:** FINAL ADOPTION: Change in Proposed Rule. R307-348. Magnet Wire Coatings.

---

On June 7, 2017, the Board approved for public comment the amendments to change the applicability threshold in the magnet wire coating rule from 2.7 tons/year potential to emit to 2 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 Rule 1126 may be more stringent than Utah's current rule. The Rule 1126 applicability threshold is set at 2 tons/year. The amendments in this proposal included a change to the applicability threshold to match the more stringent threshold in Rule 1126.

The public comment period was held from July 1 to August 15, 2017. A public hearing was held on July 27, 2017. No one gave testimony at the hearing on this proposal. Several commenters submitted written comments summarized below.

Hill Air Force Base (HAFB)

Comment: There is a potential for overlap with the proposed new rule R307-304 and R307-348.

UDAQ Response: UDAQ has corrected that potential overlap by adding the same solvent cleaning requirement in R307-348 as in the other coating rules.

Comment: HAFB has requested a military exemption consistent with other coating rules.

UDAQ Response: A military exemption has been included.

American Coating Association

Comment: The lower rule applicability and exemptions found in the Bay Area rule should be used instead of using the South Coast rule as a comparator rule.

UDAQ Response: The Bay Area is not a serious nonattainment area while the South Coast Area is. Bay Area rules were only used in the BACM analysis when a serious nonattainment air district did not have a comparable rule to conduct a comparative analysis. That is not the case here.

Comment: Utah should exempt coating of electrical machinery, etc., as specified in the Bay Area and the South Coast rules.

UDAQ Response: The existing definition of magnet wire coating specifically states that the rule applies to the coating of “aluminum or copper wire for use in electrical machinery.” The definition does not include the motor housing.

Recommendation: Staff recommends that the Board adopt R307-348 as amended.

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 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 or  
11 Weber counties. Operations that are exclusively covered by Department  
12 of Defense military technical data and performed by the United States  
13 Armed Forces are exempt from the requirements of R307-348.

14  
15 **R307-348-3. Definitions.**

16 The following additional definition applies to R307-348:

17 "Magnet wire coating" means the process of applying coating of  
18 electrical insulating varnish or enamel to aluminum or copper wire  
19 for use in electrical machinery.

20  
21 **R307-348-4. VOC Content Limit.**

22 No owner or operator shall apply coatings with a VOC content  
23 greater than 200 grams VOC per liter (1.7 pounds per gallon), excluding  
24 water, and exempt solvents (compounds not classified as VOCs as defined  
25 in R307-101-2), unless the owner or operator uses an add-on control  
26 device as specified in R307-348-6.

27  
28 **R307-348-5. Work Practices.**

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

41 (2) Solvent cleaning operations shall be performed using  
42 cleaning materials having a VOC composite vapor pressure no greater  
43 than 1 mm Hg at 20 degrees Celsius, unless an add-on control device  
44 is used as specified in R307-348-6.

45  
46 **R307-348-6. Add-On Control Systems Operations.**

47 (1) If an add-on control system is used it must be installed,  
48 operated, and maintained in accordance with manufacturer  
49 recommendations.

50 (a) An add-on control device must have a 90% or greater capture  
51 and control efficiency rating. Efficiency must be determined using  
52 EPA approved methods as follows:

1 (i) Capture efficiency must be determined according to EPA's  
2 "Guidelines for Determining Capture Efficiency," January 9, 1995 and  
3 40 C.F.R. Parts 51, Appendix M, Methods 204-204F, as applicable.

4 (ii) Control efficiency must be determined using test methods  
5 in Appendices A-1, A-6, and A-7 to 40 C.F.R. Part 60, for measuring  
6 flow rates, total gaseous organic concentrations, or emissions of  
7 exempt compounds, as applicable.

8 (iii) An alternative test method may be substituted for the  
9 preceding test methods after review and approval by the EPA  
10 Administrator.

11  
12 **R307-348-7. Recordkeeping.**

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

14 (a) Records that demonstrate compliance with R307-348. Records  
15 must include, but are not limited to, inventory and product data sheets  
16 of all coatings and solvents subject to R307-348.

17 (b) If an add-on control device is used, records of key system  
18 parameters necessary to ensure compliance with R307-348-6.

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

21 (ii) Key inspection parameters must be in accordance with the  
22 manufacturer's recommendations, and as required to demonstrate  
23 operations are providing continuous emission reduction from the source  
24 during all periods that the operations cause emissions from the source.

25 (2) All records must be maintained for a minimum of 2 years.

26 (3) Records must be made available to the director upon request.  
27  
28

29 **KEY: air pollution, emission controls, surface coating, magnet wire**  
30 **Date of Enactment or Last Substantive Amendment: [~~October 7,~~**  
31 **2014]2017**

32 **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-068-17

**MEMORANDUM**

**TO:** Air Quality Board

**THROUGH:** Bryce C. Bird, Director

**FROM:** Joel Karmazyn, Environmental Scientist

**DATE:** September 20, 2017

**SUBJECT:** FINAL ADOPTION: Change in Proposed Rule. R307-351. Graphic Arts.

---

On June 7, 2017, the Board approved for public comment the repeal and replacement of the current graphic art rule with a newly drafted rule that was based on the DAQ's best available control measure (BACM) analysis. The proposed rule was crafted in collaboration with the Printing Industries of America.

The BACM analysis indicated that the volatile organic compound (VOC) limits in the current rule were based on reasonable achievable control technology (RACT) levels and that the applicability thresholds should be lowered. To meet BACM, the newly proposed rule establishes lower VOC limits, reduced applicability thresholds and is far easier to understand than the current rule.

The public comment period was held from July 1 to August 15, 2017. A public hearing was held on July 27, 2017. No one gave testimony at the hearing on this proposal. Two written comments were submitted.

A comment was made by the American Coating Association in another rulemaking regarding the economic impact to small business of the new applicability limits proposed throughout the coatings rules. UDAQ shares this concern; consequently, we have added a rule implementation schedule to ease the burden.

Brigham Young University (BYU) comment: R307-351 applicability limit has been set at essentially 1 ton VOC/year, yet UDAQ stated that the rule amendments are now in line with the stringent requirements of South Coast Rule 1130 that has an applicability threshold set at 10 tons/year.

UDAQ response: BYU is confusing the applicability threshold with coating and fountain VOC limits. UDAQ is in fact proposing a lower applicability threshold than South Coast based on the BACM analysis. At the same time, UDAQ is proposing to adopt the stringent South Coast coating and fountain limits.

BD Medical comment: BD Medical requested an exemption from the rule due to the following:

- The inks used to print on a medical component and medical device packaging do not meet the proposed VOC limits. A modification to the printing process may trigger a product manufacturing evaluation by the U.S. Food and Drug Administration (FDA) under 21 CFR 807.81 (i) for “Premarket Notification (i) A change or modification in the device that could significantly affect the safety or effectiveness of the device, e.g., a significant change or modification in design, material, chemical composition, energy source, or manufacturing process.” Should this occur, it is uncertain how long BD Medical would have to suspend their production.
- The printing apparatus and associated parts are cleaned with isopropyl alcohol (IPA) in order to disinfect the equipment in accordance with FDA sanitary requirements. IPA does not meet the cleaning material requirements in the rule.

UDAQ response: Staff has inspected the operations and concurs with BD Medical. An exemption has been added.

Recommendation: Staff recommends that the Board adopt the change in proposed rule of R307-351 as amended.

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

2 **R307-351. Graphic Arts.**

3 **R307-351-1. Purpose.**

4 The purpose of R307-351 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 that use~~  
9 ~~a combined 450 gallons or more of all VOC-containing materials per year~~  
10 ~~and are located in Box Elder, Cache, Davis, Salt Lake, Utah, Tooele,~~  
11 ~~or Weber counties.]~~

12 (1) R307-351 applies to graphic arts printing operations  
13 located in Box Elder, Cache, Davis, Salt Lake, Utah, Tooele and Weber  
14 counties.

15 (2) Before September 1, 2018, R307-351 applies to graphic arts  
16 printing operations that emit 2.7 tons or greater per year of VOC  
17 emissions.

18 (3) Effective September 1, 2018, R307-351 shall apply to graphic  
19 arts printing operations that use a combined 450 gallons or more of  
20 all VOC-containing materials per year.

21  
22 **R307-351-3. Exemptions.**

23 (1) The provisions of R307-351 shall not apply to graphic arts  
24 materials that have a VOC content of less than 25 g/L , minus water  
25 and exempt VOCs, as applied.

26 (2) A graphic arts printing operation may use up to 55 gallons  
27 of cleaning materials per year that do not comply with the VOC composite  
28 vapor pressure requirement or the VOC content requirement in  
29 R307-351-5(4).

30 (3) The provisions of R307-351 shall not apply to medical  
31 devices and their packaging.

32  
33 **R307-351-4. Definitions.**

34 The following additional definitions apply to R307-351:

35 "Alcohol" means any of the following compounds, when used as a  
36 fountain solution additive for offset lithographic printing: ethanol,  
37 n-propanol, and isopropanol.

38 "Alcohol Substitute" means a non-alcohol additive that contains  
39 VOCs and is used in the fountain solution.

40 "Cleaning materials and solutions" means a liquid solvent or  
41 solution used to clean the operating surfaces of a printing press and  
42 its parts. Cleaning materials and solutions include, but are not  
43 limited to blanket wash, roller wash, metering roller cleaner, plate  
44 cleaner, impression cylinder washes, rubber rejuvenators, and other  
45 cleaners used for cleaning a press, press parts, or to remove dried  
46 ink or coating from areas around the press.

47 "Blanket" means a synthetic rubber material that is wrapped

1 around a cylinder used in offset lithography to transfer or "offset"  
2 an image from an image carrier.

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

5 "Flexographic printing" means the application of words, designs,  
6 and pictures to substrate by means of a roll printing technique in which  
7 the pattern to be applied is raised above the printing roll and the  
8 image carrier is made of rubber or other elastomeric materials.

9 "Fountain solution" means a mixture of water and other volatile  
10 and non-volatile chemicals and additives that wets the non-image area  
11 of a lithographic printing plate so that the ink is maintained within  
12 the image areas.

13 "Graphic arts materials" means any inks, coatings, or adhesives,  
14 including added thinners or retarders, used in printing or related  
15 coating or laminating processes.

16 "Graphic arts printing" means the application of words and images  
17 using the offset lithographic, letterpress, rotogravure, or  
18 flexographic printing process.

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 "Non-heatset", also called coldset, means an offset lithographic  
26 printing or letterpress printing operation in which the ink dries by  
27 oxidation and/or absorption into the substrate without use of heat from  
28 dryers. For the purposes of this rule, use of an infrared heater or  
29 printing conducted using ultraviolet-cured or electron beam-cured  
30 inks is considered non-heatset.

31 "Medical device" means an instrument, apparatus, implement,  
32 machine, contrivance, implant, in vitro reagent or other similar  
33 article including any component or accessory, that is intended for use  
34 in the diagnosis of disease or other conditions or in the cure,  
35 mitigation, treatment, or prevention of disease, or is intended to  
36 affect the structure or any function of the body. For the purpose of  
37 this rule, a medical device shall also include associated  
38 manufacturing or assembly apparatus.

39 "Offset lithographic printing" means a plane-o-graphic method in  
40 which the image and non-image areas are on the same plane and the ink  
41 is offset from a plate to a rubber blanket, and then from the blanket  
42 to the substrate.

43 "Printing operation" means the application of words, designs, or  
44 pictures on a substrate. All units in a machine which have both coating  
45 and printing units shall be considered as performing a printing  
46 operation.

47 "Rotogravure printing" means the application of words, designs,

1 and pictures to a substrate by means of a roll printing technique that  
2 involves a recessed image area in the form of cells.

3 "Web" means a continuous roll of substrate.

4  
5 **R307-351-5. VOC Content Limits.**

6 (1) No owner or operator shall apply graphic arts materials with  
7 a VOC content greater than the amounts specified in Table 1 or Table  
8 2, unless the owner or operator uses an add-on control device as  
9 specified in R307-351-6.

10  
11  
12  
13  
14 TABLE 1

15  
16 VOC Limits

17 (values in gram of VOC per liter, minus water and  
18 exempt solvents (compounds not classified as VOC as defined in  
19 R307-101-2)

21 Graphic Arts Material	VOC Limit
22 (g/L)	
23	
24 Adhesive	150
25 Coating	300
26 Flexographic Fluorescent Ink	300
27 Flexographic Ink-Non-Porous Substrate	300
28 Flexographic Ink-Porous Substrate	225
29 Gravure Ink	300
30 Letterpress Ink	300
31 Offset Lithographic Ink	300
32 Heatset Web Offset Lithographic ink	300
33 Heatset Web Offset Lithographic Ink:	
34     Used on Book Presses and Presses	
35     Less Than 22 Inches in Diameter	400
36	
37     Used on Presses With Potential to Emit Less	
38     Than 10 Tons/Year	400
39	

40 (2) No owner or operator shall apply fountain solution,  
41 including additives with a VOC content greater than the amounts  
42 specified in Table 2, unless the owner or operator uses an add-on  
43 control device as specified in R307-351-6.

44  
45  
46  
47

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), as applied)

Graphic Arts Material (g/L)	VOC Limit
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
Non-Heatset Web-Fed	
All Alcohol Substitutes	50

(3) Alcohol containing fountain solutions shall not be used in non-heatset web-fed operations.

(4) Cleaning materials with a VOC composite vapor pressure of less than 10 mm Hg at 68 degrees Fahrenheit or cleaning materials containing less than 50 percent VOC by weight shall be used.

**R307-351-6. Add-on Controls Systems Operations.**

(1) 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.

(a) Control devices for individual heatset web offset lithographic printing presses and individual heatset web letterpress printing press dryers that were installed prior to January 1, 2017, must maintain a 90% or greater control efficiency. Similar control devices installed after January 1, 2017, must maintain a 95% or greater control efficiency.

(b) Control devices for individual flexographic printing presses and individual rotogravure printing presses shall comply with a 90% or greater overall control efficiency.

(c) As an alternative to the control efficiency, the control device outlet concentration may be reduced to 20 ppmv as hexane on a dry basis to accommodate situations where the inlet VOC concentration is low or there is no identifiable measurable inlet. The control outlet concentration shall be determined using EPA Method 25A.

(d) The capture efficiency of a VOC emission control system's

1 VOC collection device for flexographic and rotogravure presses shall  
2 be determined according to EPA's "Guidelines for Determining Capture  
3 Efficiency," January 9, 1995 and 40 CFR Part 51, Appendix M, Methods  
4 204-204F, as applicable.

5 (e) The capture efficiency of a VOC emission control system's VOC  
6 collection device for a heatset web offset press shall be determined  
7 by demonstrating that the airflow in the dryer is negative to the  
8 surrounding pressroom during the initial test using an air flow  
9 direction indicator, such as a smoke stick or aluminum ribbons, or  
10 differential pressure gauge.

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

16 (g) An alternative test method may be substituted for the  
17 preceding test methods after review and approval by the EPA  
18 Administrator.

19  
20 **R307-351-7. Work Practices.**

21 (1) Control techniques and work practices shall be implemented  
22 at all times to reduce VOC emissions. Control techniques and work  
23 practices include:

24 (a) Keeping cleaning materials, used shop towels, and solvent  
25 wiping cloths in closed containers; and

26 (b) Minimizing spills of VOC-containing cleaning materials.  
27

28 **R307-351-8. Recordkeeping.**

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

31 (a) Records that demonstrate compliance with R307-351. Records  
32 must include, but are not limited to, inventory and product data sheets  
33 of all graphic arts materials and cleaning solutions subject to  
34 R307-351.

35 (b) If an add-on control device is used, records of key system  
36 parameters necessary to ensure compliance with R307-351-6. Key system  
37 parameters include, but are not limited to, temperature, pressure,  
38 flow rates, and an inspection schedule. Key inspection parameters  
39 shall be in accordance with the manufacturer's recommendations, and  
40 as required to demonstrate that operations provide continuous emission  
41 reduction from the source during all periods that the operations cause  
42 emissions from the source.

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

44 (3) Records shall be made available to the director upon  
45 request.  
46  
47

- 1 **KEY: air pollution, graphic arts, VOC, printing operations**
- 2 **Date of Enactment or Last Substantive Amendment:**
- 3 **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-069-17

**MEMORANDUM**

**TO:** Air Quality Board

**THROUGH:** Bryce C. Bird, Director

**FROM:** Joel Karmazyn, Environmental Scientist

**DATE:** September 20, 2017

**SUBJECT:** FINAL ADOPTION: Change in Proposed Rule. R307-354. Automotive Refinishing Coatings.

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On June 7, 2017, the Board approved for public comment amending the automotive refinishing coatings rule by reducing 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 allow the Division of Air Quality to differentiate between hobbyists and those who conduct coating operations from commercial and industrial sources.

The public comment period was held from July 1 to August 15, 2017. A public hearing was held on July 27, 2017. No one gave testimony at the hearing on this proposal.

The American Coating Association submitted a comment in another rulemaking regarding the economic impact to small business of the new applicability limits proposed throughout the coatings rules. UDAQ shares this concern; consequently, we have added a rule implementation schedule to ease the burden.

Recommendation: Staff recommends that the Board adopt R307-354 as amended.

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 ~~[R307-354 applies to automotive refinishing operations and~~  
9 ~~related cleaning activities that use a combined 20 gallons or more~~  
10 ~~of coating products and associated solvents per year and are located~~  
11 ~~in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah or Weber counties.]~~

12 (1) R307-354 applies to automotive refinishing coating  
13 operations located in Box Elder, Cache, Davis, Salt Lake, Tooele,  
14 Utah and Weber counties.

15 (2) Before September 1, 2018, R307-354 applies to an automotive  
16 refinishing operations that have the potential to emit 2.7 tons per  
17 year or more of VOC, including related cleaning activities.

18 (3) Effective September 1, 2018, R307-354 shall apply to an  
19 automotive refinishing operation that uses a combined 20 gallons or  
20 more of coating products and associated solvents per year.

21  
22 **R307-354-3. Exemptions.**

23 The requirements of R307-354 shall not apply to any canned aerosol  
24 coating products.

25  
26 **R307-354-4. Definitions.**

27 The following additional definitions apply to R307-354:

28 "Adhesion promoter" means a coating which is labeled and  
29 formulated to be applied to uncoated plastic surfaces to facilitate  
30 bonding of subsequent coatings, and on which, a subsequent coating  
31 is applied.

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

36 "Automotive" means passenger cars, vans, motorcycles, trucks,  
37 buses, golf carts and all other mobile equipment.

38 "Automotive refinishing" means the process of coating  
39 automobiles, after-market automobiles, motorcycles, light and  
40 medium-duty trucks and vans that are performed in auto body shops,  
41 auto repair shops, production paint shops, new car dealer repair and  
42 paint shops, fleet operation repair and paint shops, and any other  
43 facility which coats vehicles under the Standard Industrial  
44 Classification Code 7532 (Top, Body and Upholstery Repair Shops and  
45 Paint Shops). This includes dealer repair of vehicles damaged in  
46 transit. It does not include refinishing operations for other types  
47 of mobile equipment, such as farm machinery and construction equipment  
48 or their parts, including partial body collision repairs, that is  
49 subsequent to the original coating applied at an automobile original  
50 equipment manufacturing plant.

51 "Clear coating" means any coating that contains no pigments and  
52 is labeled and formulated for application over a color coating or

1 clear coating.

2 "Color coating" means any pigmented coating, excluding adhesion  
3 promoters, primers, and multi-color coatings, that requires a  
4 subsequent clear coating and which is applied over a primer, adhesion  
5 promoter, or color coating. Color coatings include metallic and  
6 iridescent color coatings.

7 "Enclosed paint gun cleaner" means a cleaner consisting of a  
8 closed container with a door or top that can be opened and closed  
9 and fitted with cleaning connections. The spray gun is attached to  
10 a connection, and solvent is pumped through the gun and onto the  
11 exterior of the gun. Cleaning solvent falls back into the cleaner's  
12 solvent reservoir for recirculation.

13 "Metallic/Iridescent color coating" means a coating which  
14 contains iridescent particles, composed of either metal as metallic  
15 particles or silicon as mica particles, in excess of 0.042 pounds  
16 per gallon as applied, where such particles are visible in the dried  
17 film.

18 "Multi-color coating" means a coating which exhibits more than  
19 one color when applied, and which is packaged in a single container  
20 and applied in a single coat.

21 "Non-enclosed paint gun cleaner" means cleaner consisting of  
22 a basin similar to a sink in which the operator washes the outside  
23 of the gun under a solvent stream. The gun cup is filled with  
24 recirculated solvent, the gun tip is placed into a canister attached  
25 to the basin, and suction draws the solvent from the cup through the  
26 gun. The solvent gravitates to the bottom of the basin and drains  
27 through a small hole to a reservoir that supplies solvent to the  
28 recirculation pump.

29 "Pretreatment coating" means a coating which contains no more  
30 than 16% solids, by weight, and at least 0.5% acid, by weight, is  
31 used to provide surface etching, and is applied directly to bare metal  
32 surfaces to provide corrosion resistance and promote adhesion for  
33 subsequent coatings.

34 "Primer" means any coating which is labeled and formulated for  
35 application to a substrate to provide a bond between the substrate  
36 and subsequent coats; corrosion resistance; a smooth substrate  
37 surface; or resistance to penetration of subsequent coats, and on  
38 which a subsequent coating is applied. Primers may be pigmented.

39 "Primer sealer" means any coating which is labeled and formulated  
40 for application prior to the application of a color coating for the  
41 purpose of color uniformity, or to promote the ability of the  
42 underlying coating to resist penetration by the color coating.

43 "Single-stage coating" means any pigmented coating, excluding  
44 primers and multi-color coatings, labeled and formulated for  
45 application without a subsequent clear coat. Single-stage coatings  
46 include single-stage metallic/iridescent coatings.

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

50 "Temporary protective coating" means any coating which is labeled  
51 and formulated for the purpose of temporarily protecting areas from  
52 overspray or mechanical damage.

1 "Topcoat" means any coating or series of coatings applied over  
2 a primer or an existing finish for the purpose of protection or  
3 beautification.

4 "Truck bed liner coating" means any coating, excluding clear,  
5 color, multi-color, and single-stage coatings, labeled and formulated  
6 for application to a truck bed to protect it from surface abrasion.

7 "Underbody coating" means any coating labeled and formulated  
8 for application to wheel wells, the inside of door panels or fenders,  
9 the underside of a trunk or hood, or the underside of [the] a motor  
10 vehicle.

11 "Uniform finish coating" means any coating labeled and formulated  
12 for application to the area around a spot repair for the purpose of  
13 blending a repaired area's color or clear coat to match the appearance  
14 of an adjacent area's existing coating.

15  
16  
17 **R307-354-5. VOC Content Limits.**

18 No owner or operator shall apply coatings with a VOC content  
19 greater than the amounts specified in Table 1, unless the owner or  
20 operator uses an add-on control device as specified in R307-354-7.

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)

28  
29 Coating Category VOC Content Limits (lb/gal)

30		
31	Adhesion Promoter	4.5
32		
33	Clear Coating	2.1
34		
35	Color Coating	3.5
36		
37	Multi-color Coating	5.7
38		
39	Pretreatment Coating	5.5
40		
41	Primer	2.1
42		
43	Primer Sealer	2.1
44		
45	Single-stage Coating	2.8
46		
47	Temporary Protective Coating	0.5
48		
49	Truck Bed Liner Coating	2.6
50		
51	Underbody Coating	3.6
52		

1	Uniform Finish Coating	4.5
2		
3	Any Other Coating Type	2.1
4		

5 **R307-354-6. Work Practice.**

6 (1) Control techniques and work practices are to be implemented  
7 at all times to reduce VOC emissions. Control techniques and work  
8 practices include:

9 (a) Closed containers shall be used for the disposal of solvent  
10 wiping cloths;

11 (b) Minimizing spills of VOC-containing cleaning materials;

12 (c) Conveying VOC-containing materials from one location to  
13 another in closed containers or pipes; and

14 (d) Cleaning spray guns in enclosed systems or in a non-enclosed  
15 paint gun cleaning process may be used if the vapor pressure of the  
16 cleaning solvent (excluding water and solvents exempt from the  
17 definition of VOCs) is less than 100 mm Hg at 68 degrees Fahrenheit  
18 and the solvent is directed towards a drain that leads directly to  
19 an enclosed remote reservoir. Automotive spray gun solvent cleaning  
20 materials that are defined as a "consumer product" under R307-357  
21 are exempt from the vapor pressure requirement and are regulated under  
22 the requirements in R307-357.

23 (2) Application equipment requirements:

24 (a) A person shall not apply any coating to an automotive part  
25 or component unless the coating application method achieves a minimum  
26 65% transfer efficiency. The following coating application methods  
27 have been demonstrated to achieve a minimum of 65% transfer efficiency:

28 (i) Brush, dip or roll coating operated in accordance with the  
29 manufacturers specifications;

30 (ii) Electrostatic application equipment operated in  
31 accordance with the manufacturers specifications; and

32 (iii) High Volume, Low Pressure spray equipment operated in  
33 accordance with the manufacturers specifications.

34 (3) Other coating application methods may be used that have  
35 been demonstrated to be capable of achieving at least 65% transfer  
36 efficiency, as certified by the manufacturer.

37  
38  
39 **R307-354-7. Add-On Controls Systems Operations.**

40 (1) If an add-on control system is used, the owner or operator  
41 shall install and maintain the add-on emission control system in  
42 accordance with the manufacturer recommendations and maintain 90%  
43 or greater capture and control efficiency. The overall capture and  
44 control efficiency shall be determined using EPA approved methods,  
45 as follows.

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

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

1 gaseous organic concentrations, or emissions of exempt compounds,  
2 as applicable.

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

6

7 **R307-354-8. Recordkeeping.**

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

9 (a) Records that demonstrate compliance with R307-354. Records  
10 shall include, but are not limited to, inventory and product data  
11 sheets of all coatings and solvents subject to R307-354.

12 (b) If an add-on control device is used, records of key system  
13 parameters necessary to ensure compliance with R307-354-7.

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

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

20 (2) All records must be maintained for a minimum of 2 years.

21 (3) Records must be made available to the director upon request.

22

23

24 **KEY: air pollution, automotive refinishing, VOC, coatings**

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

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

# 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-066-17

**MEMORANDUM**

**TO:** Air Quality Board

**THROUGH:** Bryce C. Bird, Director

**FROM:** Joel Karmazyn, Environmental Scientist

**DATE:** September 20 2017

**SUBJECT:** FINAL ADOPTION: Change in Proposed Rule. R307-355. Control of Emissions from Aerospace Manufacture and Rework Facilities.

---

On June 7, 2017, the Board approved for public comment amendments to R307-355 based on the Division's best available control measure (BACM) analysis conducted in accordance with EPA's PM<sub>2.5</sub> Implementation Rule. The recommended amendments to R307-355 were as follows:

- In keeping with the policy of separating industrial source activities from hobbyists/insignificant sources, the rule applicability was set to 55 gallons or greater of volatile organic compound (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 add-on control capture and control efficiency minimum was proposed to increase from 81% to 90% based on the BACM analysis. We received comments from a major aerospace rework facility that has led us to re-evaluate this proposal and re-propose 85%.
- Instead of incorporating by reference the specialty coatings, the proposed rule brought forth all of the coating categories into the body of the rule for the convenience of sources and our inspectors.

The public comment period was held from July 1 to August 15, 2017. A public hearing was held on July 27, 2017. No one gave testimony at the hearing on this proposal. A number of commenters submitted written comments summarized below.

Staff Analysis of Add-on Capture and Control Efficiency

The 81% requirement currently in the rule is based on a collaborated analysis between EPA and UDAQ

conducted during the PM<sub>2.5</sub> Moderate Area State Implementation Plan (SIP) development. EPA concluded that 81% capture and control efficiency met the reasonable achievable control technology (RACT) requirement. The driving parameters that determined 81% as RACT was the challenge of capturing all the air in an aircraft hangar and that these hangars are not air tight. Given our past concerns, we proposed to increase the requirement to 90% as a BACM requirement, but with the intent of further evaluating the proposal based on an engineering design submitted for a new re-work facility.

Duncan Aviation (Duncan) submitted a permit application to construct an aerospace manufacture and rework complex to be built on a 45 acre site on the north end of the Provo, Utah airport. This facility will include airframe maintenance, aircraft on ground emergency repair, avionics installation, interior and paint refurbishment, and other engineering services. Duncan proposed to construct 16 small paint booths and 2 large paint hangar bays. According to Duncan, “the proposed new paint structure will have the latest down-draft air flow technology, including automatic monitoring and alarms, to provide the best paint environment possible for aircraft. To increase efficiency, the paint hangars have been designed to accommodate multiple aircraft at once, utilizing a two-zone airflow system. With this design, Duncan Aviation paint teams can perform stripping, sanding, painting and detail work on multiple aircraft simultaneously. The proposed facility will allow input of some of the largest business aircraft in use today, including Gulfstream's 550, Bombardier's Global Express and Dassault's Falcon 7X.” The installed hangars will have an airflow greater than 25,000 cubic feet per minute (cfm) and the 16 separate booths will operate at a combined cfm of less than 25,000 cfm. The regenerative thermal oxidizer (RTO) control device in the hangars will have a control efficiency of 95% VOC reduction with a minimum airflow of 25,000 cfm.

In evaluating the Duncan permit application, UDAQ concluded that at optimal operations, the aerospace rework facility hangars could attain a control efficiency of 90% using an RTO or carbon adsorption unit. However, the overall design of the entire facility inhibits the combined control and capture from meeting 90%. The space required to accommodate a large aircraft with additional small booths creates an air shed volume within the facility that cannot guarantee total capture through a control device inlet. The amount of forced air required to ensure a combined capture and control efficiency at 90% would be onerous and economically infeasible for a source. UDAQ estimates that at standard operating conditions, control devices will fall 1% to 5% below maximum operating efficiency. Consequently, we are proposing to amend the add-on control device capture and control efficiency to 85%.

#### American Coatings Association (ACA) Comment

Comment: For consistency, ACA suggests that Utah conform with the EPA Control Technique Guidelines as possible. The ACA suggested that following categories and limits be deleted from the proposed R307-355 rule: Primer 350 g/l, Topcoat 420 g/l, Type I Chemical milling maskant 622 g/l, and Type II Chemical Milling maskant 160 g/l.

UDAQ Response: The EPA guidance recommendations are solely for specialty coatings. R307-355 is a broader rule consistent with other state rules. Further, these VOC limits are in the current EPA approved rule. Removing these limits would amount to backsliding, which is prohibited by the Clean Air Act.

An additional comment was made by the ACA in another rulemaking regarding the economic impact to small business of the new applicability limits proposed throughout the coatings rules. UDAQ shares this concern; consequently, we have added an implementation schedule.

#### Hill Air Force Base Comments

Comment: Retain all exemptions in R307-355-6(2) as they are recommended in the EPA CTG document “Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operation.

UDAQ Response: Noted and amended.

Comment: UDAQ should retain the exemption in R307-355 for electronic parts and assemblies, except for cleaning and coating of completed assemblies in order to remain consistent with the NESHAP (40 CFR 63 Subpart GG).

The same comment was made by Albany and the Joint Commenters (see below for facility names)

UDAQ Response: Noted and amended.

Comment: Chemical agent resistant coating (CARC) waste streams can produce CO<sub>2</sub> during storage in waste containers. UDAQ should allow alternative storage options in R307-355-7.

UDAQ Response: UDAQ has reviewed the military literature pertaining to CARC and agrees that R307-355-7 should be amended to include a broader range of storage options.

Comment: Define antique aerospace vehicle or component in accordance with 40 CFR 63 Subpart GG and Aerospace CTG. Aerospace technology is such that the term antique is based on a rolling 30 year basis, as aircraft are taken out of service. Retain the 30 years in the definition.

UDAQ Response: Noted and amended.

Comments Jointly submitted by Orbital ATK, The Boeing Company, L3 Technologies, Barnes Aerospace, Albany Engineered Composites (Albany), and Pilkington Metal Finishing

Comment: We recommend truncating the last part of the purpose statement.

UDAQ Response: Agreed.

Comment: The commenters challenged the choice to use the 55 gallon/year applicability threshold over the 1095 gallons/year in the South Coast Rule 1124 (as presented in the BACM analysis).

UDAQ Response: As explained in the Board memo, UDAQ selected 55 gallons/year in keeping with the policy of separating industrial source activities from hobbyists/insignificant sources.

Comment: The commenters object to the proposed usage applicability threshold for a number of reasons:

1. There is left over product that becomes waste in coating operations. These residues are collected for disposal or reclamation, and are subtracted from the volume of fresh product dispensed to yield an estimate of VOC emissions (for emission inventory reports and/or Toxics Release Inventory reporting).
2. Many forms of solvent cleaning involve the recovery of spent solvent, either liquid or on wipes, which are required to be placed in closed containers until final destruction or reclamation, under proposed R307-355-7 Work Practices. Recovered coatings and spent solvents that are not emitted should not be included in the applicability threshold of this rule.
3. Aerospace coatings, solvents, and adhesives would be included in the threshold calculation, even if some of them contain no VOCs (for example, VOC-exempt acetone).
4. All coating products contain some level of VOC's, even those products that are considered to be low VOC and would be contribute to the entire volume in the applicability.

To address these concerns, the commenters proposed an alternative applicability threshold as follows:

“R307-355 applies to all aerospace manufacture and rework facilities that are located in [county list] and use a combined 1,095 gallons or more per year of aerospace coatings, solvents, and adhesives regulated by R307-355. Aerospace manufacture and rework facilities that emit less than 3,175 pounds of VOC per year from these regulated materials are not subject to R307-355.”

UDAQ Response:

Item 1- UDAQ agree that used product that is collected for disposal or reclamation should not be used in an emission calculation. Likewise, the retained waste product should not be used in the usage calculation.

Item 2- UDAQ agree that recovered spent solvent should not be counted in the usage calculation and is consistent with our response to the same issue raised on solvent usage in the proposed rule R307-304.

Item 3- R307-355-5, Table 1 states, “Values in grams of VOC per liter of material, minus water and exempt solvents...” Exempt solvent and water are not counted in the usage calculation.

Item 4- The commenters point is noted that VOC’s are prevalent in coating operations. In fact, VOC’s from all surface coating operations contributed 28% in the 2011 area source inventory. That number is projected to grow as we are processing the 2014 area source inventory. UDAQ must realize significant VOC reductions from coating operations as part of our PM<sub>2.5</sub> attainment strategy.

As pointed out in the response to item number 4, UDAQ must realize significant VOC reductions from all coating operations and meet BACM per the PM Implementation Rule. R307-355 includes an exemption of 200 gallons of non-compliant products in recognition that rework operations require the use of noncompliant coating for vintage aircraft.

Comment: An implementation schedule should be included in the rule for newly regulated sources. A separate implementation schedule should be established for those sources intending to use add-on controls.

UDAQ response: Noted and revised.

Comment: Commenters request an exemption for Department of Defense classified coatings.

UDAQ response: This exemption has been added to R307-355-3

Comment: There appears to be a contradiction in the exemptions in R307-355-3 between aerosol cans and the 1 gallon of separate formulations. Commenters recommended removing the aerosol can exemption.

UDAQ response: Each exemption has a specific purpose and applies to different uses. Removing the aerosol can exemption would require an added administrative record keeping requirement as part of the tally of the 20 gallon maximum usage in R307-355-3(1)(g). To remedy this confusion, UDAQ has included a maximum volume to the aerosol can exemption.

Comment: Commenters identified a conflict in the exemption and application method exemptions.

UDAQ response: The commenters are correct, the error has been corrected.

Comment: The definition of aerospace vehicle and component should be amended to include elements found in the NESHAP.

UDAQ response: The definition has been amended per the suggestion because it includes both the suggested language in the EPA guidance EPA-453/R-97-004 and the NESHAP.

Comment: The use of Skydrol-resistant primer is driven by the need to protect the aircraft substrate from damage from this particular type of hydraulic fluid, not by whether the aircraft is commercial or otherwise. Commenters recommended remove the reference to commercial aircraft.

UDAQ response: Noted and revised.

Comment: The nonattainment counties of Utah have multiple airfields that serve general aviation aircraft. Most have ancillary facilities where at least some maintenance and rework activities take place. Due to deletions in the proposed rule, technical distinctions between general aviation rework coatings and commercial aircraft coatings, recognized in the Aerospace CTG and the Aerospace NESHAP, are lost. The absence of separate VOC limits for general aviation rework in South Coast District Rule 1124 should not be read as an indication of BACM for Utah, which does not enjoy the same year-round climatic conditions that affect the air dried curing of coatings in southern California.

The existing Utah aerospace rule defines general aviation rework facilities, but general aviation itself is undefined, perhaps leading to uncertainty by those unfamiliar with the term "general aviation." We suggest a streamlined approach in the final rule that utilizes Table 1 and defines general aviation coatings in terms of their application, rather than the facility that performs the work. We recommend the following:

As proposed, remove the definition of "General aviation rework facility."

Add the following definition: "General aviation means that segment of civil aviation that encompasses all facets of aviation except air carriers, commuters, and military. General aviation includes charter and corporate-executive transportation, instruction, rental, aerial application, aerial observation, business, pleasure, and other special uses."

Add the follow general aviation coatings (presently in R307-355-5) to Table 1: "General Aviation Rework Coatings" Primer-540, Topcoat-540."

UDAQ response: This comment was basically reiterated by Duncan, a major rework operator. Definitions for general aviation and rework facility are necessary in the rule. The primer and topcoat limits for general aviation rework have been added to Table 1.

Comment: Insert the definition for primer as per the EPA guidance EPA-453/R-97-004.

UDAQ response: Noted and revised.

### Albany

Comment: Aerosols should not be included in the exemptions for separate formulations; it is contradictory with the aerosol can exemption.

UDAQ Response: Albany is correct. It was an error that has been corrected.

Recommendation: Staff recommends that the Board adopt R307-355 as amended.

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

2 **R307-355. Aerospace Manufacture and Rework Facilities.**

3 **R307-355-1. Purpose.**

4 The purpose of R307-355 is to limit the emissions of volatile  
5 organic compounds (VOCs) from aerospace coatings and adhesives, from  
6 organic solvent cleaning, and from the storage and disposal of solvents  
7 and waste solvent materials~~[-associated with the use of aerospace~~  
8 ~~coatings and adhesives].~~

9  
10 **R307-355-2. Applicability.**

11 (1) R307-355 applies to all aerospace manufacture and rework  
12 facilities ~~[that are ]~~located in Box Elder, Cache, Davis, Salt Lake,  
13 Utah, Tooele or Weber counties ~~[and use a combined 55 gallons or more~~  
14 ~~of coating products and associated solvents and adhesives per year].~~

15 (2) Before February 1, 2018, R307-355 applies to all aerospace  
16 manufacture and rework facilities that have the potential to emit 10  
17 tons or more per year of VOCs.

18 (3) Effective February 2, 2018, R307-355 applies to all aerospace  
19 manufacture and rework facilities that use a combined 55 gallons or  
20 more of coating products and associated solvents and adhesives per  
21 year.

22  
23 **R307-355-3. Exemptions.**

24 (1) R307-355 does not apply to the following:

25 (a) Cleaning and coating activities in research and  
26 development, quality control, ~~[and ]~~laboratory testing, and  
27 electronic parts and assemblies, except for cleaning and coating of  
28 completed assemblies;

29 (b) Manufacturing or rework operations involving space  
30 vehicles;

31 (c) Rework operations performed on antique aerospace vehicles  
32 or components;

33 (d) Touchup and repair operations;

34 (e) Hand-held aerosol spray cans~~[-application]~~ up to 24 fluid  
35 ounces;

36 (f) Department of Defense classified coatings;

37 (g) ~~[Coatings or aerosols with s]~~Separate formulations that are  
38 used in volumes of less than ~~[one ]~~50 gallon per year subject to a  
39 maximum exemption of ~~[on any day or ]~~200 gallons in any calendar year;  
40 and

41 (h) Adhesives with separate formulations that are used in volumes  
42 of less than 0.5 gallons on any day or 10 gallons in any calendar year. ~~[+]~~

43 ~~—— (i) Airbrush application methods for stenciling, lettering, and~~  
44 ~~other identification markings; and~~

45 ~~—— (j) Any situation that normally requires the use of an airbrush~~  
46 ~~or an extension on the spray gun to properly reach limited access~~  
47 ~~spaces.]~~

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**R307-355-4. Definitions.**

The following additional definitions apply to R307-355:

"Ablative coating" means a coating, applied to both new and rework aerospace components, which chars and becomes intumescent when exposed to open flame, such as would occur during the failure of an engine casing. The purpose of the coating is to act as an isolative barrier and protect adjacent metal parts from an open flame.

"Adhesion promoter" means a very thin coating applied to a substrate to promote wetting and form a chemical bond with the subsequently applied material.

"Adhesive bonding primer" means a primer applied in a thin film to aerospace components for the purpose of corrosion inhibition and increased adhesive bond strength by attachment. There are two categories of adhesive bonding primers: primers with a design cure at 250°F or below and primers with a design cure above 250°F.

"Aerospace manufacture and rework facility" means any installation that produces, reworks, or repairs in any amount any commercial, civil, or military aerospace vehicle or component.

"Aerospace vehicle or component" means any fabricated part, processed part, assembly of parts, or completed unit, with the exception of electronic components, of any aircraft including but not limited to airplanes, helicopters, missiles, rockets, and space vehicles. This definition includes integral equipment such as models, mock-ups, prototypes, molds, jigs, and tooling. It also includes auxiliary equipment associated with test, transport and storage that through contamination can compromise aerospace vehicle performance.

"Antique aerospace vehicle or component" means an aircraft or component thereof that was built at least 30 years ago [~~prior to 1970~~] and would not routinely be in commercial or military service in the capacity for which it was designed.

"Bearing coating" means a coating applied to an antifriction bearing, a bearing housing, or the area adjacent to such a bearing in order to facilitate bearing function or to protect base material from excessive wear. A material shall not be classified as a bearing coating if it can also be classified as a dry lubricative material or a solid film lubricant.

"Caulking and smoothing compounds" means semi-solid materials which are applied by hand application methods and are used to aerodynamically smooth exterior vehicle surfaces or fill cavities such as bolt hole accesses. A material shall not be classified as a caulking and smoothing compound if it can also be classified as a sealant.

"Chemical agent-resistant coating" means an exterior topcoat designed to withstand exposure to chemical warfare agents or the decontaminants used on these agents.

1 "Chemical milling maskants" means a coating that is applied  
2 directly to aluminum components to protect surface areas when chemical  
3 milling the component with a Type I or Type II etchant. Type I chemical  
4 milling maskants are used with a Type I etchant and Type II chemical  
5 milling maskants are used with a Type II etchant.

6 "Clear coating" means a transparent coating usually applied  
7 over a colored opaque coating, metallic substrate, or placard to give  
8 improved gloss and protection to the color coat. In some cases, a  
9 clear coat refers to any transparent coating without regard to  
10 substrate.

11 "Commercial exterior aerodynamic structure primer" means a  
12 primer used on aerodynamic components and structures that protrude  
13 from the fuselage, such as wings and attached components, control  
14 surfaces, horizontal stabilizers, vertical fins, wing-to-body  
15 fairings, antennae, and landing gear and doors, for the purpose of  
16 extended corrosion protection and enhanced adhesion.

17 "Compatible substrate primer" means either compatible epoxy  
18 primer or adhesive primer. Compatible epoxy primer is primer that  
19 is compatible with the filled elastomeric coating and is epoxy based.  
20 The compatible substrate primer is an epoxy polyamide primer used to  
21 promote adhesion of elastomeric coatings such as impact-resistant  
22 coatings. Adhesive primer is a coating that:

23 (1) inhibits corrosion and serves as a primer applied to bare  
24 metal surfaces or prior to adhesive application, or

25 (2) is applied to surfaces that can be expected to contain fuel.  
26 Fuel tank coatings are excluded from this category.

27 "Corrosion prevention" means a coating that provides corrosion  
28 protection by displacing water and penetrating mating surfaces,  
29 forming a protective barrier between the metal surface and moisture.  
30 Coatings containing oils or waxes are excluded from this category.

31 "Cryoprotective coating" means a coating that insulates  
32 cryogenic or subcooled surfaces to limit propellant boil-off,  
33 maintain structural integrity of metallic structures during ascent  
34 or re-entry, and prevent ice formation.

35 "Electric or radiation-effect coating" means a coating or  
36 coating system engineered to interact, through absorption or  
37 reflection, with specific regions of the electromagnetic energy  
38 spectrum, such as the ultraviolet, visible, infrared, or microwave  
39 regions. Uses include, but are not limited to, lightning strike  
40 protection, electromagnetic pulse (EMP) protection, and radar  
41 avoidance. Coatings that have been designated as "classified" by the  
42 Department of Defense are exempt.

43 "Electrostatic discharge and electromagnetic interference  
44 (EMI) coating" means a coating applied to space vehicles, missiles,  
45 aircraft radomes, and helicopter blades to disperse static energy  
46 or reduce electromagnetic interference.

1 "Elevated-temperature Skydrol-resistant [~~commercial~~]primer"  
2 means a primer [~~applied primarily to commercial aircraft (or~~  
3 ~~commercial aircraft adapted for military use)~~]that must withstand  
4 immersion in phosphate-ester (PE) hydraulic fluid (Skydrol 500b  
5 A-9 or equivalent) at the elevated temperature of 150°F for  
6 1,000 hours.

7 "Epoxy polyamide topcoat" means a coating used where harder  
8 films are required or in some areas where engraving is accomplished  
9 in camouflage colors.

10 "Fire-resistant (interior) coating" means for civilian  
11 aircraft, fire-resistant interior coatings are used on passenger  
12 cabin interior parts that are subject to the FAA fireworthiness  
13 requirements. For military aircraft, fire-resistant interior  
14 coatings are used on parts that are subject to the flammability  
15 requirements of MIL-STD-1630A and MIL-A-87721. For space  
16 applications, these coatings are used on parts that are subject to  
17 the flammability requirements of SE-R-0006 and SSP 30233.

18 "Flexible primer" means a primer that meets flexibility  
19 requirements such as those needed for adhesive bond primed fastener  
20 heads or on surfaces expected to contain fuel. The flexible coating  
21 is required because it provides a compatible, flexible substrate over  
22 bonded sheet rubber and rubber-type coatings as well as a flexible  
23 bridge between the fasteners, skin, and skin-to-skin joints on outer  
24 aircraft skins. This flexible bridge allows more topcoat flexibility  
25 around fasteners and decreases the chance of the topcoat cracking  
26 around the fasteners. The result is better corrosion resistance.

27 "Flight test coating" means a coating applied to aircraft other  
28 than missiles or single-use aircraft prior to flight testing to  
29 protect the aircraft from corrosion and to provide required marking  
30 during flight test evaluation.

31 "Fuel tank coating" means a coating applied to fuel tank  
32 components for the purpose of corrosion and/or bacterial growth  
33 inhibition and to assure sealant adhesion in extreme environmental  
34 conditions.

35 "General aviation" means that segment of civil aviation that  
36 encompasses all facets of aviation except air carriers, commuters, and  
37 military. General aviation includes charter and corporate-executive  
38 transportation, instruction, rental, aerial application, aerial  
39 observation, business, pleasure, and other special uses.

40 "High-temperature coating" means a coating designed to  
41 withstand temperatures of more than 350°F.

42 "Insulation covering" means material that is applied to foam  
43 insulation to protect the insulation from mechanical or  
44 environmental damage.

45 "Intermediate release coating" means a thin coating applied  
46 beneath topcoats to assist in removing the topcoat in depainting

1 operations and generally to allow the use of less hazardous  
2 depainting methods.

3 "Lacquer" means a clear or pigmented coating formulated with  
4 anitrocellulose or synthetic resin to dry by evaporation without a  
5 chemical reaction. Lacquers are resoluble in their original solvent.

6 "Low vapor pressure hydrocarbon-based cleaning solvent" means a  
7 cleaning solvent that is composed of a mixture of photochemically  
8 reactive hydrocarbons and oxygenated hydrocarbons and has a maximum  
9 vapor pressure of 7 mm Hg at 68 degrees Fahrenheit. These cleaners  
10 must not contain hazardous air pollutants.

11 "Maskants" means a coating that is applied directly to aluminum  
12 components to protect surface areas when chemical milling the  
13 component with a Type I or Type II etchant. Type I chemical milling  
14 maskants are used with a Type I etchant and Type II chemical milling  
15 maskants are used with a Type II etchant.

16 "Metalized epoxy coating" means a coating that contains  
17 relatively large quantities of metallic pigmentation for appearance  
18 and/or added protection.

19 "Mold release" means a coating applied to a mold surface to  
20 prevent the molded piece from sticking to the mold as it is removed.

21 "Optical anti-reflection coating" means a coating with a low  
22 reflectance in the infrared and visible wavelength ranges that is  
23 used for antireflection on or near optical and laser hardware.

24 "Part marking coating" means coatings or inks used to make  
25 identifying markings on materials, components, and/or assemblies.  
26 These markings may be either permanent or temporary.

27 "Pretreatment coating" means an organic coating that contains  
28 at least 0.5 percent acids by weight and is applied directly to A-12  
29 metal or composite surfaces to provide surface etching, corrosion  
30 resistance, adhesion, and ease of stripping.

31 "Primer" means the first layer and any subsequent layers of  
32 identically formulated coating applied to the surface of an  
33 aerospace vehicle or component. Primers are typically used for  
34 corrosion prevention, protection from the environment, functional  
35 fluid resistance, and adhesion of subsequent coatings. Primers that  
36 are defined as specialty coatings are not included under  
37 this definition.

38 "Rain erosion resistant coating" means a coating applied  
39 primarily to radomes, canopies, and leading edges of aircraft to  
40 provide protection from erosion due to rain, dust, and other airborne  
41 particles.

42 "Rework facility" means any installation that repairs any  
43 aerospace vehicle or component.

44 "Rocket motor nozzle coating" means a catalyzed epoxy coating  
45 system used in elevated temperature applications on rocket motor  
46 nozzles.

1 "Scale inhibitor" means a coating that is applied to the surface  
2 of a part prior to thermal processing to inhibit the formation of  
3 scale.

4 "Screen print ink" means an ink used in screen printing  
5 processes during fabrication of decorative laminates and decals.

6 "Sealant" means a material used to prevent the intrusion of  
7 water, fuel, air, or other liquids or solids from certain areas of  
8 aerospace vehicles or components. There are two categories of  
9 sealants: extrudable/rollable/brushable sealants and sprayable  
10 sealants.

11 "Silicone insulation material" means an insulating material  
12 applied to exterior metal surfaces for protection from high  
13 temperatures caused by atmospheric friction or engine exhaust.  
14 These materials differ from ablative coatings in that they are not  
15 "sacrificial."

16 "Solid film lubricant" means a dry lubricant coating used to  
17 reduce friction between faying metal surfaces. The coating consists  
18 of an organic binder system containing one or more of the following  
19 substances: molybdenum disulfide, graphite, polytetrafluoroethylene  
20 (Teflon PTFE), other types of Teflon, lauric acid, cetyl alcohol, or  
21 waxes.

22 "Space vehicle" means a man-made device, either manned or  
23 unmanned, designed for operation beyond earth's atmosphere. This  
24 definition includes integral equipment such as models, mock-ups,  
25 prototypes, mold, jigs, tooling, hardware jackets and test coupons.  
26 Also included, auxiliary equipment associated with test, transport and  
27 storage that through contamination can compromise the space vehicle  
28 performance.

29 "Specialized function coating" means a coating that fulfills  
30 extremely specific engineering requirements that are limited in  
31 application and are characterized by low volume usage. This category  
32 excludes coatings covered in other Specialty Coating categories.

33 "Specialty coating" means a coating that, even though it meets  
34 the definition of a primer, topcoat, or self-priming topcoat, has  
35 additional performance criteria beyond those of primers, topcoats, and  
36 self-priming topcoats for specific applications.

37 (1) These performance criteria may include, but are not limited  
38 to, temperature or fire resistance, substrate compatibility,  
39 antireflection, temporary protection or marking, sealing, adhesively  
40 joining substrates, or enhanced corrosion protection.

41 "Temporary protective coating" means a coating applied to  
42 provide scratch or corrosion protection during manufacturing,  
43 storage, or transportation. Two types include peelable protective  
44 coatings and alkaline removable coatings. These materials are not  
45 intended to protect against strong acid or alkaline solutions.  
46 Coatings that provide this type of protection from chemical  
47 processing are not included in this category.

1 "Thermal control coating" means a coating formulated with  
 2 specific thermal conductive or radiative properties to permit  
 3 temperature control of the substrate.

4 "Topcoat" means a coating that is applied over a primer or  
 5 component for appearance, identification, camouflage, or protection.  
 6 Topcoats that are defined as specialty coatings are not included under  
 7 this definition.

8 "Wet fastener installation coating" means a primer or sealer  
 9 applied by dipping, brushing, or daubing to fasteners that are  
 10 installed before the coating is cured.

11 "Wing coating" means a corrosion-resistant topcoat that is  
 12 resilient enough to withstand the flexing of the wings.

13  
 14 **R307-355-5. VOC Content Limits.**

15 The owner or operator shall not apply coatings to aerospace  
 16 vehicles or components with a VOC content greater than the amounts  
 17 specified in Table 1 unless the owner or operator uses an add-on control  
 18 device as specified in R307-355-9.

19  
 20 T[~~able~~]ABLE 1

21 (Values in grams of VOC per liter of material, minus water and exempt  
 22 solvents (compounds not classified as VOC as defined in R307-101-2),  
 23 as applied)

24

25 Coating type	VOC Content Limit (g/l)
26	
27 Ablative Coating . . . . .	600
28 Adhesion Promoter . . . . .	890
29 Adhesive Bonding Primers:	
30 Cured at 250°F or below . . . . .	850
31 Cured above 250°F . . . . .	1030
32 Adhesives:	
33 Commercial Interior Adhesive . . . . .	760
34 Cyanoacrylate Adhesive . . . . .	1,020
35 Fuel Tank Adhesive . . . . .	620
36 Nonstructural Adhesive . . . . .	360
37 Rocket Motor Bonding Adhesive . . . . .	890
38 Rubber-based Adhesive . . . . .	850
39 Structural Autoclavable Adhesive . . . . .	60
40 Structural Nonautoclavable Adhesive . . . . .	850
41 Antichafe Coating . . . . .	660
42 Bearing Coating . . . . .	620
43 Caulking and Smoothing Compounds . . . . .	850
44 Chemical Agent-Resistant Coating . . . . .	550
45 Clear Coating . . . . .	720
46 Commercial Exterior Aerodynamic	
47 [ <del>Structure Primer . . . . .</del>	<del>650</del> ]

1	Compatible Substrate Primer . . . . .	780
2	Corrosion Prevention Compound . . . . .	710
3	Cryogenic Flexible Primer . . . . .	645
4	Dry Lubricative Material . . . . .	880
5	Cryoprotective Coating . . . . .	600
6	Electric or Radiation-Effect Coating . . . . .	800
7	Electrostatic Discharge and Electromagnetic	
8	Interference (EMI) Coating . . . . .	800
9	Elevated-Temperature Skydrol-Resistant	
10	[ <del>Commercial</del> ]Primer . . . . .	740
11	Epoxy Polyamide Topcoat . . . . .	660
12	Fire-Resistant (interior) Coating . . . . .	800
13	Flexible Primer . . . . .	640
14	Flight-Test Coatings:	
15	Missile or Single Use Aircraft . . . . .	420
16	All Other . . . . .	840
17	Fuel-Tank Coating . . . . .	720
18	<u>General Aviation Rework Primer and Topcoat.....</u>	<u>540</u>
19	High-Temperature Coating . . . . .	850
20	Insulation Covering . . . . .	740
21	Intermediate Release Coating . . . . .	750
22	Lacquer . . . . .	830
23	Maskants:	
24	Bonding Maskant . . . . .	1,230
25	Critical Use and Line Sealer Maskant . . . . .	1,020
26	Seal Coat Maskant . . . . .	1,230
27	Metalized Epoxy Coating . . . . .	740
28	Mold Release . . . . .	780
29	Optical Anti-Reflective Coating . . . . .	750
30	Part Marking Coating . . . . .	850
31	Pretreatment Coating . . . . .	780
32	Primer . . . . .	350
33	Rain Erosion Resistant Coating . . . . .	850
34	Rocket Motor Nozzle Coating . . . . .	660
35	Scale Inhibitor . . . . .	880
36	Screen Print Ink . . . . .	840
37	Sealants:	
38	Extrudable/Rollable/Brushable Sealant . . . . .	280
39	Sprayable Sealant . . . . .	600
40	Silicone Insulation Material . . . . .	850
41	Solid Film Lubricant . . . . .	880
42	Specialized Function Coating . . . . .	890
43	Temporary Protective Coating . . . . .	320
44	Thermal Control Coating . . . . .	800
45	Topcoat . . . . .	420
46	Type I chemical milling maskant . . . . .	622
47	Type II chemical milling maskants . . . . .	160

1 Wet Fastener Installation Coating . . . . . 675  
 2 Wing Coating . . . . . 850

3

4 **R307-355-6. Application Method.**

5 (1) No owner or operator shall apply any coating to aerospace  
 6 vehicles or components unless one of the following application methods  
 7 is used:

8 (a) Electrostatic application;

9 (b) Flow/curtain coat;

10 (c) Dip/electrodeposition coat;

11 (d) Roll coat;

12 (e) Brush coating;

13 (f) cotton-tipped swab application;

14 (g) High-Volume, Low-Pressure (HVLP) Spray;

15 (h) Hand Application Methods; or

16 (i) Other coating application methods that achieve emission  
 17 reductions equivalent to HVLP or electrostatic spray application  
 18 methods, as determined according to the requirements in 40 CFR  
 19 63.750(i).

20 (2) The following conditions are exempt from R307-355-6(1):

21 (a) Any situation that normally requires the use of an airbrush  
 22 or an extension on the spray gun to properly reach limited  
 23 access-spaces.

24 (b) The application of coatings that contain fillers that  
 25 adversely affect atomization with HVLP spray guns and that cannot be  
 26 applied by any of the application methods specified in R307-355-6.

27 (c) The application of coatings that normally have dried film  
 28 thickness of less than 0.0013 centimeters (0.0005 inches) and that  
 29 cannot be applied by any of the application methods specified in  
 30 R307-355-6.

31 (d) Airbrush application methods for stenciling, lettering, and  
 32 other identification markings.

33 (e) Application of specialty coatings.

34

35 **R307-355-7. Work Practices.**

36 (1) Control techniques and work practices shall be implemented  
 37 at all times to reduce VOC emissions from coating and solvent cleaning  
 38 operations on aerospace vehicles or components. Control techniques  
 39 and work practices shall include, but are not limited to:

40 (a) Storing all VOC-containing coatings, adhesives, thinners,  
 41 and coating-related waste materials in closed containers, containers  
 42 with activated carbon, or other control approved by the EPA  
 43 Administrator;

44 (b) Ensuring that mixing and storage containers used for  
 45 VOC-containing coatings, adhesives, thinners, and coating-related  
 46 waste material are kept closed at all times except when depositing or  
 47 removing these materials unless a container has an activated carbon

1 or other control approved by the EPA administrator;

2 (c) Minimizing spills of VOC-containing coatings, adhesives,  
3 thinners, and coating-related waste materials; and

4 (d) Conveying VOC-containing coatings, adhesives, thinners,  
5 and coating-related waste materials from one location to another in  
6 closed container, in pipes, containers with activated carbon, or  
7 other control approved by the EPA Administrator ~~or pipes.~~

8

9 **R307-355-8. Solvent Cleaning.**

10 (1) Hand-wipe cleaning. Cleaning solvents (excluding water and  
11 exempt solvents) used in hand-wipe cleaning operations on aerospace  
12 vehicles or components shall meet one of the following requirements:

13 (a) Have a VOC composite vapor pressure less than or equal to  
14 45 mm Hg at 68 degrees Fahrenheit;

15 (b) Have an aqueous cleaning solvent in which water is at least  
16 80% of the solvent as applied; or

17 (c) Have a low vapor pressure hydrocarbon-based cleaning  
18 solvent.

19 (2) The following exemptions apply:

20 (a) Cleaning during the manufacture, assembly, installation,  
21 maintenance, or testing of components of breathing oxygen systems that  
22 are exposed to the breathing oxygen.

23 (b) Cleaning during the manufacture, assembly, installation,  
24 maintenance, or testing of parts, subassemblies, or assemblies that  
25 are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide,  
26 liquid oxygen, hydrazine).

27 (c) Cleaning and surface activation prior to adhesive bonding.

28 (d) Cleaning of electronics parts and assemblies containing  
29 electronics parts.

30 (e) Cleaning of aircraft and ground support equipment fluid  
31 systems that are exposed to the fluid, including air-to-air heat  
32 exchangers and hydraulic fluid systems.

33 (f) Cleaning of fuel cells, fuel tanks, and confined spaces.

34 (g) Surface cleaning of solar cells, coated optics, and thermal  
35 control surfaces.

36 (h) Cleaning during fabrication, assembly, installation, and  
37 maintenance of upholstery, curtains, carpet, and other textile  
38 materials used on the interior of the aircraft.

39 (i) Cleaning of metallic and nonmetallic materials used in  
40 honeycomb cores during the manufacture or maintenance of these cores,  
41 and cleaning of the completed cores used in the manufacture of  
42 aerospace vehicles or components.

43 (j) Cleaning of aircraft transparencies, polycarbonate, or  
44 glass substrates.

45 (k) Cleaning and solvent usage associated with research and  
46 development, quality control, or laboratory testing.

47 (l) Cleaning operations, using nonflammable liquids, conducted

1 within five feet of energized electrical systems.

2 (3) Flush cleaning. Cleaning solvents used in flush cleaning of  
3 aerospace vehicle or component parts, assemblies and coating unit  
4 components must be emptied into an enclosed container or collection  
5 system that is kept closed when not in use.

6 (4) Spray gun cleaning. All spray guns used to apply coatings  
7 to aerospace vehicle or component shall be cleaned by one or more of  
8 the following methods:

9 (a) Enclosed system that is closed at all times except when  
10 inserting or removing the spray gun. If leaks in the system are found,  
11 repairs shall be made as soon as practicable, but no later than 15 days  
12 after the leak was found. If the leak is not repaired by the 15th day,  
13 the cleaning solvent shall be removed and the enclosed cleaner shall  
14 be shut down until the leak is repaired or its use is permanently  
15 discontinued.

16 (b) Nonatomized cleaning.

17 (i) Spray guns shall be cleaned by placing cleaning solvent in  
18 the pressure pot and forcing it through the gun with the atomizing cap  
19 in place.

20 (ii) The cleaning solvent from the spray gun shall be directed  
21 into a vat, drum, or other waste container that is closed when not in  
22 use.

23 (c) Disassembled spray gun cleaning.

24 (i) Spray guns shall be cleaned by disassembling and cleaning  
25 the components by hand in a vat, which shall remain closed at all times  
26 except when in use.

27 (ii) Spray gun components shall be soaked in a vat, which shall  
28 remain closed during the soaking period and when not inserting or  
29 removing components.

30 (d) Atomizing spray into a waste container that is fitted with  
31 a device designed to capture atomized solvent emissions.

32 (e) Cleaning of the nozzle tips of automated spray equipment  
33 systems, except for robotic systems that can be programmed to spray  
34 into a closed container, shall be exempt from these requirements.

35

36 **R307-355-9. Add-On Controls Systems Operations.**

37 If an add-on control system is used, the owner or operator shall  
38 install and maintain the add-on emission control system in accordance  
39 with the manufacturer recommendations and maintain 85~~[90]~~% or greater  
40 capture and control efficiency. The overall capture and control  
41 efficiency shall be determined using EPA approved methods, as follows.

42 (a) The capture efficiency of a VOC emission control system's  
43 VOC collection device shall be determined according to EPA's  
44 "Guidelines for Determining Capture Efficiency," January 9, 1995 and  
45 40 CFR Part 51, Appendix M, Methods 204-204F, as applicable.

46 (b) The control efficiency of a VOC emission control system's  
47 VOC control device shall be determined using test methods in Appendices

1 A-1, A-6, and A-7 to 40 CFR Part 60, for measuring flow rates, total  
2 gaseous organic concentrations, or emissions of exempt compounds, as  
3 applicable.

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

7

8 **R307-355-10. Recordkeeping**

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

10 (a) Records that demonstrate compliance with R307-355. Records  
11 must include, but are not limited to, inventory and product data sheets  
12 of all coatings and solvents subject to R307-355.

13 (b) If an add-on control device is used, records of key system  
14 parameters necessary to ensure compliance with R307-355-9.

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

17 (ii) Key inspection parameters must 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

25 **KEY: air pollution, coating, aerospace**

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

27 **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-070-17

**MEMORANDUM**

**TO:** Air Quality Board

**THROUGH:** Bryce C. Bird, Director

**FROM:** Joel Karmazyn, Environmental Scientist

**DATE:** September 12, 2017

**SUBJECT:** FINAL ADOPTION: Change in Proposed Rule R307-335. Degreasing; and New Rule R307-304. Solvent Cleaning.

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On June 7, 2017, the Board approved for public comment the amendment of R307-335 and the new rule R307-304. The proposal was to:

1. Amend R307-335 by removing the industrial solvent cleaning sections found in R307-335-7 and R307-335-8 and moved them to a new solvent rule, R307-304.
2. Lower the threshold for gallons of solvent used in the applicability section of R307-304 to 55 gallons or more per year.
3. Introduce a solvent vapor pressure alternative to the density based limits.

The public comment period was held from July 1 to August 15, 2017. A public hearing was held on July 27, 2017. A representative from Breathe Utah was the sole commenter that addressed the proposed rules, offering total support for the rulemaking.

Staff received many telephone calls regarding the rule from sources who sought clarification and some sources self-reported non-compliance with the current rule because they were not aware of the existing requirements. Staff also held meetings with several sources who are challenged in meeting the requirements in R307-304. The outcome of those discussions is part of the public comment summary below. As a general note, there is overwhelming support from many sources for the new vapor pressure option in R307-304.

The Utah Manufacturers Association (UMA) also submitted support for UDAQ's position that we cannot rely on blanket use of acetone for all solvent cleaning applications. The UMA stated:

“UMA members experience with acetone is consistent with UDAQ's determination and agrees that UDAQ properly determined that it is not technically feasible to implement the density- based limitations of Rule 4663 (referring to San Joaquin rule). At least one member company attempted to substitute for its currently used solvent with acetone and found that acetone was incompatible with the application. We expect that this will be true for any number of solvent applications.”

#### The American Coating Association (ACA)

The ACA provided a blanket statement for most of the coating rules out for public comment that the proposed rulemaking would pose a hardship to small business. UDAQ shares this concern; consequently, we have added a rule implementation schedule to ease the burden.

#### Specific Comments from:

Hill Air Force Base (HAFB)

Hexcel

Kimberly-Clark (K-C)

ATK Launch Systems, Inc. (ATK)

Orbital ATK, Boeing, L3 Technologies, Barnes Aerospace, Albany Engineered Composites (Albany), and Pilkington Metal Finishing (Joint Commenters)

Brigham Young University (BYU)

Utah Manufacturers Association (UMA)

Albany Engineered Composites (Albany), separate comments from Joint Commenters

HAFB comment: UDAQ should exempt solvents from R307-304, R307-350, and R307-352 that are covered under the Consumer Products rule (R307-357). Products such as window washer fluid used on all automotive and aircraft on base should not be subject to R307-304 when used as intended under the Consumer Product rule.

The Joint Commenters submitted a similar comment. “Many environmentally preferable aqueous and semi-aqueous cleaners contain small to moderate percentages of co-solvents that are volatile organic compounds (VOCs), along with water and non-VOC surfactants. Likewise, solvents that are blended to meet an 8 mmHg vapor pressure may be a mixture of VOC and VOC-exempt solvents. As the proposal is drafted, the entire volume of these partial-VOC mixtures are counted toward the usage threshold of the rule.”

UDAQ response: UDAQ agrees that detergents and surfactants that are considered to be more environmentally friendly may contain low levels of VOC's and/or low vapor pressure VOC's. UDAQ supports the use of these products as a substitute for traditional VOC based solvents. In response to these comments and as a way to encourage the use of these products, UDAQ is proposing to add a new exemption as follows:

“Cleaning solvents that are defined as a consumer product under R307-357 are exempt from R307-304 and are regulated under the requirements in R307-357.”

UDAQ also agrees that as the proposal currently stands, exempt materials were not considered. Therefore, R307-304-2(2) and (3) have been amended to add the statement, “minus exempt materials.”

HAFB comment: All aerosol cleaning products should be exempt from R307-304 and not just those aerosol cleaning products. This exemption is not consistent with aerosol exemptions included in other R307 rules. For example, R307-343, 350, and 353 include a can size limit of 22 fluid ounces while R307-346, 347, 354, and 355, do not include a size limit and exempt all aerosol products. Based on 2016 inventory data, Hill AFB used 587 cans of aerosol cleaning products greater than 16 fluid ounces that don't meet the limits in R307-304-5. The VOC emissions associated with these cans is 60 pounds. If the size threshold in R307-304 was consistent with R307-346, 347, 354, and 355 all of these cans could be used with only 60 additional pounds of emissions. As most of these aerosol products cannot be purchased in cans with a size of 16 fluid ounces or less, Hill AFB would be forced to use other cleaning methods that would likely result in higher emissions of VOC.

A similar comment was made by the UMA, Joint Commenters, and Albany.

UDAQ response: Given the general nature of R307-304, aerosol products can vary in size. UDAQ concurs and has stricken the size limitation.

HAFB comment: UDAQ has provided an exemption in R307-304 for "waste" solvent from analytical laboratories. HAFB does not use "waste" solvent for cleaning in analytical laboratories. The exemption should be revised to exempt cleaning solvents used in laboratory tests and analysis or research and development projects. Multiple solvent cleaning rules in other serious non-attainment areas exempt research and development facilities, and laboratory testing and quality assurance testing activities. Additionally, the Control Techniques Guidance (CTG) for Industrial Solvent Cleaning does not include controls for laboratory tests and analysis or research and development projects. The CTG references exemptions given in several rules for these insignificant activities. The USEPA issued a white paper in July 1995 providing guidance describing research and development facilities, and laboratory testing and quality assurance testing activities as insignificant activities. The Utah Division of Air Quality also describes research and development facilities, and laboratory testing and quality assurance testing activities as insignificant in R307-415.

Albany also recommended exempting laboratory and research development.

UDAQ response: UDAQ concurs. The text has been adjusted to exempt laboratory and research development.

HAFB comment: R307-304 needs to clarify that it only applies where another rule does not apply. Specifically, the rule needs to exempt cleaning operations covered under R307-335 and R307-348.

The UMA provided the same comment.

UDAQ response: Noted and revised.

HAFB comment: UDAQ should allow the use of cleaning solvents manufactured or in inventory before the effective date of the rule. Cleaning solvents that are manufactured or in inventory before the effective date of rule and that don't meet the VOC limits should continue to be allowed to be used after the effective date of the rule. Otherwise these cleaning solvents will have to be discarded as solid waste. As the solid waste would be in liquid form it is likely that it would need to be incinerated resulting in emissions of other pollutants such as NO<sub>x</sub> that are PM<sub>2.5</sub> precursors. These precursors would have a negative impact on non-attainment. In addition to the potential negative impact on the environment, discarding cleaning solvents would result in purchasing new materials at a significant expense to the tax payer. If R307-304 was effective today, Hill AFB would have to waste out 463 containers of cleaning solvents.

UDAQ response: Solvents purchased prior to the effective date of the rule could be used. UDAQ agrees that unnecessary disposal would generate more pollution.

HAFB comment: Clarify if general surface cleaning is a subcategory of medical devices and pharmaceutical

UDAQ response: There is a general cleaning category for medical devices and pharmaceutical industries.

Hexcel comment: Hexcel is an advanced composite manufacturer who has submitted a request to amend the rule to permit the use of methyl ethyl ketone (MEK). According to Hexcel:

“MEK use is a specification for a number of cleaning applications. It is the lowest risk solvent in many resin systems for preventing cross contamination. The principle requirement of MEK as a cleaning agent is to flush the lines and clean equipment before the next resin batch. Cleanup with a solvent other than what the resin system is based on poses a significant risk of cross contamination. For example, the use of acetone to clean equipment in an MEK resin system is simply not compatible.”

Hexcel has noted that it would require years of research and development to modify the manufacturing process in order to comply with the requirements of R307-335. In the meantime, Hexcel has invested over \$125,000/ton to control facility emissions, including MEK. Hexcel estimates that they currently capture and treat approximately 85% of fugitive MEK emissions. A planned facility upgrade will increase that capture and control to approximately 95%.

UDAQ response: Resin solubility of the 45 manufactured resins is the key to this request and is consistent with the rationale for some of the existing VOC limits in Table 1. We agree that there is a technical limitation that warrants adding a VOC limit for this industry in Table 1 set at 6.7 lb./gal. Further, most fugitive MEK emissions are being captured and treated in their thermal oxidizer.

K-C comment: K-C manufactures baby and child care diapers in Ogden. K-C has requested the addition of a subcategory in Table 1 for baby and child care manufacturing set at 5.0 lb./gal. K-C is currently using 99% isopropyl alcohol (IPA) in its general miscellaneous cleaning operations in order to meet the Federal Consumer Product Safety Commission requirement that cleaning surfaces must not support bioburden. K-C is one of the sources that approached staff during the public comment period for assistance in meeting the requirements of R307-304. K-C has tested alternate products in order to meet the proposed R307-304 requirements. Acetone was discounted because of its flammability and potential for reacting with the polymers in the diapers. Tert-butyl-acetate has been discounted because of the objectionable odor that would penetrate the diaper. California water based cleaners have been discounted because water supports bioburden. 70% IPA was tested and found to be an effective replacement. Reducing the IPA to 70% is a 25% reduction in VOC which is consistent with the intended 28% reduction in the rule. This request is further supported by the similar VOC content limit already in the rule for the medical and pharmaceutical industry that has similar requirements established by the Federal Food and Drug Administration.

UDAQ response: Staff has worked with K-C to identify alternatives to using 99% IPA. UDAQ supports the addition in Table 1 of a VOC limit of 5 lb./gal for baby and child care diaper manufacturing.

ATK comment: ATK has requested that the source type exemptions listed in R307-335-7 be retained in R307-304-3 in descriptive form instead of using the industry specific Utah rule numbers. ATK is specifically considered that, by using the aerospace rule number R307-355 instead of just exempting aerospace operations, it may jeopardize how their operations are viewed by UDAQ compliance.

A similar request was made by the Joint Commenters and Albany. Albany suggested that their concerns could be alleviated by substituting the words “regulated under” in R307-304-3(1) with “subject to.”

UDAQ response: ATK operations are somewhat unique from other aerospace operations. UDAQ compliance has made past determinations that their entire operations are aerospace related. Based on current ATK operations, that determination remains intact. Other aerospace sources may have ancillary operations, such as a motor pool, that may support the aerospace operations in transporting aerospace parts but are not aerospace operations. Consequently, it is important that UDAQ specifically reference the Utah air quality rules that address operations exempt from R307-304.

UDAQ has no objection to replacing the words “regulated under” with “subject to.”

Joint Commenters: Recovered spent solvent that is not emitted should not be included in the applicability threshold of this rule. The UMA submitted a related comment requesting clarification that the solvent usage in the applicability section is for solvent cleaning operations.

UDAQ response: R307-304 applies to consumption of 55 gallons per year, not purchasing 55 gallons per year. UDAQ encourages solvent reuse. If a source, through reuse, uses less than 55 gallons per year, the rule would not apply to that source.

UMA comment: UDAQ should provide for a source-specific BACM option. Part of the dilemma created by the adoption of rule R307-304 is that it is a one-size-fits-all-rule that UDAQ has attempted to mold to cover most industrial operations. By doing so, UDAQ has attempted to conduct a non-source-specific analysis of BACM that will apply to all facilities regard less of whether they are already heavily regulated (e.g. Title V or SIP, Part H sources) or constitute minor operations that have never interacted with UDAQ before. The reality of the situation is that there exist a large variety of operations utilizing a variety of solvents for differing applications, subject to various constraints that make it impossible to impose a one-size fits-all- rule for addressing solvent usage. As a consequence of the breadth of the reach of the rule, UMA proposes that UDAQ consider another alternative to the rule that would allow for a source-specific analysis of BACM.

UDAQ response: EPA published CTG’s that are considered by EPA to be presumptive reasonable available control technology (RACT). The requirements for R307-304 were derived from the EPA guidance for industrial solvent cleaning (EPA 453/R-06-001), which is designed to be an area source rule. All moderate nonattainment state implementation plans are required, at a minimum, to meet EPA’s presumptive RACT recommendations. As such, R307-304 is by design based on broad industrial solvent use. The BACM analysis included a comparative analysis of other state rules that are also designated as serious nonattainment and maintained their rule as an area source rule.

The UMA is correct that a one-size fits-all rule may not work well for all solvent industrial uses. UDAQ has been working with many sources throughout the stakeholder process to address individual challenges to meet the requirements of R307-304. In some cases, sources have been able to make process adjustments. In other cases, that is just not possible. For those sources that can make a demonstration of technical impracticability, UDAQ has recommended exempting those sources or providing for an industry specific VOC content limit within the rule.

UMA comment: R307-304 and R307-335 should be limited to the PM<sub>2.5</sub> nonattainment areas.

UDAQ response: The rule applicability’s have been expanded to county level to be consistent with the coating rules, where these solvent are used.

UMA comment: UMA questions whether UDAQ has met the fiscal analysis requirements set forth in Utah Code 63G-3-301(5), as well as challenging the estimated cost to implement the rule.

UDAQ response: UDAQ conducted a fiscal analysis using the tool created by the Office of Management and Budget. The cost estimate was based on EPA's analysis presented in the CTG.

As explained above, the CTG is presumptive RACT for VOC. Consequently, we have also met the requirement of 63G-3-301(8)(c), the establishment of a rule to meet a federal requirement since the rule is required for the PM<sub>2.5</sub> SIP.

Joint Commenters: Amend R307-304-2 to read, "Before December 7, 2018, R307-304 applies to an owner or operator that emits 15 pounds of VOCs or more per day from solvent cleaning operations that are subject to R307-304." This request is based on harmonization with the NESHAP implementation requirements of December 7, 2018.

UDAQ response: The national emission standards for hazardous air pollutants (NESHAP) requirements due in December 2018 are for the specialty coatings which were adopted by reference in the current rule on December 1, 2014 (R307-355-5(1)(e)).

Joint Commenters: The existing solvent cleaning rule R307-355-7 has a threshold of 15 lbs./day VOC emissions. This represents an upper limit for the new rule to prevent SIP "backsliding." Assuming that 15 lbs./day is roughly equivalent to 720 gallons a year, we suggest that a 500 gallon/year threshold will capture additional shops that have significant emissions, without bringing in a universe of hobbyists and very small shops that have no awareness of Utah air quality rules, and are too numerous to be inspected for compliance.

UDAQ response: The BACM analysis requirement in the PM implementation rule requires that UDAQ conduct a rule comparative analysis of other serious nonattainment areas. As explained in the proposed rule Board memo, San Joaquin Rule 4663 rule applicability is set at 55 gallons per year. UDAQ's analysis of this rule was that 55 gallons per year was a reasonable cut point even for a hobbyist. Greater solvent use is an indicator of a commercial/industrial operation, even if it is conducted out of a backyard shop. Solvent use in the area source inventory is the largest VOC contributor (38% in 2011 inventory and growing). UDAQ must realize significant VOC reduction from solvent use as part of its PM<sub>2.5</sub> attainment strategy.

Joint Commenters: We recommend amending the definition of solvent cleaning in order to exclude hobbyist as follows:

"R307-304-4. Solvent cleaning" means operations performed as part of a business using a liquid that contains..."

UDAQ response: As previously explained, solvent use is a major source of VOC's in the area source inventory. UDAQ has set the applicability threshold well above a reasonable level for hobbyist use.

Joint Commenters and Albany: South Coast Air District Rule 1171 recognizes that some small quantity uses justify exemption. We recommend adding an exemption for cleaning of solar cells, laser hardware, scientific instruments, and high-precision optics.

UDAQ response: Agreed, an exemption was added.

BYU comment: Determining a composite vapor pressure is difficult and information about a solvent formation may be difficult to locate.

UDAQ response: Agreed. This was a concern when UDAQ evaluated the proposal. UDAQ has been told by one industry association that when vapor pressure information is not available on an MSDS or SDS, that their members contact the manufacturer and that so far, they have not had a problem obtaining that information.

Recommendation: Staff recommends that the Board adopt R307-335 as proposed and R307-304 as amended.

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

2 **R307-335. Degreasing.**

3 **R307-335-1. Purpose.**

4 The purpose of this rule is to limit volatile organic compound  
5 (VOC) emission from degreasing operations.

6

7 **R307-335-2. Applicability.**

8 R307-335 applies to degreasing operations that use VOCs and that  
9 are located in Box Elder, Cache, Davis, Salt Lake, Tooele, Utah, or  
10 Weber counties.

11

12 **R307-335-3. Definitions.**

13 The following additional definitions apply to R307-335:

14 "Batch open top vapor degreasing" means the batch process of  
15 cleaning and removing grease and soils from metal surfaces by  
16 condensing hot solvent vapor on the colder metal parts.

17 "Cold cleaning" means the batch process of cleaning and removing  
18 soils from metal surfaces by spraying, brushing, flushing or immersing  
19 while maintaining the solvent below its boiling point.

20 "ConveyORIZED degreasing" means the continuous process of  
21 cleaning and removing greases and soils from metal surfaces by using  
22 either cold or vaporized solvents.

23 "Freeboard ratio" means the freeboard height (distance between  
24 solvent line and top of container) divided by the width of the  
25 degreaser.

26 "Open top vapor degreaser" means the batch process of cleaning  
27 and removing soils from metal surfaces by condensing low solvent vapor  
28 on the colder metal parts.

29

30 **R307-335-4. Cold Cleaning Facilities.**

31 No owner or operator shall operate a degreasing or solvent  
32 cleaning operation unless conditions in R307-335-4(1) through (7) are  
33 met.

34 (1) A cover shall be installed which shall remain closed except  
35 during actual loading, unloading or handling of parts in cleaner. The  
36 cover shall be designed so that it can be easily operated with one hand  
37 if:

38 (a) The volatility of the solvent is greater than 2 kPa (15 mm  
39 Hg or 0.3 psi) measured at 38 degrees C (100 degrees F),

40 (b) The solvent is agitated, or

41 (c) The solvent is heated.

42 (2) An internal draining rack for cleaned parts shall be  
43 installed on which parts shall be drained until all dripping ceases.  
44 If the volatility of the solvent is greater than 4.3 kPa (32 mm Hg at  
45 38 degrees C (100 degrees F)), the drainage facility must be internal,

1 so that parts are enclosed under the cover while draining. The drainage  
2 facility may be external for applications where an internal type cannot  
3 fit into the cleaning system.

4 (3) Waste or used solvent shall be stored in covered containers.

5 (4) Tanks, containers and all associated equipment shall be  
6 maintained in good operating condition, and leaks shall be repaired  
7 immediately or the degreaser shall be shutdown.

8 (5) Written procedures for the operation and maintenance of the  
9 degreasing or solvent cleaning equipment shall be permanently posted  
10 in an accessible and conspicuous location near the equipment.

11 (6) If the solvent volatility is greater than 4.3 kPa (33 mm Hg  
12 or 0.6 psi) measured at 38 degrees C (100 degrees F), or if solvent  
13 is heated above 50 degrees C (120 degrees F), then one of the following  
14 control devices shall be used:

15 (a) Freeboard that gives a freeboard ratio greater than 0.7;

16 (b) Water cover if the solvent is insoluble in and heavier than  
17 water); or

18 (c) Other systems of equivalent control, such as a refrigerated  
19 chiller or carbon adsorption.

20 (7) If used, the solvent spray shall be a solid fluid stream at  
21 a pressure that does not cause excessive splashing and may not be a  
22 fine, atomized or shower type spray.

#### 23 24 **R307-335-5. Open Top Vapor Degreasers.**

25 Owners or operators of open top vapor degreasers shall, in  
26 addition to meeting the requirements of R307-335-4(3), (4) and (5),

27 (1) Equip the vapor degreaser with a cover that can be opened  
28 and closed without disturbing the vapor zone. The cover shall be  
29 closed except when processing work loads through the degreaser;

30 (2) Install one of the following control devices:

31 (a) Equipment necessary to sustain:

32 (i) A freeboard ratio greater than or equal to 0.75, and

33 (ii) A powered cover if the degreaser opening is greater than  
34 1 square meter (10.8 square feet),

35 (b) Refrigerated chiller,

36 (c) Enclosed design (cover or door opens only when the dry part  
37 is actually entering or exiting the degreaser),

38 (d) Carbon adsorption system, with ventilation greater than or  
39 equal to 15 cubic meters per minute per square meter (50 cubic feet  
40 per minute per square foot) of air/vapor area when cover is open and  
41 exhausting less than 25 parts per million of solvent averaged over one  
42 complete adsorption cycle;

43 (3) Minimize solvent carryout by:

44 (a) Racking parts to allow complete drainage,

45 (b) Moving parts in and out of the degreaser at less than 3.3

1 meters per minute (11 feet per minute),

2 (c) Holding the parts in the vapor zone at least 30 seconds or  
3 until condensation ceases,

4 (d) Tipping out any pool of solvent on the cleaned parts before  
5 removal, and

6 (e) Allowing the parts to dry within the degreaser for at least  
7 15 seconds or until visibly dry.

8 (4) Spray parts only in or below the vapor level;

9 (5) Not use ventilation fans near the degreaser opening, nor  
10 provide exhaust ventilation exceeding 20 cubic meters per minute per  
11 square meter (65 cubic feet per minute per square foot) in degreaser  
12 open area, unless necessary to meet state and federal occupational,  
13 health, and safety requirements.

14 (6) Not degrease porous or absorbent materials, such as cloth,  
15 leather, wood or rope;

16 (7) Not allow work loads to occupy more than half of the  
17 degreaser's open top area;

18 (8) Ensure that solvent is not visually detectable in water  
19 exiting the water separator;

20 (9) Install safety switches on the following:

21 (a) Condenser flow switch and thermostat (shuts off sump heat  
22 if condenser coolant is either not circulating or too warm); and

23 (b) Spray switch (shuts off spray pump if the vapor level drops  
24 excessively, i.e., greater than 10 cm (4 inches)).

25 (10) Open top vapor degreasers with an open area smaller than  
26 one square meter (10.8 square feet) are exempt from R307-335-5(2)(b)  
27 and (d).

28

29 **R307-335-6. ConveyORIZED Degreasers.**

30 Owners and operators of conveyORIZED degreasers shall, in  
31 addition to meeting the requirements of R307-335-4(3), (4) and (5) and  
32 R307-335-5(5):

33 (1) Install one of the following control devices for  
34 conveyORIZED degreasers with an air/vapor interface equal to or  
35 greater than two square meters (21.5 square feet):

36 (a) Refrigerated chiller; or

37 (b) Carbon adsorption system, with ventilation greater than or  
38 equal to 15 cubic meters per minute per square meter (50 cubic feet  
39 per minute per square foot) of air/vapor area when downtime covers are  
40 open, and exhausting less than 25 parts per million of solvent, by  
41 volume, averaged over a complete adsorption cycle.

42 (2) Equip the cleaner with equipment, such as a drying tunnel  
43 or rotating (tumbling) basket, sufficient to prevent cleaned parts  
44 from carrying out solvent liquid or vapor.

45 (3) Provide downtime covers for closing off the entrance and

1 exit during shutdown hours. Ensure that down-time cover is placed over  
2 entrances and exits of conveyORIZED degreasers immediately after the  
3 conveyor and exhaust are shut down and is removed just before they are  
4 started up.

5 (4) Minimize carryout emissions by racking parts for best  
6 drainage and maintaining the vertical conveyor speed at less than 3.3  
7 meters per minute (11 feet per minute).

8 (5) Minimize openings: Entrances and exits should silhouette  
9 work loads so that the average clearance (between parts and the edge  
10 of the degreaser opening) is either less than 10 cm (4 inches) or less  
11 than 10% of the width of the opening.

12 (6) Install safety switches on the following:

13 (a) Condenser flow switch and thermostat - shuts off sump heat  
14 if coolant is either not circulating or too warm;

15 (b) Spray switch - shuts off spray pump or conveyor if the vapor  
16 level drops excessively, i.e., greater than 10 cm or (4 inches); and

17 (c) Vapor level control thermostat - shuts off sump level if  
18 vapor level rises too high.

19 (7) Ensure that solvent is not visibly detectable in the water  
20 exiting the water separator.

21

22 **R307-335-7. Recordkeeping.**

23 The owner or operator shall maintain, for a minimum of two years,  
24 appropriate records to demonstrate compliance with R307-335.

25

26 **KEY: air pollution, degreasing**

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

28 **Notice of Continuation: February 1, 2012**

29 **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  
5 (VOC) emissions from solvent cleaning operations.

6

7 **R307-304-2. Applicability.**

8 (1) R307-304 applies to solvent cleaning operations within  
9 Box Elder, Cache, Davis, Salt Lake, Tooele, Utah or Weber  
10 counties.

11 (2) Before September 1, 2018, R307-304 applies to an owner or  
12 operator using 720 gallons or more a year of VOC containing  
13 solvent products, minus exempt materials, for solvent cleaning  
14 operations.

15 (3) Effective September 1, 2018, R307-304 shall apply to an owner  
16 or operator using 55 gallons or more a year of VOC containing  
17 solvent products, minus exempt materials, for solvent cleaning  
18 operations.

19

20 **R307-304-3. Exemptions.**

21 (1) The requirements of R307-304 do not apply to the  
22 operations that are [~~regulated~~]subject to [~~under~~]R307-342 through  
23 R307-347 and R307-349 through R307-355.

24 (2) Shipbuilding and repair and fiberglass boat  
25 manufacturing materials.

26 (3) Operations that are exclusively covered by Department of  
27 Defense military technical data and performed by a Department of  
28 Defense contractor and/or on site at installations owned and/or  
29 operated by the United States Armed Forces are exempt from the  
30 requirements of R307-304.

31 (4) Janitorial cleaning.

32 (5) Graffiti removal.

33 (6) [~~Waste solvent from analytical laboratories.~~]Solvent  
34 cleaning in laboratory tests and analysis and research and  
35 development projects.

36 (7) Cleaning with aerosol products[~~not greater than 16~~  
37 ~~fluid ounces~~].

38 (8) Cleaning solvents that are defined as a consumer product  
39 in R307-357 are exempt from R307-304 and are regulated under the  
40 requirements in R307-357.

41 (9) Cleaning of solar cells, laser hardware, scientific  
42 instruments, and high-precision optics.

43

44 **R307-304-4. Definitions.**

45 The following additional definitions apply to R307-304:

1 "Solvent cleaning" means operations performed using a liquid  
 2 that contains any VOC, or combination of VOCs, which is used to  
 3 clean parts, tools, machinery, equipment and work areas. Cleaning  
 4 operations include, but are not limited to, spraying, wiping,  
 5 flushing, and purging. Solvent cleaning does not include  
 6 degreasing operations subject to R307-335.

7 "Janitorial cleaning" means the cleaning of building floors,  
 8 ceilings, walls, windows, doors, stairs, bathrooms, office  
 9 surfaces and equipment.

10  
 11 **R307-304-5. VOC Content Limits.**

12 (1) No person shall use solvent products with a VOC content  
 13 greater than the amounts specified in Table 1, unless the owner or  
 14 operator uses an add-on control device as specified in R307-304-7  
 15 or the alternative method in R307-304-5(2).

16  
 17 TABLE 1

18  
 19 Solvent Cleaning VOC Limits (excluding water and exempt solvents  
 20 from the definition of volatile organic compounds found in R307-  
 21 101-2)

24 Solvent Cleaning Category	VOC Limit	(lb/gal)	(g/L)
26 Coatings, adhesives and ink manufacturing		4.2	500
27 Electronic parts and components		4.2	500
28 Medical devices and pharmaceutical			
29 Tools, equipment and machinery		6.7	800
30 General surface cleaning		5.0	600
31 Screening printing operations		4.2	500
32 Semiconductor tools, maintenance			
33 and equipment cleaning		6.7	800
34 <u>Advanced composites manufacturing</u>		<u>6.7</u>	<u>800</u>
35 <u>Baby and child care diapers manufacturing</u>		<u>5.0</u>	<u>500</u>

36  
 37 (2) As an alternative to the limits in Table 1 and for all  
 38 general miscellaneous cleaning operations, a person may use a  
 39 cleaning material with a VOC composite vapor pressure no greater  
 40 than 8 mm Hg at 20 degrees Celsius.

41  
 42 **R307-304-6. Work Practices.**

43 An owner or operator shall store used applicators and shop  
 44 towels in closed fireproof containers.

45

1 **R307-304-7. Add-on Emission Control Systems Operations.**

2 (1) If an add-on control system is used, the owner or  
3 operator shall install and maintain the add-on control system in  
4 accordance with the manufacturer recommendations and maintain an  
5 overall capture and control efficiency of at least 85%. The  
6 overall capture and control efficiency shall be determined using  
7 EPA approved methods, as follows:

8 (a) The capture efficiency of a VOC emission control  
9 system's VOC collection device shall be determined according to  
10 EPA's "Guidelines for Determining Capture Efficiency," January 9,  
11 1995 and 40 CFR Part 51, Appendix M, Methods 204-204F, as  
12 applicable.

13 (b) The control efficiency of a VOC emission control  
14 system's VOC control device shall be determined using test methods  
15 in Appendices A-1, A-6, and A-7 to 40 CFR Part 60, for measuring  
16 flow rates, total gaseous organic concentrations, or emissions of  
17 exempt compounds, 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  
22 **R307-304-8. Recordkeeping.**

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

25 (a) The VOC content or composite vapor pressure of the  
26 solvent product applied and

27 (b) If an add-on control device is used, key system  
28 parameters necessary to ensure compliance with R307-304-7.

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

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

36 (2) All records shall be maintained for 2 years.

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

39  
40 **KEY: air pollution, solvent cleaning, solvent use**

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

42 **Notice of Continuation: 2017**

43 **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-061-17

**MEMORANDUM**

**TO:** Air Quality Board

**THROUGH:** Bryce C. Bird, Executive Secretary

**THROUGH:** Marty Gray, Permitting Branch Manager

**FROM:** David Beatty, Operating Permit Section Manager

**DATE:** September 19, 2017

**SUBJECT:** Propose for Public Comment with Department Fee Schedule: Operating Permit Program Fee for Fiscal Year 2019.

---

Title V of the Clean Air Act Amendments of 1990 (CAAA) requires the State of Utah to develop an Operating Permit Program (OPP), to include a fee system which is to be used solely to fund all direct and indirect costs associated with administering the OPP. Section 19-2-109.1(4)(a) of the Utah Conservation Act authorizes the Utah Air Quality Board (the Board) to propose to the legislature an annual emission fee that conforms to Title V of the CAAA for each ton of chargeable pollutant. The fee is included as part of the Department's fee schedule each fall.

Utah began collecting an emission fee of \$25 per ton of air pollution emitted, during fiscal year 1993, to fund development of the program. The fee has changed in varying increments from -4.3% to +17.9%. The current fee charged to fund fiscal year 2018 is \$77.71 per ton of emissions. Most fee increases have been the result of reduced emission tonnages by sources or increasing salaries and benefits to staff as part of legislative approved cost of living increases. An additional increase beginning in fiscal year 2019 is the result of staff salary increases and a further reduction of 1,500 tons of chargeable pollutants. Also, staff size has been reduced from 39 full-time employees (FTEs) in 1995 to a level of 30 FTEs for fiscal year 2019 (this includes a reduction of one FTE for fiscal year 2018); this has assisted in keeping fee increases as low as possible.

For fiscal year 2019, Air Quality staff is basing its proposal on a projected emissions inventory of 55,600 tons, an amount 1,400 tons lower than FY2018. The fee calculation is shown in the table below and shows a fee of \$78.86 for fiscal year 2019, an increase from fiscal year 2018 of 1.5%.

**Operating Permit Emission Fee for Fiscal Year 2019**

FY2019 Salary + Benefits (using FY2018 Projections)		\$3,334,485	
FY2019 Projected Cost Of Living Increase 2%		\$66,690	
FY2019 Projected Salary + Benefits with Projected Increase			\$3,401,175
FY2019 Projected Indirect Costs	12.51%	\$425,487	
FY2019 Projected Direct Costs		\$558,000	
FY2019 Projected Total Expenditures			\$4,384,662
FY2019 Projected Fee Tonnage		55,600	
Fee Rate Per Ton of Emissions			\$78.86
FY2017 Surplus		\$0	
Surplus Reduction in Fee		\$0.00	
<b>FY2019 Proposed Fee Rate Per Ton of Emissions</b>			<b>\$78.86</b>
		\$1.15	Increase

Current Fee (FY2018) is \$77.71

Recommendation: Staff recommends the Board submit as part of the Department’s fee schedule, a proposed fee of \$78.86 per ton for the operating permit program for fiscal year 2019.

# ITEM 13

# SO<sub>2</sub> Area Designation Recommendation

# 2010 1-hour SO<sub>2</sub> Standard Area Designation Update

Presentation to the  
Utah Air Quality Board  
October 4, 2017



UTAH DEPARTMENT *of*  
ENVIRONMENTAL QUALITY

**AIR  
QUALITY**

---

# Background

- On June 2, 2010, EPA established a primary 1-hour SO<sub>2</sub> air quality standard of 75 parts per billion (99<sup>th</sup> percentile value, averaged over 3 consecutive years)
- In July 2013, EPA designated 29 nonattainment areas in 16 states where monitored air quality showed violations of the 2010 standard
- March 2015 court order requires EPA to complete designations for the 2010 standard for all remaining areas in the country in up to three rounds (July 2, 2016, December 31, 2017, and December 31, 2020)

---

# Data Requirements Rule (DRR)

- Finalized August 10, 2015
- Established requirements for air agencies to monitor or model ambient SO<sub>2</sub> levels in areas with large sources of SO<sub>2</sub> emissions to help implement 1-hour SO<sub>2</sub> NAAQS
  - Must characterize air quality around sources that emit 2,000 tons per year or more of SO<sub>2</sub>
  - May avoid requirement by adopting enforceable emission limits that ensure that the source will not emit more than 2,000 tpy
  - Flexibility: can either model actual source emissions or use appropriately sited ambient air quality monitors
- Established a schedule for air agencies to characterize air quality and to provide data to EPA
  - EPA will use this data to designate areas across the country as meeting/not meeting the 2010 SO<sub>2</sub> standard

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# DRR: Utah response

- By January 15, 2016, air agencies were required to submit a final list identifying sources around which air quality is to be characterized
  - Must include sources with above 2,000 tpy of SO<sub>2</sub>
    - Intermountain Power Plant
    - Hunter Power Plant
    - Huntington Power Plant
    - Carbon Power Plant (closed)
- By July 1, 2016, each agency was required to identify, for each source on the list, the approach it will use to characterize air quality
  - Monitoring
    - Must submit relevant information concerning monitoring sites to EPA by July 1, 2016 as part of annual monitoring network plan
    - Must ensure that ambient monitors are operational by January 1, 2017
    - First 3 years of data will be collected for calendar years 2017, 2018, and 2019
  - Modeling
    - Must provide modeling protocol to EPA by July 1, 2016
    - Modeling analysis must be submitted by January 13, 2017
  - Alternative: Indicate that they will adopt enforceable emissions limitations to limit sources to below 2,000 tpy
    - Limits must be adopted and effective by January 13, 2017

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# Utah actions and EPA response

- Utah submitted designation recommendations via letters on May 3, 2011, and November 1, 2016,
  - Utah recommended an attainment designation for both our Data Requirements Rule areas and for the remaining areas of the State
- On August 22, 2017, EPA Region 8 sent UDAQ a letter informing the State of EPA's intended designations for Utah: "We are in agreement with your recommendation for these areas..."
- Utah has until October 23, 2017, to provide any additional information
- EPA will promulgate the final designations by December 31, 2017
- While this is good news, Utah still has a nonattainment area for the 1971 standard for Salt Lake and part of Tooele County
  - Working with EPA to resolve this

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# Questions?





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8

1595 Wynkoop Street  
Denver, CO 80202-1129  
Phone 800-227-8917  
www.epa.gov/region8

**AUG 22 2017**

Ref: 8P-AR

Honorable Gary Herbert  
Utah State Capitol Complex  
350 North State Street, Suite 200  
P.O. Box 142220  
Salt Lake City, Utah 84114-2220

Dear Governor Herbert:

The purpose of this letter is to inform you of the U.S. Environmental Protection Agency's (EPA's) intended designations for certain areas in Utah for the 2010 Primary National Ambient Air Quality Standard (NAAQS) for sulfur dioxide (SO<sub>2</sub>). The designations for this NAAQS are a part of the EPA's commitment to a clean, healthy environment. These intended designations are a response to designation-related recommendations and information your state submitted in letters dated May 3, 2011 and November 1, 2016.

On July 25, 2013, the EPA designated certain areas in 16 states as nonattainment, but did not at that time designate other areas. Additional areas were designated on June 30, 2016 and November 29, 2016. No areas have been previously designated in Utah. Pursuant to a March 2, 2015, court-ordered schedule,<sup>1</sup> the agency must complete the remaining SO<sub>2</sub> designations by two specific deadlines: December 31, 2017 and December 31, 2020. Accordingly, pursuant to section 107(d)(1)(B)(ii) of the Clean Air Act, this letter is to notify you of the EPA's assessment of your state's recommended designations for all remaining undesignated areas in Utah. We are in agreement with your recommendation for these areas, and we provide more information on our analysis in the accompanying technical support document.

If you or your staff have additional information that the EPA should consider prior to finalizing the designations, please submit it as soon as possible but no later than October 23, 2017. You may submit additional information by sending it to the EPA's public docket for these designations, EPA-HQ-OAR-2017-0003, located at [www.regulations.gov](http://www.regulations.gov), and sending a copy to EPA Region 8. The EPA also will publish a notice in the *Federal Register* announcing a 30-day comment period for the public to provide input on the EPA's intended designations.

Utah has recommended a designation of attainment for the areas indicated below. EPA regulations for implementing the SO<sub>2</sub> NAAQS require Utah to characterize SO<sub>2</sub> air quality in each listed area. In considering your recommendation, we have taken into account all available information, including any current (2014-2016) air monitoring data, and any air dispersion modeling analyses provided by Utah or by a third party. Our review of this information indicates that it is consistent with your recommendation.

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<sup>1</sup> *Sierra Club v. McCarthy*, No. 3-13-cv-3953 (SI) (N.D. Cal. Mar. 2, 2015).

Unclassifiable/Attainment Area	Included Counties
Emery County	Emery
Millard County*	Millard

\*Includes areas of Indian country located within the county.

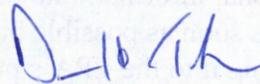
Enclosure 1 to this letter provides the information that supports the intended designation decisions for these areas in Utah.<sup>2</sup>

Finally, we intend to designate as unclassifiable/attainment all remaining areas of Utah that were not required to be characterized and for which the EPA does not have information that suggests the area may not be meeting the NAAQS or contributing to air quality in a nearby area that does not meet the NAAQS. A list of these remaining areas is included in Enclosure 2.

The EPA will promulgate the final designations for the areas identified in this letter by December 31, 2017. We are prepared to work with you to resolve any disagreements with respect to the available information or information gaps. Upon the completion of this designation action, there will be no remaining areas in Utah to be designated for the 2010 primary SO<sub>2</sub> NAAQS.

We share your goal to provide cleaner air for citizens in your state. We look forward to a continued dialogue with you and your staff as we work together to complete the area designations and implement the 2010 primary SO<sub>2</sub> NAAQS. For additional information regarding designations under the SO<sub>2</sub> NAAQS, please visit our website at <https://www.epa.gov/sulfur-dioxide-designations>. Should you have any questions, please do not hesitate to contact me, or your Air Quality Program. Your staff may contact Monica Morales, Region 8's Air Program Director, at [morales.monica@epa.gov](mailto:morales.monica@epa.gov) or (303) 312-6936.

Sincerely,



Debra H. Thomas  
Acting Regional Administrator

Enclosures

<sup>2</sup> Enclosure 1 is Chapter 40 of the Technical Support Document for the designations the EPA plans to complete by December 31, 2017, that addresses areas in Utah. The Technical Support Document is also available at <https://www.epa.gov/sulfur-dioxide-designations>.

cc: Alan Matheson, Executive Director  
Utah Department of Environmental Quality

Bryce Bird, Director  
Utah DEQ, Division of Air Quality

Enclosure 2

List of all remaining areas of Utah that were not required to be characterized and for which the EPA does not have information that suggests the area may not be meeting the NAAQS or contributing to air quality in a nearby area that does not meet the NAAQS. The EPA intends to designate each of these areas as a separate unclassifiable/attainment area.

County or Partial County (p)	Included Area, If Partial County
Box Elder*	
Cache	
Carbon*	
Daggett	
Davis	
Duchesne*	
Garfield	
Grand*	
Iron*	
Juab*	
Kane	
Morgan	
Piute	
Rich	
Salt Lake	
San Juan*	Full County with the exception of the portion of the county containing the Navajo Nation Reservation
Sanpete	
Sevier*	
Summit	
Tooele*	

Uintah*	
Utah*	
Wasatch*	
Washington*	
Wayne	
Weber	

\* Includes areas of Indian country located in the county.

# 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-809-17

**MEMORANDUM**

**TO:** Air Quality Board  
**FROM:** Bryce C. Bird, Executive Secretary  
**DATE:** September 15, 2017  
**SUBJECT:** Air Toxics, Lead-Based Paint, and Asbestos (ATLAS) Section Compliance Activities – August 2017

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Asbestos Demolition/Renovation NESHAP Inspections	53
Asbestos AHERA Inspections	25
Asbestos State Rules Only Inspections	16
Asbestos Notification Forms Accepted	207
Asbestos Telephone Calls Answered	342
Asbestos Individuals Certifications Approved/Disapproved	61/0
Asbestos Company Certifications/Re-Certifications	1/2
Asbestos Alternate Work Practices Approved/Disapproved	11/0
Lead-Based Paint (LBP) Inspections	6
LBP Notification Forms Approved	0
LBP Telephone Calls Answered	36
LBP Letters Prepared and Mailed	7
LBP Courses Reviewed/Approved	0/0
LBP Course Audits	1
LBP Individual Certifications Approved/Disapproved	40/0
LBP Firm Certifications	14

Notices of Violation Sent	0
Compliance Advisories Sent	33
Warning Letters Sent	11
Settlement Agreements Finalized	3
Penalties Agreed to:	
Jacobsen Construction	\$ 1,500.00
Regency Excavation	\$12,585.00
Impact Demolition	<u>\$ 2,700.00</u>
	\$16,785.00



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-1270-17

MEMORANDUM

**TO:** Air Quality Board  
**FROM:** Bryce C. Bird, Executive Secretary  
**DATE:** September 19, 2017  
**SUBJECT:** Compliance Activities – August 2017

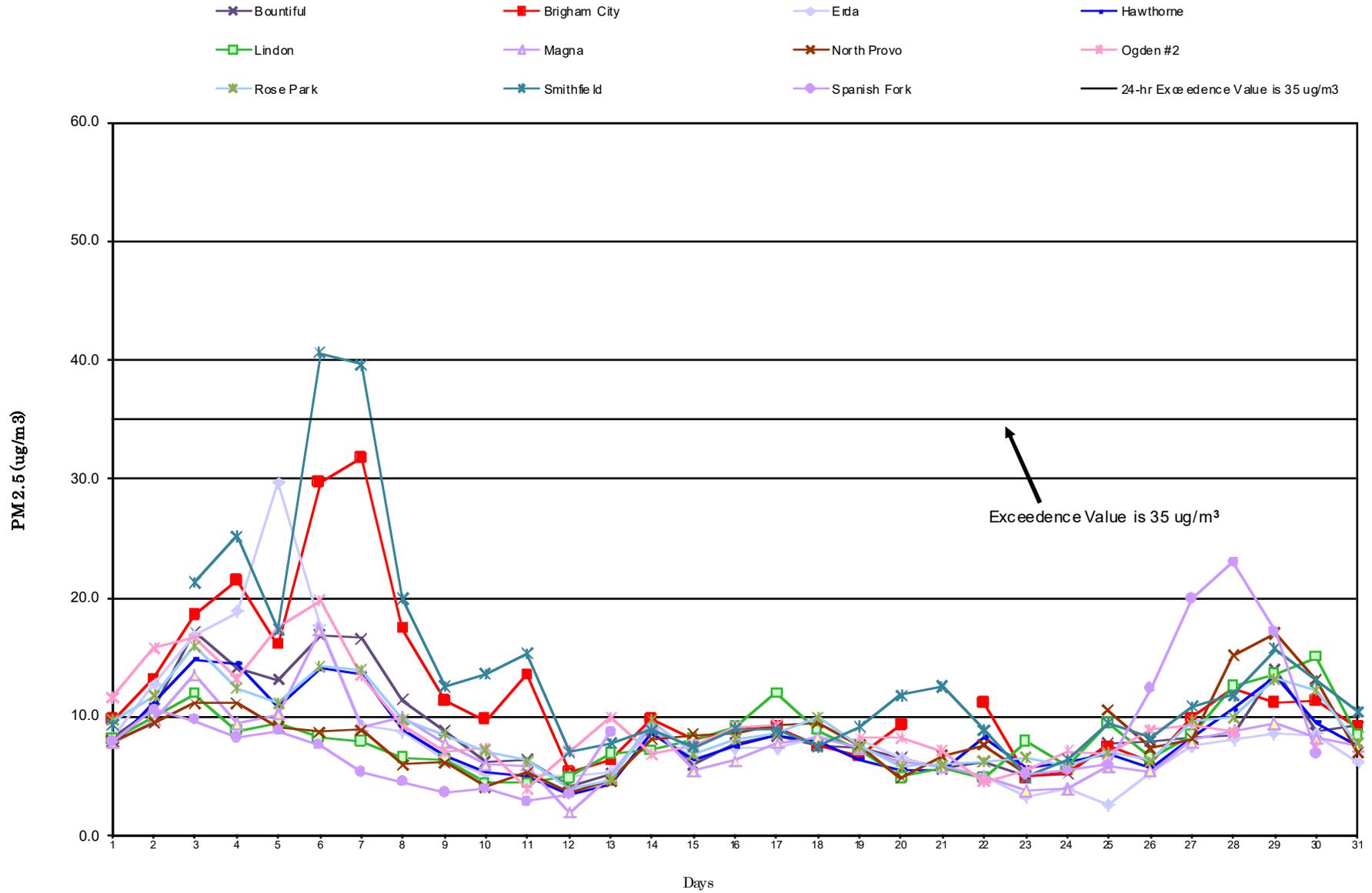
Annual Inspections Conducted:

Major .....	7
Synthetic Minor .....	12
Minor .....	22
On-Site Stack Test Audits Conducted: .....	4
Stack Test Report Reviews: .....	52
On-Site CEM Audits Conducted: .....	16
Emission Reports Reviewed: .....	12
Temporary Relocation Requests Reviewed & Approved: .....	14
Fugitive Dust Control Plans Reviewed & Accepted:.....	203
Soil Remediation Report Reviews: .....	0
<sup>1</sup> Miscellaneous Inspections Conducted:.....	20
Complaints Received: .....	43
Breakdown Reports Received:.....	0

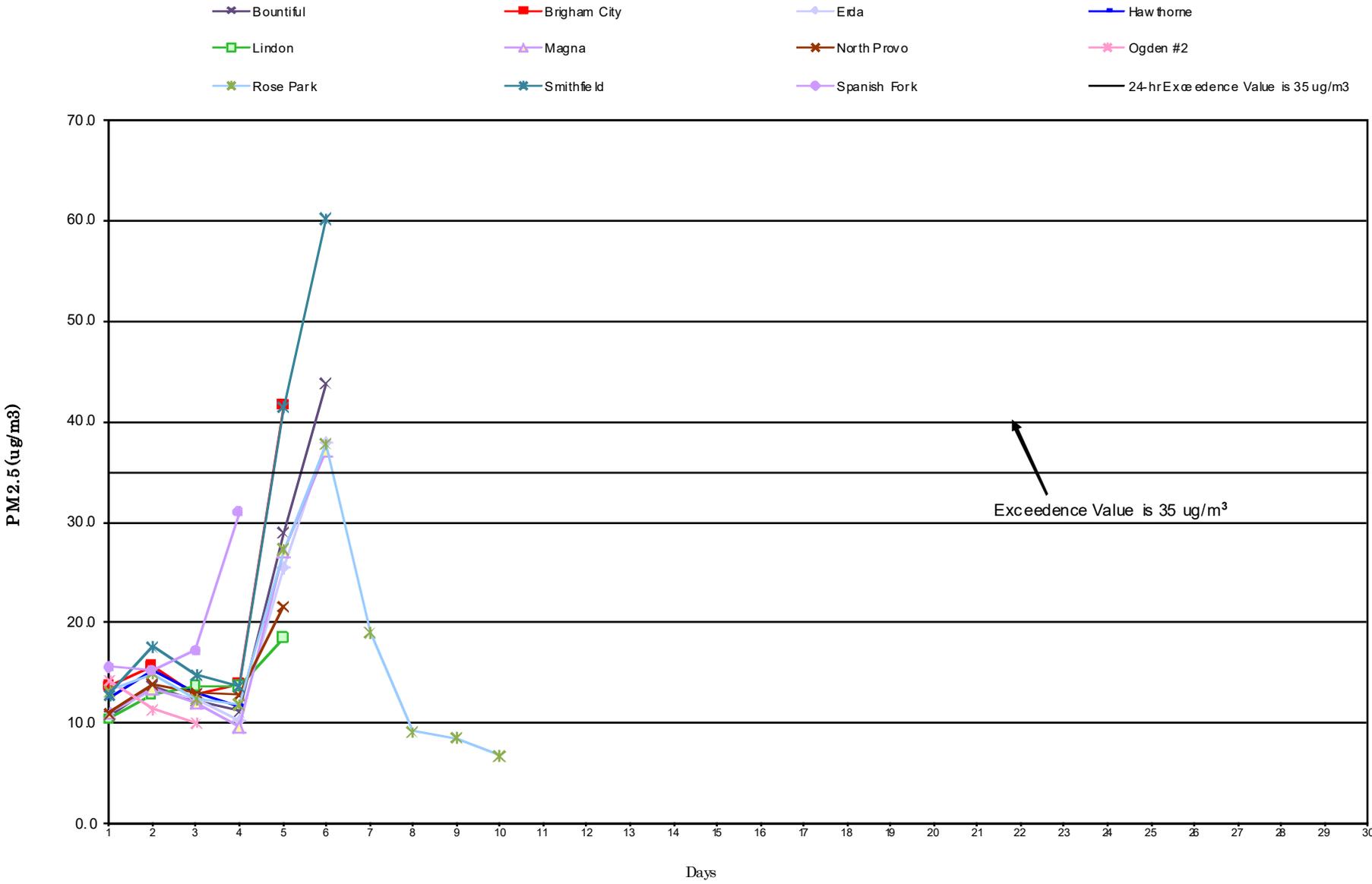
Compliance Actions Resulting From a Breakdown.....	0
Warning Letters Issued: .....	3
Notices of Violation Issued:.....	0
Compliance Advisories Issued:.....	12
Settlement Agreements Reached: .....	2
Bolinder Resources .....	\$2,476.00
Badlands Energy .....	\$2,951.00

<sup>1</sup>Miscellaneous inspections include, e.g., surveillance, level I inspections, VOC inspections, complaints, on-site training, dust patrol, smoke patrol, open burning, etc.

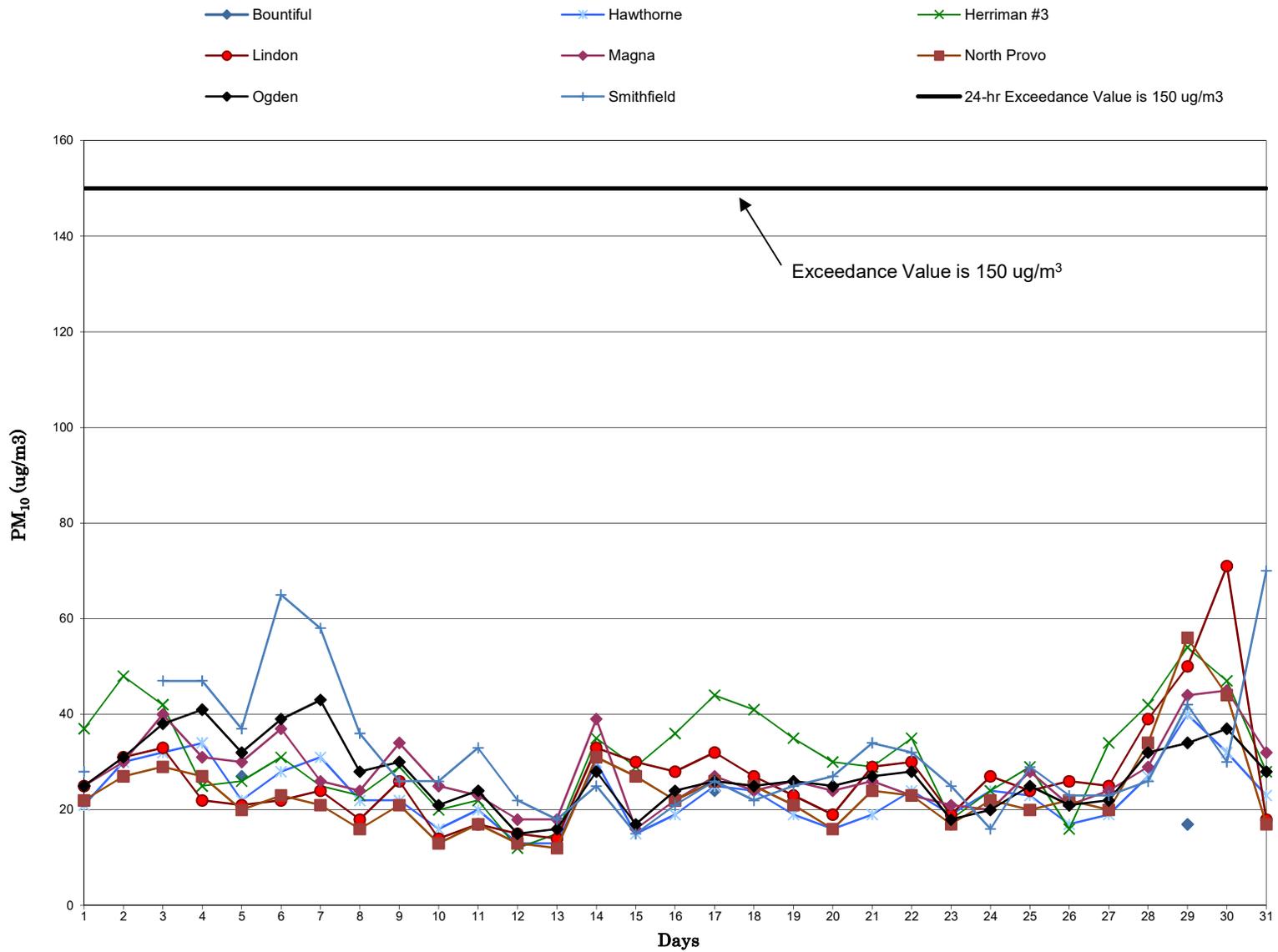
# Utah 24-Hr PM2.5 Data August 2017



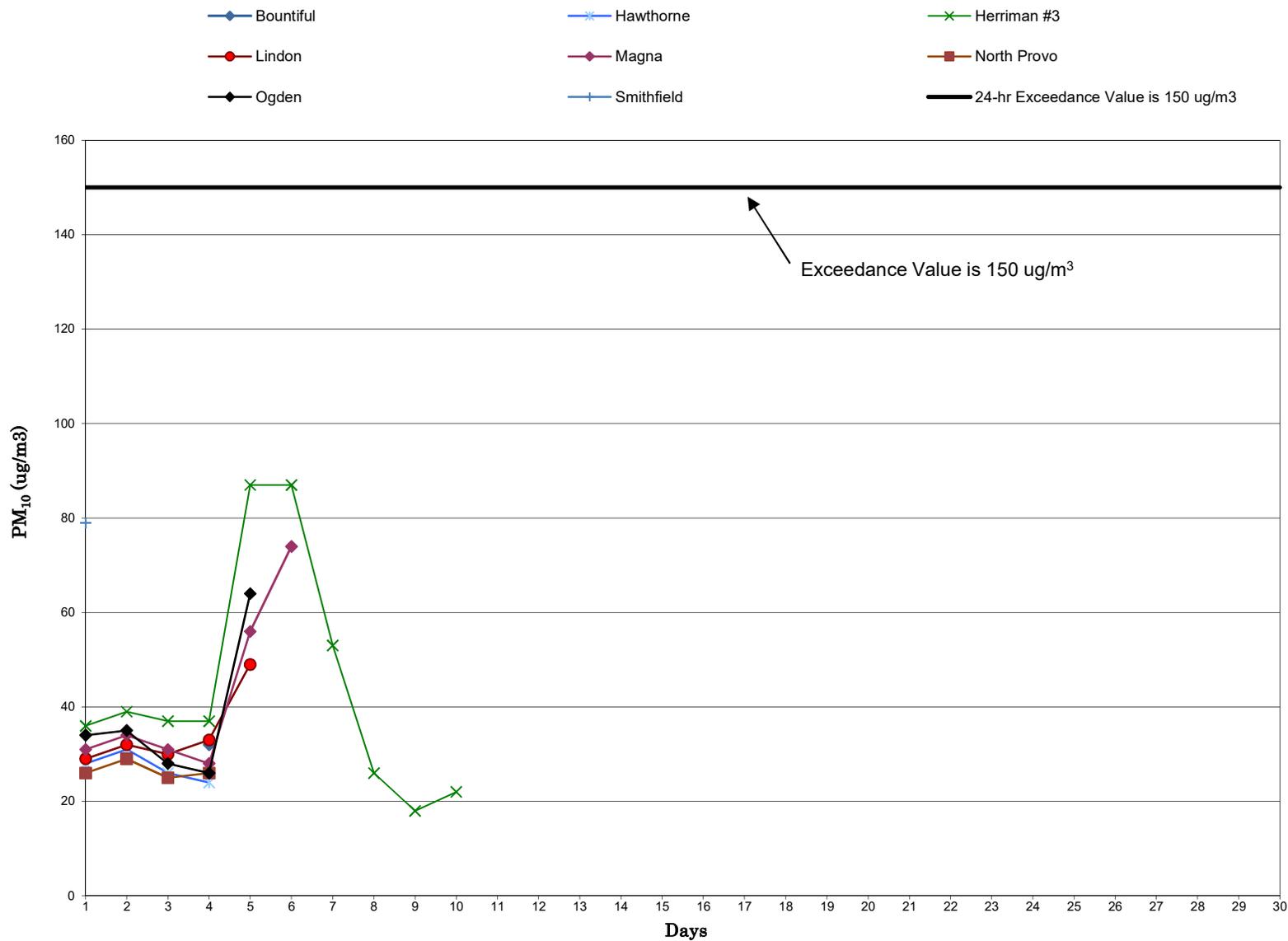
# Utah 24-Hr PM2.5 Data September 2017



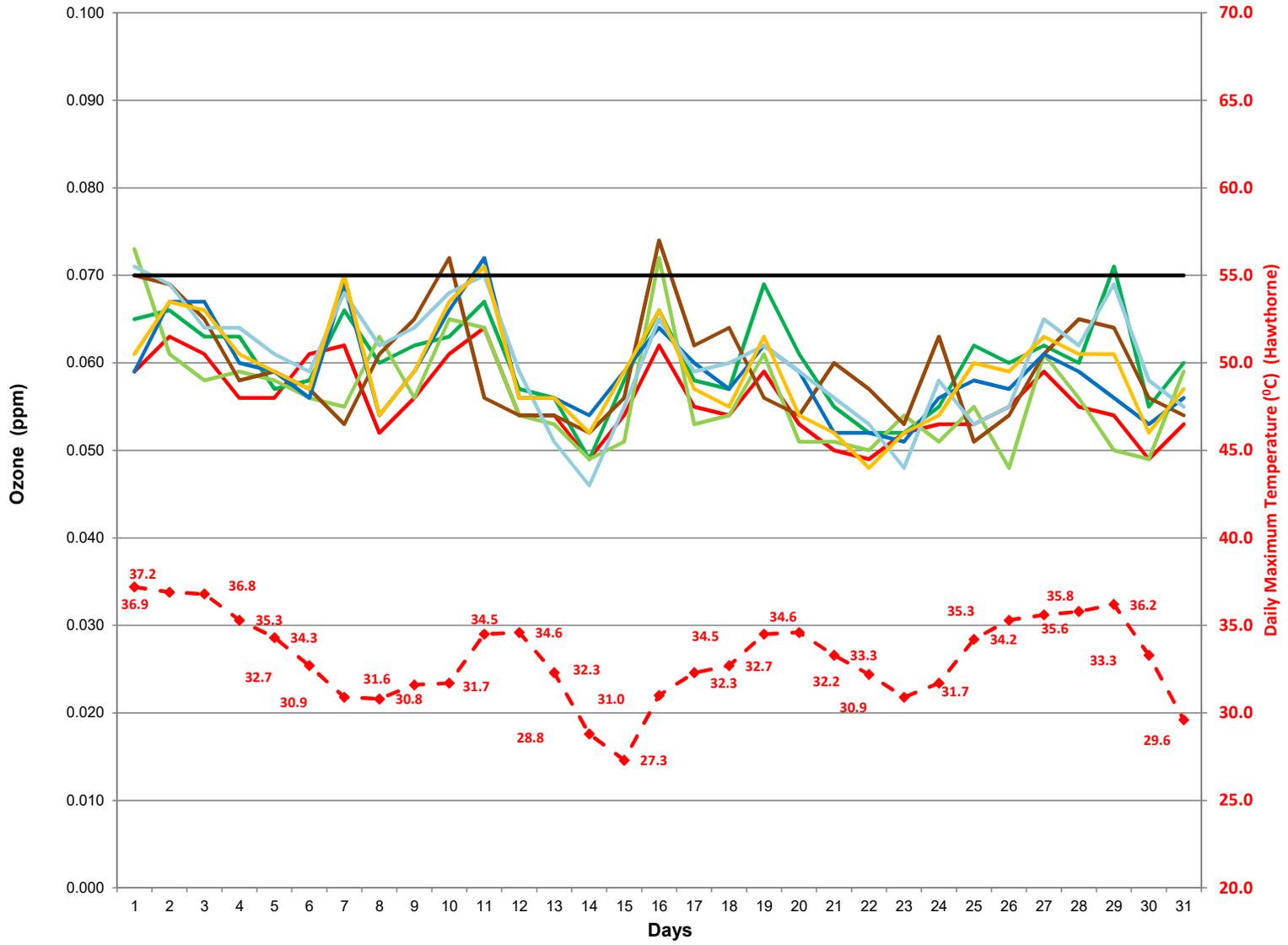
# Utah 24-hr PM<sub>10</sub> Data August 2017



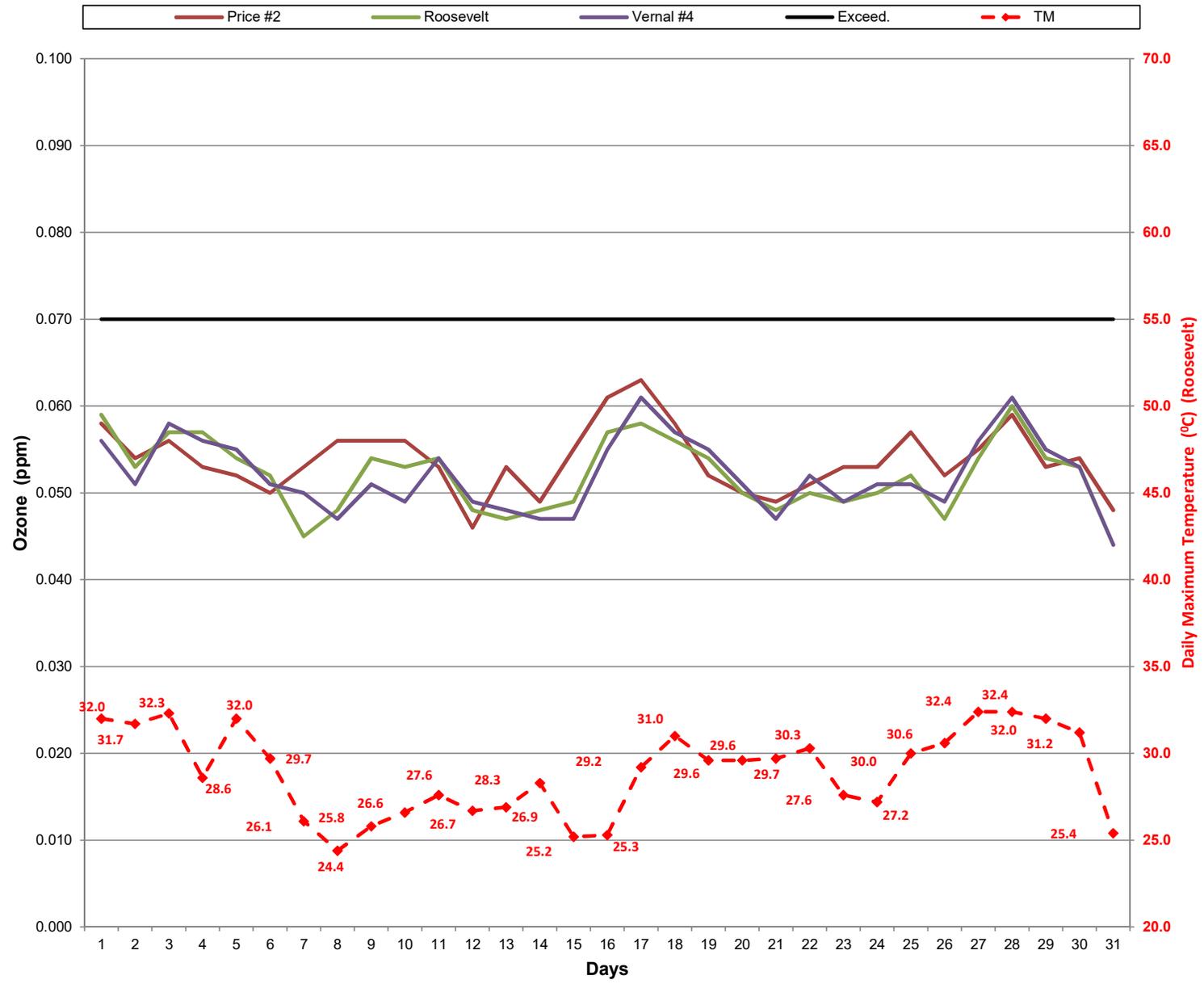
# Utah 24-hr PM<sub>10</sub> Data September 2017



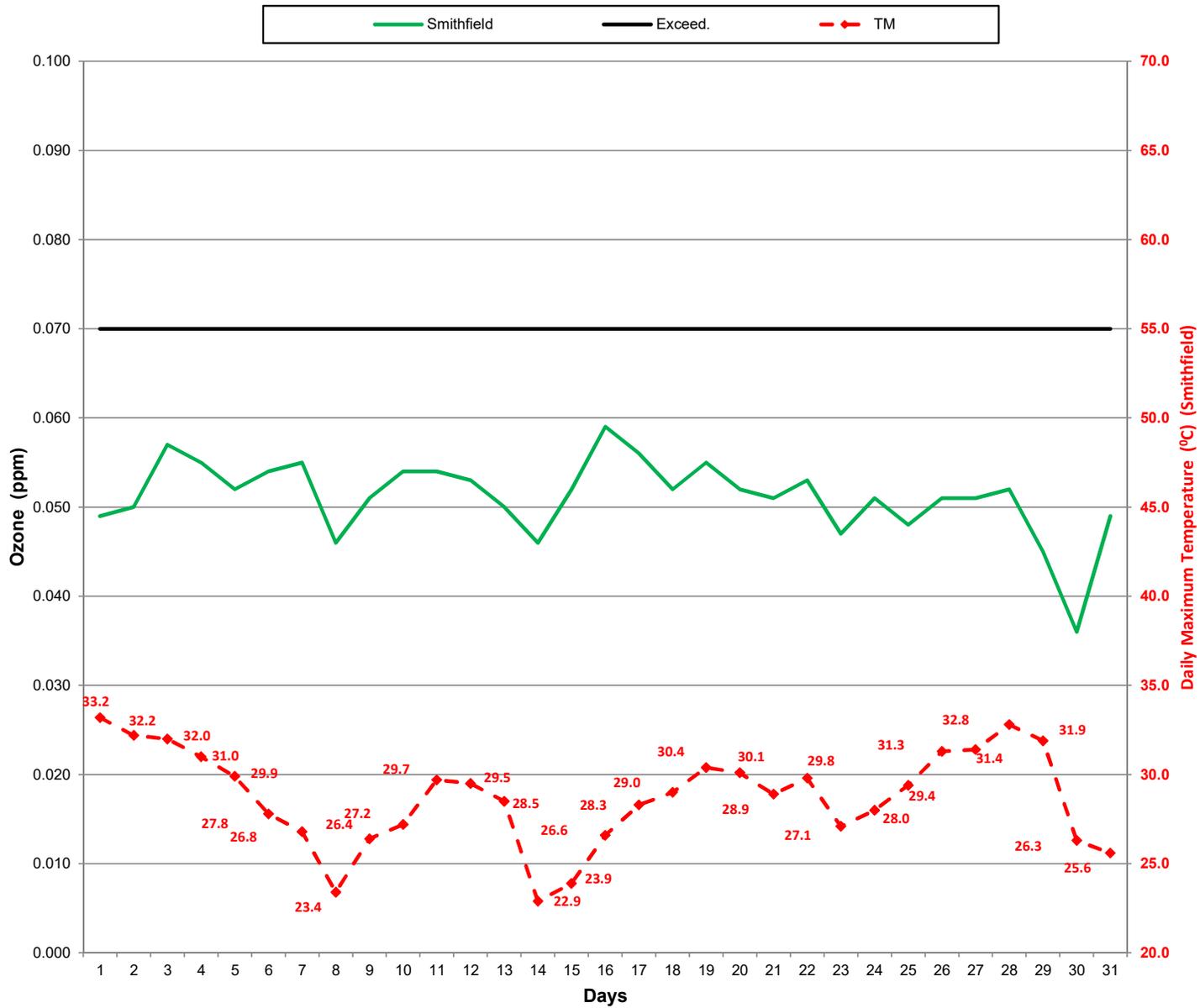
## Highest 8-hr Ozone Concentration & Daily Maximum Temperature August 2017



### Highest 8-hr Ozone Concentration & Daily Maximum Temperature August 2017

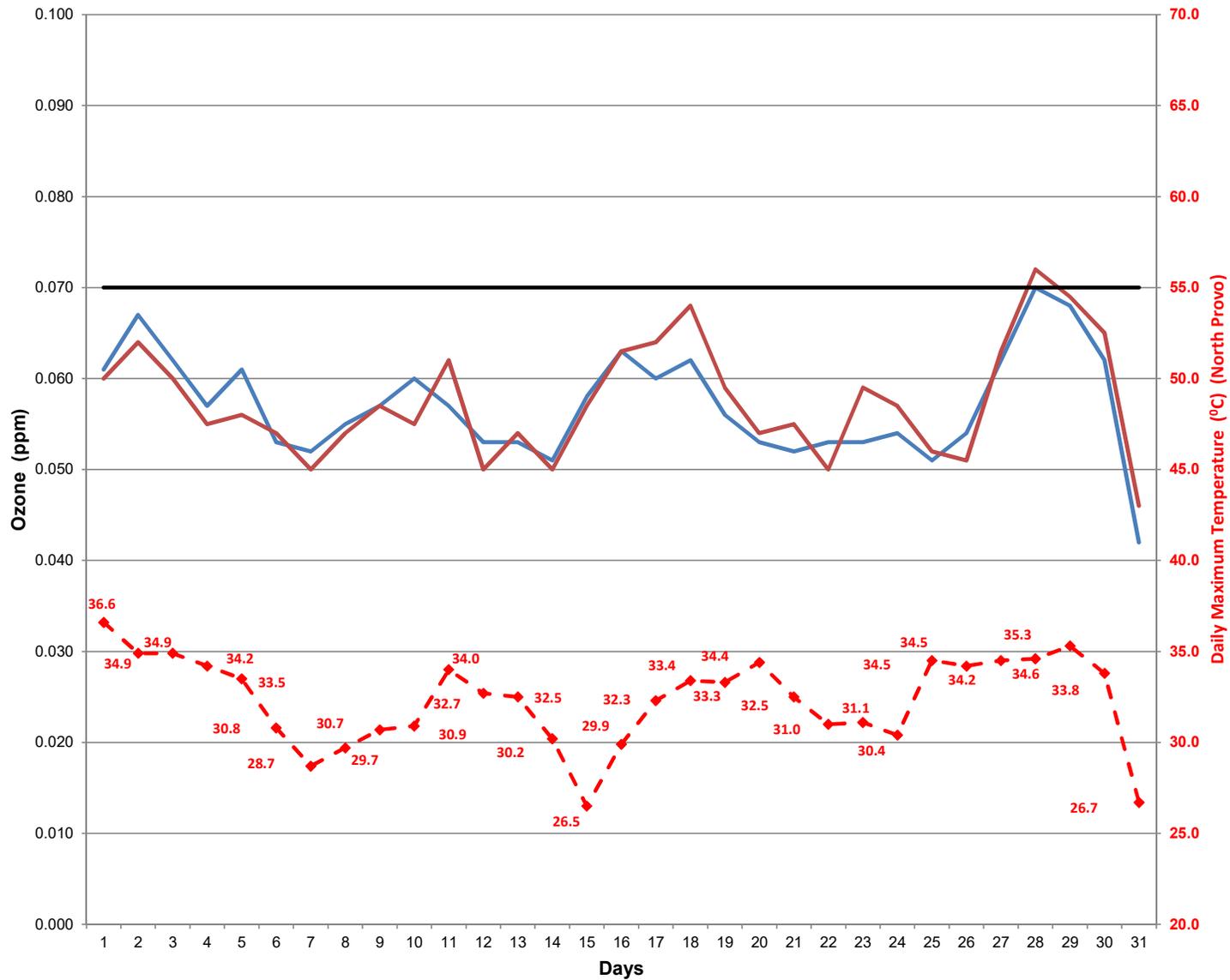


# Highest 8-hr Ozone Concentration & Daily Maximum Temperature August 2017



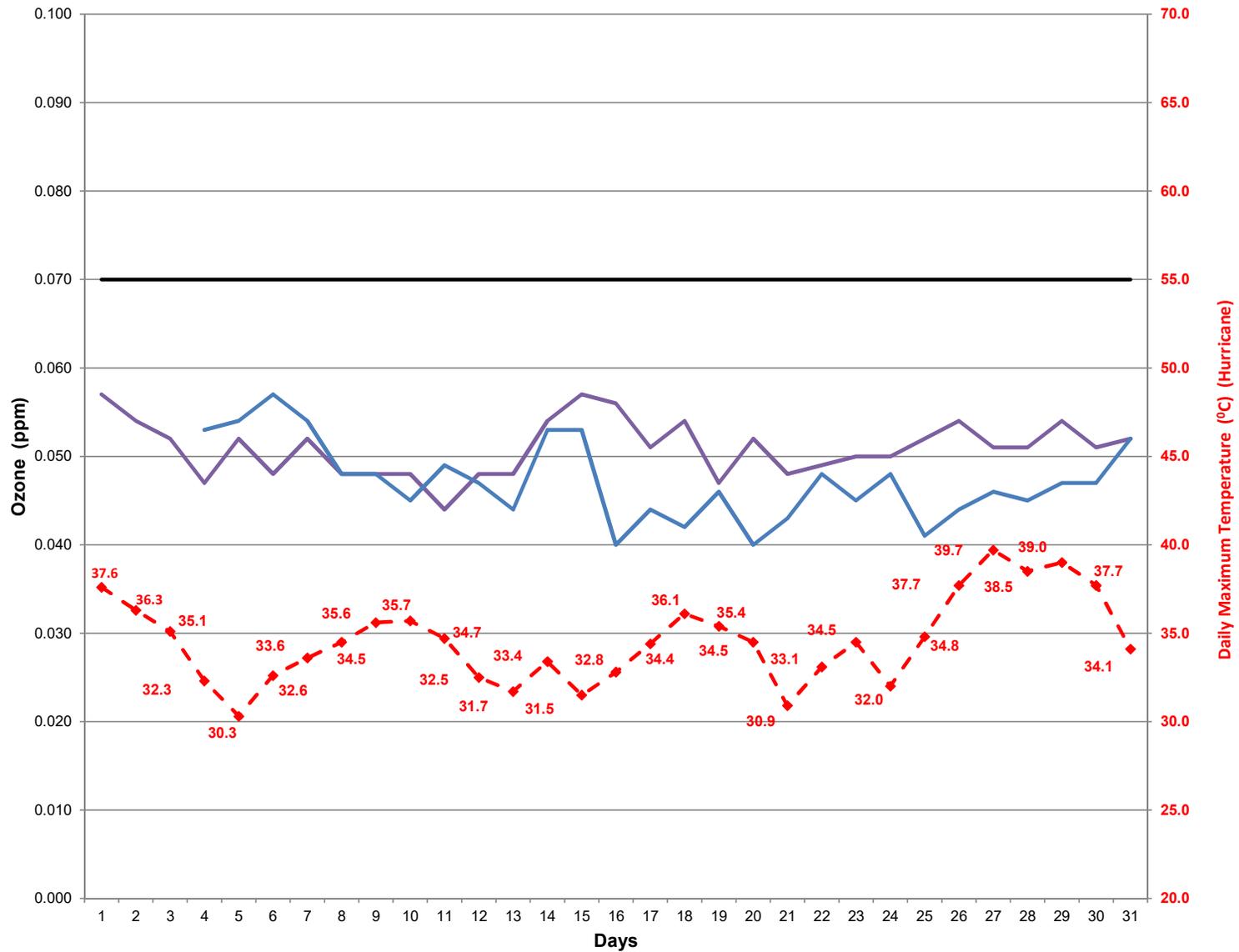
### Highest 8-hr Ozone Concentration & Daily Maximum Temperature August 2017

— North Provo — Spanish Fork — Exceed. —♦— TM

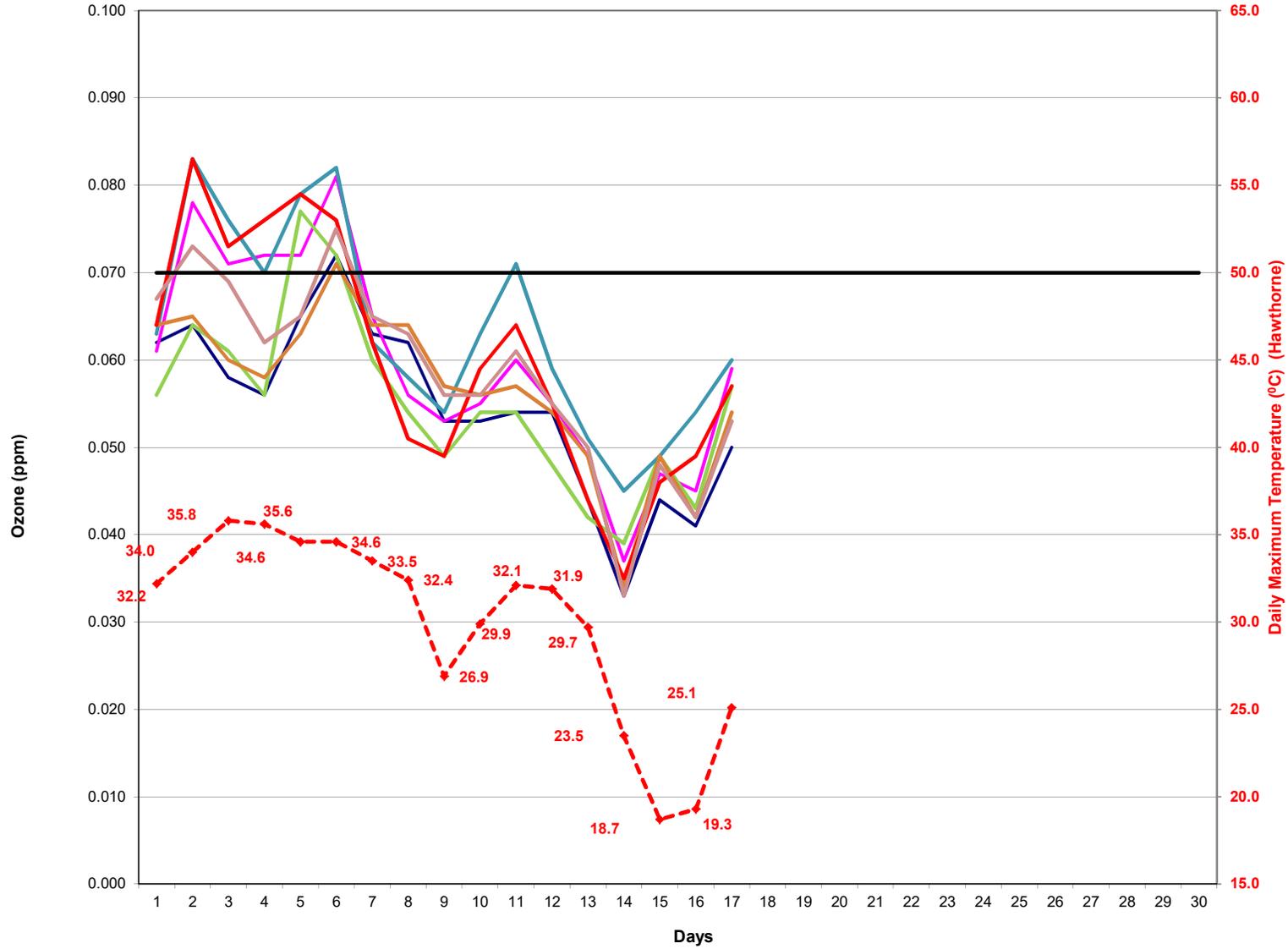


# Highest 8-hr Ozone Concentration & Daily Maximum Temperature August 2017

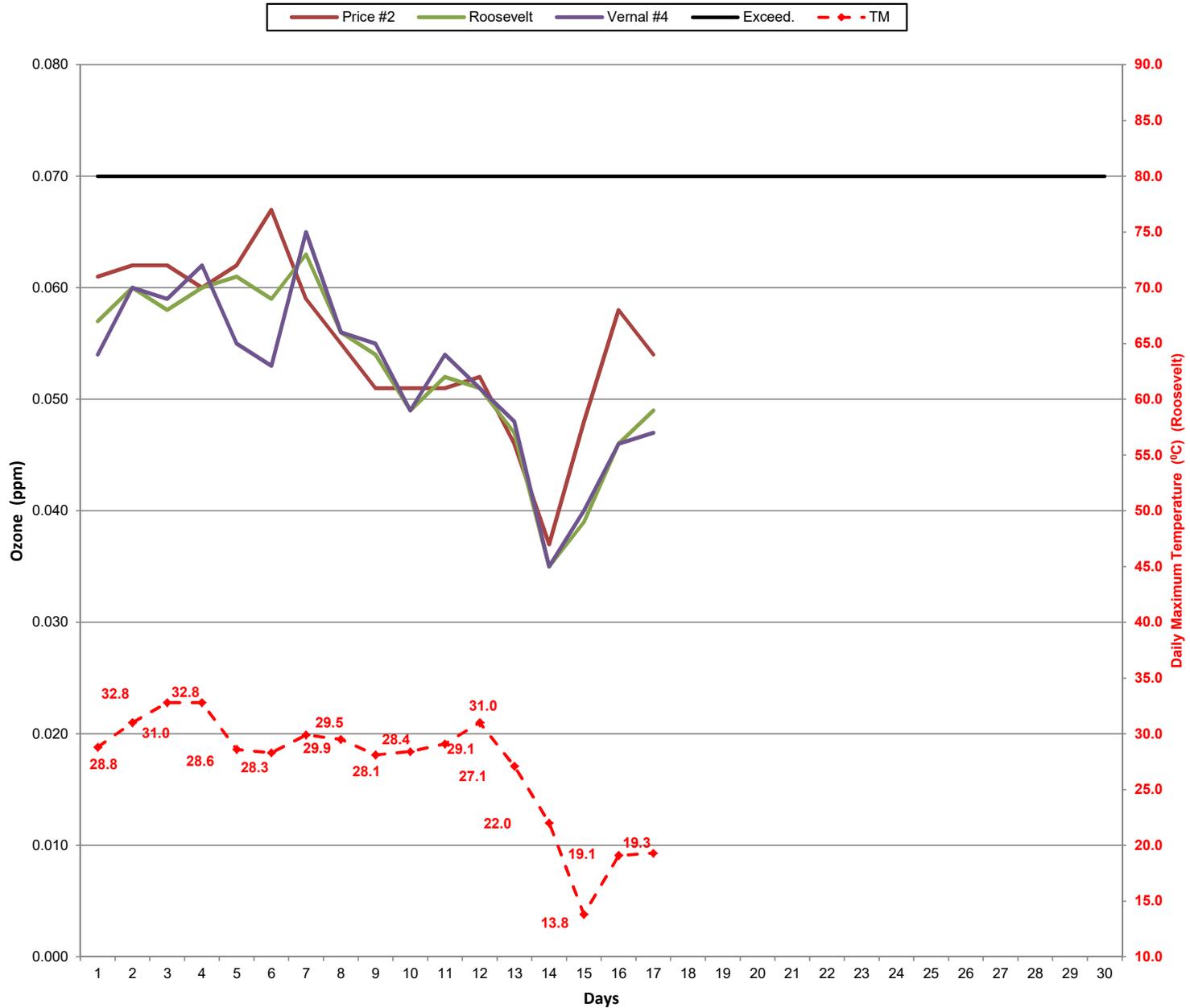
Escalante Hurricane Exceed. TM



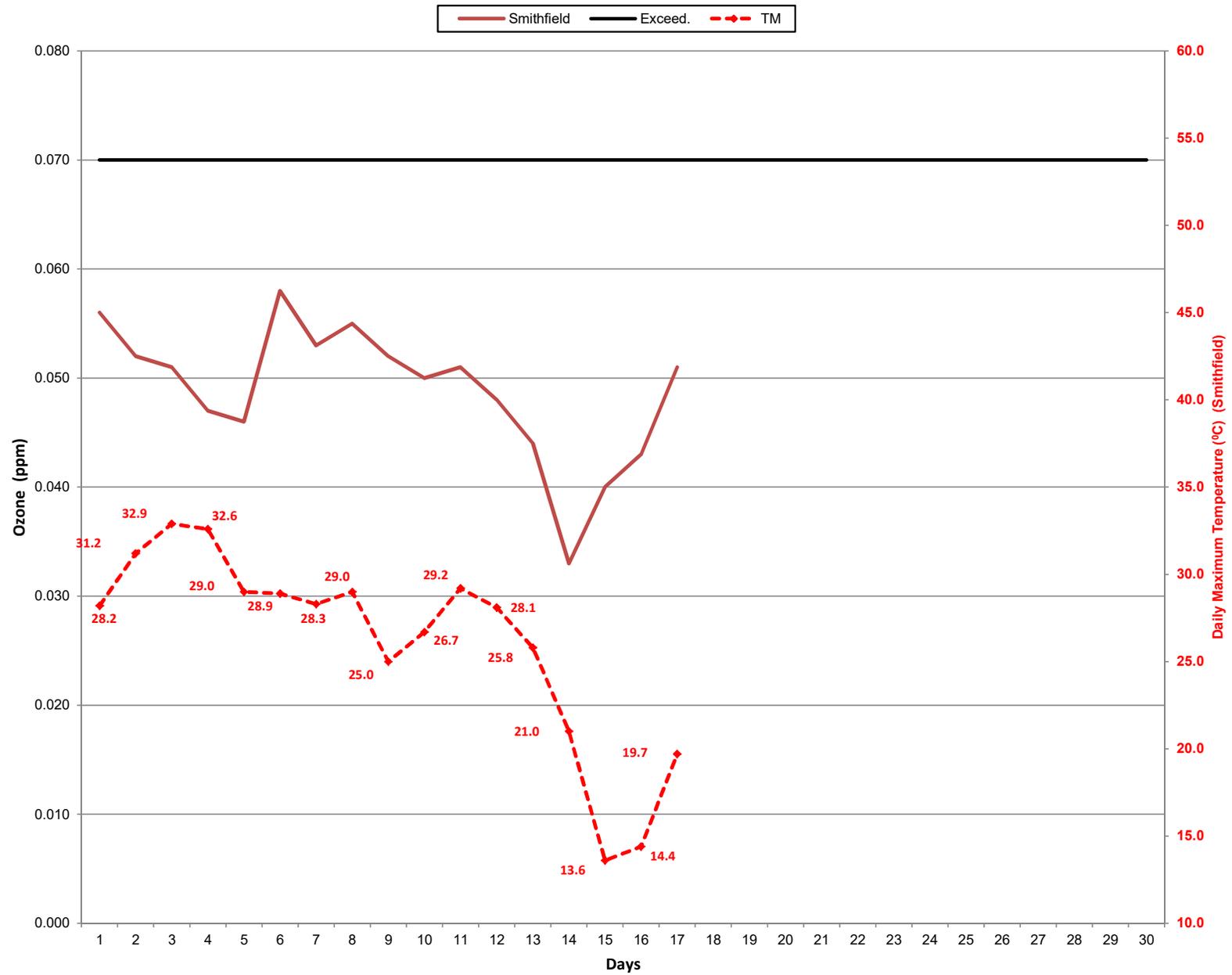
## Highest 8-hr Ozone Concentration & Daily Maximum Temperature September 2017



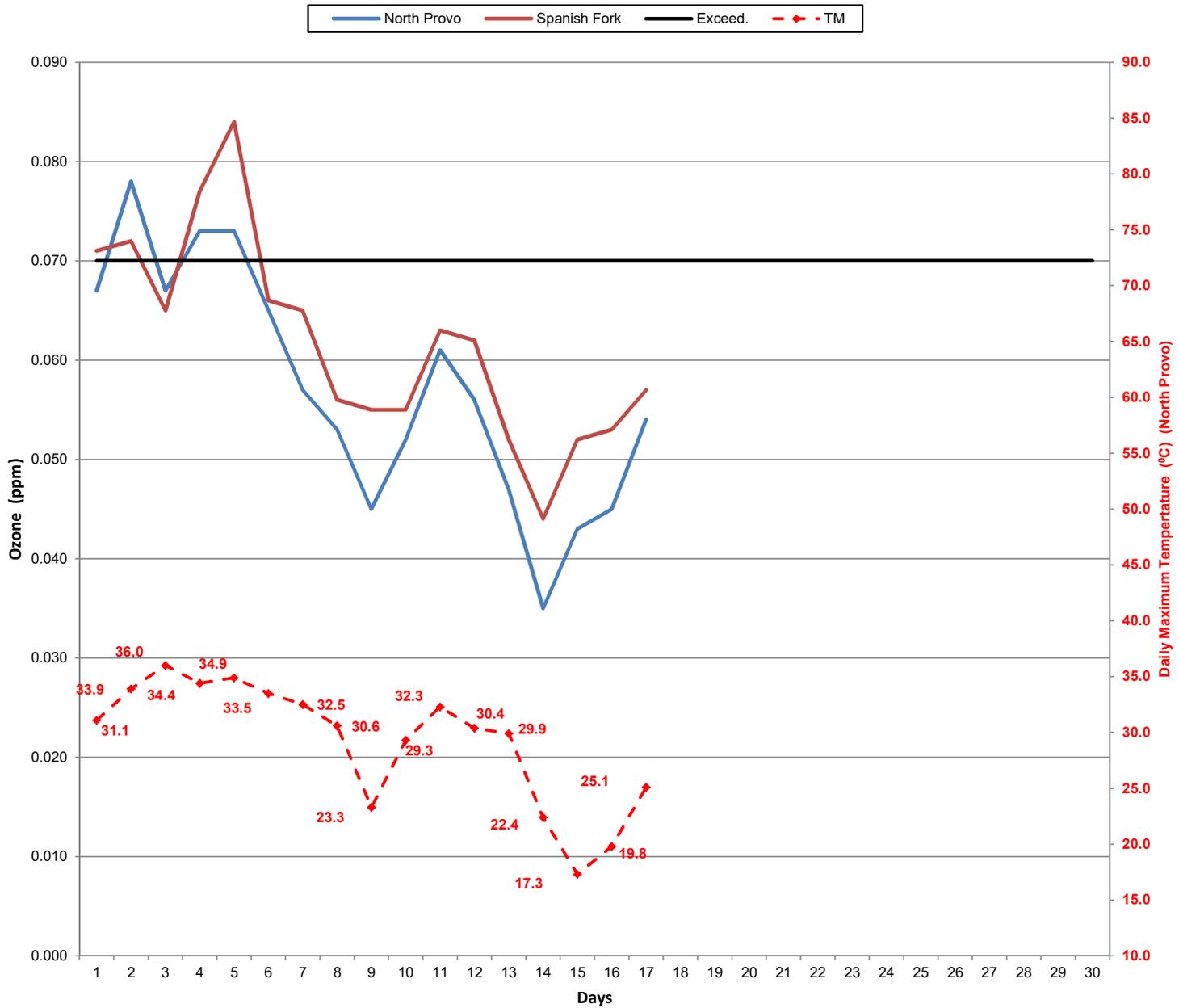
### Highest 8-hr Ozone Concentration & Daily Maximum Temperature September 2017



# Highest 8-hr Ozone Concentration & Daily Maximum Temperature September 2017



### Highest 8-hr Ozone Concentration & Daily Maximum Temperature September 2017



### Highest 8-hr Ozone Concentration & Daily Maximum Temperature September 2017

