



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

### UTAH AIR QUALITY BOARD MEETING September 5, 2018 – 1:30 p.m. 195 North 1950 West, Room 1015 Salt Lake City, Utah 84116

#### FINAL MINUTES

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#### **I. Call-to-Order**

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

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

Executive Secretary: Bryce Bird

#### **II Annual Election of Chair and Vice-Chair**

Mr. Bird opened nominations for Chair of the Air Quality Board.

- Michael Smith motions to nominate Erin Mendenhall for Chair of the Air Quality Board. Cassady Kristensen seconded. No other nominations were made and nominations ceased. The Board approved unanimously.

Ms. Mendenhall opened nominations for Vice-Chair of the Air Quality Board.

- Kevin Cromar nominates Cassady Kristensen and was seconded by Ms. Kashanchi. No other nominations were made and nominations ceased. The Board approved unanimously.

#### **III. Date of the Next Air Quality Board Meeting: October 3, 2018**

#### **IV. Approval of the Minutes for June 6, 2018, and August 7, 2018, Board Meetings.**

- Mitra Kashanchi moved to approve the minutes with correction to the August meeting date. Arnold Reitze seconded. The Board approved unanimously.

Alan Matheson enters the meeting.

**V. R. Chapman Construction Company. Settlement Agreement. Presented by Jay Morris.**

Jay Morris, Minor Source Compliance Manager at DAQ, stated that staff conducted an annual compliance inspection at R. Chapman Construction's Harmston aggregate pit near Roosevelt, Utah on August 16, 2016. DAQ's inspector identified 23 separate violations as a result of that inspection and the following records review. On August 22, 2017, another inspector observed two repeat violations for failing to control fugitive dust. The DAQ attempted to negotiate with R. Chapman Construction to settle these violations since December 2017. DAQ sent multiple letters and emails and left many unanswered phone messages for the company. The Attorney General's Office (AGO) became involved in April 2018 to attempt to settle these violations with the company. R. Chapman Construction was notified in July 2018 from the AGO that a complaint would be filed in court if an administrative settlement could not be reached by August 10, 2018. A signed settlement was received on August 9, 2018, along with a schedule for coming back into compliance. Under Section 19-2-104 of the Utah Code, this memorandum is submitted to the Board for review since the penalty exceeds \$25,000. The DAQ will withhold any further action on this case until the Board approves or disapproves the settlement. Staff recommends that the Board approve the settlement of \$37,667.

In discussion, the Board expressed concern about the length of time between the initial inspection of violations found in 2016 and the follow-up inspections. In addition, staff was asked to explain how DAQ determines the penalty amount. Staff explained that typically these types of sites are inspected every 2-3 years. When a violation is identified, a follow-up inspection is planned the next year, or more frequently, if it is determined more frequent inspections are needed. For this source, part of the reason for follow-up inspection a year later was that the source was working through the process of obtaining an approval order. The penalty amount is determined based on the criteria listed on the penalty worksheet. In addition, August 10, 2018, was the deadline date for the settlement agreement because the statute of limitation is two years and the DAQ would lose its ability to settle the violations if a resolution was not reached.

Staff was asked if the Board has authority to examine the frequency at which the DAQ does follow-up inspections, and have the costs listed on the penalty worksheet been examined in the last couple of years? Staff responded that the compliance costs are funded from the state's general fund and are not tied to the work effort or the cost to bring a source back into compliance. All penalties that the division settles or that are adjudicated and awarded by the courts are returned to the state's general fund. It is within the Board's authority to examine the costs associated with compliance penalties. The penalty worksheet is based on R307-130 which is established by the Board. The statutory amount is established by the legislature which would require legislative approval to change the maximum daily penalty.

The Board requested that staff provide a briefing on R307-130, General Penalty Policy, and the division's inspection enforcement policy/strategy.

- Erin Mendenhall motioned that staff present to the Board how willful negligent actions could be required to have an expedited remedy, present the Board with some options to consider the per day violations amounts for Category A, B, C, and D, and also include a briefing on the division's procedures of compliance inspections. Arnold Reitze seconded. The motion carries with a vote of seven in favor (E. Mendenhall, C. Kristensen, K. Cromar, M. Kashanchi, R. Martin, A. Reitze, and W. Stringer) and one opposed (M. Smith).
- Kevin Cromar motioned that the Board approve the R. Chapman Construction Company settlement agreement amount of \$37,667. William Stringer seconded. The Board approved unanimously.

**VI. Propose for Public Comment: New Rule R307-511. Oil and Gas Industry: Associated Gas Flaring. Presented by Thomas Gunter.**

Thomas Gunter, Rules Coordinator at DAQ stated that some oil and gas wells throughout the state are unable to utilize the streamlined permitting process approved by the Board in January 2018. Rule 307-511, if implemented, will enable these oil and gas wells to utilize the permit-by-rule process by requiring the associated natural gas from operating wells to be controlled as required for other equipment. Staff recommends that the Board propose new rule 307-511 for a 30-day public comment period.

Sheila Vance, Environmental Scientist at DAQ, added that staff went through a stakeholder process with this rule which included industry as well others that have expressed an interest in the oil and gas rules. Based on comments from industry, some changes were made and included in this rule proposal. Staff then responded to questions.

Up to this point, has flaring not been an option, and is the new rule consistent with the Utah Division of Oil, Gas, and Mining (DOG M) who in the past had taken a firm stand against flaring in certain areas? When a source reviews their annual emissions, if a source found they were in excess of 5 tons per year they would need a permit. This new rule allows a source the option to use this control strategy and go through the registration process and not have to file for a minor source permit. This is consistent with DOGM and is something a source is already doing.

What is the typical timeframe that DAQ would want to access record keeping on emergency release flares and is there a requirement for reporting the releases? A source would keep its records as part of the normal operations and would need to produce those records to DAQ as requested, or as part of a source's emissions inventory which is every three years. There is no reporting requirement, only a record keeping requirement. Staff was also asked if DAQ would think about either extending the number of years a source would need to keep records or a reporting requirement on emergency release flares. Staff responded that that this is something that can be addressed during the public comment period.

Is this new rule a potential mechanism for a better inventory of how many wells there are in the state? Not necessarily, the rules that were previously presented and approved by the Board in January 2018 had the inventory requirement. The sources for the new rule would have already fallen under the requirement to report an inventory to the DAQ. This rule would be a subset of the inventory requirement and sources would now be able to register and certify that they are going to follow the R307-500 series of rules. There are approximately 3,000 wells under state air quality jurisdiction which would be affected by this rule.

How is the definition for emergency release related to the unavoidable breakdown rule? The unavoidable breakdown rule is a very broad and general rule for all sources. This new rule is very specific for oil and gas wells. Staff sees the new rule as a subset of the unavoidable breakdown rule. Is there anything in the rule that would help to keep track of a particular well or group of wells that were having frequent emergency upsets? As the rule is written, there is no reporting requirement. This is also something that can be addressed during the public comment period.

- Michael Smith motioned that the Board propose new rule, R307-511, for a 30-day public comment. Kevin Cromar seconded. The Board approved unanimously.

**VII. Propose for Public Comment: Amend UTAH State Implementation Plan. Control Measures for Area and Point Sources, Fine Particulate Matter, Serious Area PM<sub>2.5</sub> SIP for the Salt Lake City, UT Nonattainment Area. Section IX. Part A.31. Presented by Bill Reiss.**

Bill Reiss, Environmental Engineer at DAQ, gave a history of the events that have happened since last September. Most notably, staff had the opportunity to take a look at the ambient air quality data collected in northern Utah which enabled us to recover data that initially could not be entered into the record. Also, DAQ has completed the BACT work. Part H was proposed for public comment in June 2018 and staff is currently working on response to comments, which staff plans to present to the Board this October. Finally, staff did some additional work with the air quality model, and as you will see in the state implementation plan (SIP) section devoted to the attainment demonstration, we were able to compare what the model was telling us to some of the science that was revealed during the airplane study last year.

This item is the serious area SIP for the Salt Lake City PM<sub>2.5</sub> nonattainment area (NAA). In addition to the moderate area SIP for this area, the serious area SIP includes a demonstration that the area will attain the NAAQS by the end of 2019 and has provisions to insure the implementation of best available control measures and technologies (BACM/BACT). It also contains: emissions inventories for the base-year and the attainment year as well as a couple of milestone years; mobile source emission budgets for the purposes of transportation conformity; quantitative milestones which demonstrate RFP; and contingency measures.

Chapter 6 contains the attainment demonstration. As required, the air quality modeling is included in the analysis, but the modeling alone does not conclude a likelihood that we will attain the national ambient air quality standards (NAAQS) by the attainment date at every monitor in the NAA. Section 6.2 goes on to explain that the modeling guidance and the PM<sub>2.5</sub> implementation rule allow for the consideration of other information when determining whether attainment may be reached by the attainment date. The modeling and the additional information together make up a weight-of-evidence (WOE) to all be considered as a whole. So overall, the model is performing well. Good enough that we can go ahead and use it for regulatory purposes, but still there are some uncertainties inherent in the analysis.

Section 6.2 goes on to present some of the uncertainties in the modeling analysis which generally include emissions inventories, areas source emission in particular but also involves some non-criteria pollutants which may be important to the chemistry in the model. Meteorological (met) data is another area of uncertainty, especially given the resolution needed to feed the air quality model. The met data is generated by its own model called WRF. The met data also becomes difficult to approximate in a geographically complex terrain such as the Salt Lake valley. The air quality model itself also hosts a lot of uncertainty and is still just an approximation of what is going on.

In regards to the weight-of-evidence, apart from all the modeling and theoretical analysis, we also present some empirical evidence that shows a relationship between the control of precursor emissions and the improvements in PM<sub>2.5</sub>. The ambient data collected in the SLC NAA show that ambient concentrations of PM<sub>2.5</sub> are declining. Trends in emissions data show a large and steady decline in NO<sub>x</sub> and VOC emissions, and relatively flat trends in SO<sub>2</sub> and PM<sub>2.5</sub>. Looking at the emissions and monitored data trends side-by-side, we see good agreement in the decline of both NO<sub>x</sub> and SO<sub>2</sub>. We don't monitor for VOC. We also see improvement in our monitored PM<sub>2.5</sub> data even though the emissions of direct PM<sub>2.5</sub> have remained relatively flat over that time. Taken together, we think that we have been successful at controlling our PM<sub>2.5</sub> concentrations with a strategy largely focused on controlling PM<sub>2.5</sub> precursor emissions.

Looking ahead, we anticipate even more improvement in the emissions of both NO<sub>x</sub> and VOC. Given the past history we have of improving PM<sub>2.5</sub> concentrations by virtue of controlling NO<sub>x</sub>, VOC, and SO<sub>2</sub>, we would continue to expect improvements in the ambient PM<sub>2.5</sub>. It might be expected that the air quality model would show improvement in the future years, but as indicated in the discussion on uncertainties, there are a number of issues that suggest that the model is a bit stiff in its sensitivity to reductions in NO<sub>x</sub>, which might lead to giving more weight to the empirical evidence that is presented along with the modeling analysis.

As a final piece of the weight-of-evidence, a supplemental analysis of the modeling that stems from the continued scrubbing of the air quality data, where, at Rose Park, a daily value has been identified as the 98<sup>th</sup> percentile value for 2015, which could potentially be excluded as an exceptional event because it was influenced by wild land fire. If the Rose Park value were to be flagged and removed for regulatory purposes, the 98<sup>th</sup> percentile for 2015 would drop 2.1 ug/m<sup>3</sup> and then the modeling result would pass on its own. In essence, the entire weight-of-evidence supports the likelihood that the SLC NAA will attain the NAAQS in 2019, which is our attainment year. Mr. Reiss then answered several questions from the Board.

After this summer, are we moving in the direction of having a summer PM<sub>2.5</sub> problem, and if so, what is the plan for what is becoming the new normal of summer PM<sub>2.5</sub>? The plan is to do what we are currently doing. That may change going forward. We've had an unusually high smoke summer in which DAQ intends to flag certain events. We can control what happens here in the valley, but smoke due to transport from other states is difficult for us to control.

Are you following EPA in its process of reviewing their rules for exceptional events? EPA's process of reviewing its exceptional events rule has been ongoing for about 10 years. The rule is a difficult one for EPA because there are quite a bit of these events that they may be expected to approve. Fortunately, for PM<sub>2.5</sub> there is an acceptance that the concentrations are affected by wild land fire and so we have had success in getting these types of events approved. Ozone is often very difficult to get excluded from the regulatory record because wild land fires affect ozone values in more complex situations.

Explain why the model didn't work for Rose Park, and would DAQ expect the same results of the model for Part A? Yes, DAQ might consider the same result for Part A. Staff has been working on responses to the comments received on Part H. In working on the response to comments alongside with the model, shortcomings of the model have been identified. One of which is in its failure to see a benefit from some of the emissions reductions that DAQ expects to see in the next five years.

If DAQ included the precursor demonstration that we saw in Part H into Part A, would that help the case as far as the weight-of-evidence DAQ wanted to use? It would be based on the model of which there is concern. In recognition of the comments received concerning precursor emissions in the context of Part H, DAQ is now considering whether or not it should be controlling NO<sub>x</sub>, VOC, SO<sub>2</sub>, and ammonia. Ultimately, the EPA Administrator will need to approve what we have done. Although not required, DAQ may choose to submit optional demonstrations with the SIP submitted for EPA approval.

Would the precursor demonstration require a public comment period before consideration by EPA, and does it make sense to include the precursor demonstration for public comment with this package? EPA does require a public comment period on everything they propose. As far as including the precursor demonstration with this rule package for public comment, DAQ is not prepared to submit it for public comment with this package or to EPA on behalf of anyone else. However, the public comment period surrounding this package is an opportunity to introduce all of it on the record, not only in the context of

Part H, but also on the context of the attainment demonstration that is included in this part of the SIP. In this way, it could be brought to EPA's attention, if it goes for approval in their comment period.

The support documents are not available to the public at this time, but they will be available as soon this rule package goes out for public review on October 1, 2018.

In the listed model adjustments, does DAQ have data on the lowered residential wood smoke emissions to reflect burn ban compliance during forecasted high PM<sub>2.5</sub> days? Yes, there is data. An episode of 10 days in 2011 was chosen and within the episode there is a record of what DAQ did to call a burn ban.

Explain the statement about artificially adding non-inventoried ammonia emissions to the inventoried emissions that are input into CAMx. Ammonia is difficult to both monitor and to calculate in the inventory. Ammonia was injected into the model because the monitors were showing something the model was not predicting. The model showed we were short by 40% of what the model thought it ought to be in order that when we tried to reproduce the past, we were able to replicate the ammonium nitrate we observed.

Public comment from Jeanette King, speaking on behalf of the Utah Petroleum Association (UPA), was introduced. Ms. King stated that the federal Clean Air Act and in the EPA's implementation rule for PM<sub>2.5</sub> that it specifically provides that controls should not be imposed for precursors that are known to insignificantly contribute to PM<sub>2.5</sub> levels. UPA retained the model developer for the CAMx model, Ramboll, that UDAQ is using in its attainment demonstration, to evaluate the contribution of major stationary source precursors to the nonattainment problem in the SLC NAA. It is UPA's opinion that Ramboll demonstrates that based on the particulars of the SLC NAA, precursors from certain sources do not significantly contribute to the PM<sub>2.5</sub> problem and should not be subject to further controls. UPA also believes that the Ramboll analysis is relevant to both the attainment demonstration that UDAQ is now proposing and the Part H rulemaking and should be included as part of the information that is available for public comment on the attainment demonstration. EPA has been clear that it expects a full public discourse on the precursor demonstrations and UPA believes that it is only appropriate that full consideration be given to this very relevant analysis that has a direct bearing on the attainment demonstration and control strategy. Furthermore, because the attainment demonstration and precursor demonstration analysis are inexorably related to the Part H rulemaking, it is UPA's opinion that it would be premature to conclude that rulemaking apart from the attainment demonstration. UPA requests that UDAQ submit the previously submitted precursor demonstrations to public comment, that the UDAQ staff consider that the precursor demonstrations be added to the SIP, and that the Board postpone the rulemaking for the Part H measures until such time that the Board takes final action on the attainment and precursor demonstrations.

- Cassady Kristensen motioned that the Board approve the SIP control measures for area and point sources, Section IX, Part A.31, including the precursor demonstration submitted by UPA, for public comment. Mitra Kashanchi seconded. The Board approved unanimously.

#### **VIII. Propose for Public Comment: Amend R307-110-10. Section IX, Control Measures for Area and Point Sources, Part A, Fine Particulate Matter. Presented by Thomas Gunter.**

Thomas Gunter, Rules Coordinator at DAQ, stated that this rule will have to be incorporated into the Utah Air Quality Rules. R307-110-10 is the rule that incorporates the amendments. If the Board adopts the amendments proposed to Part A, these amendments will become part of Utah's state implementation plan when the rule is finalized. Staff recommends that the Board propose the amended rule 307-110-10 for a 30-day public comment period.

- Arnold Reitze motioned that the Board propose for public comment the amended R307-110-10, Section IX, Control Measures for Area and Point Sources, Part A, Fine Particulate Matter. Cassidy Kristensen seconded. The Board approved unanimously.

## **IX. Informational Items.**

### **A. Air Toxics. Presented by Robert Ford.**

Rusty Ruby, Compliance Branch Manager at DAQ, explained that schools have a requirement to do an Asbestos Hazard Emergency Response Act (AHERA) management plan. In the listed school district's penalties, one did not do the annual notification requirement and the other did not submit its AHERA management plan. These requirements have been in existence since 1986.

### **B. Compliance. Presented by Jay Morris and Harold Burge.**

### **C. Monitoring. Presented by Bo Call.**

Bo Call, Monitoring Section Manager at DAQ, updated the Board on the monthly graphs noting the high summer activity with wild land fires. As far as exceptional events related to smoke and the wild land fires, only one state has successfully demonstrated an exceptional event specific to ozone with a 3 parts per billion reduction. Staff will be working on and applying for an exceptional event for the events around the wild land fires. Ozone numbers across the board have been high all summer. The Lindon monitor had 22 days that exceeded the standard this year.

When asked if there is association with wild land fires and VOC concentrations, staff responded that yes, VOCs and other compounds that come off wild land fires impact ozone. The sort of fuel burning, how hot the fire is burning, how aged the smoke plume is, and where the fire is coming from all make a difference.

Is there any data across the West that would suggest transport from wild land fires? Yes, the state has remote monitors in the network that see exceedances of the standard, which is a good indication of regional transport of ozone.

The communication to the public on the UtahAir app is ozone in the summer and fine particulate in the winter. Is that still correct, or are both pollutants being communicated to the public? The UtahAir app does show both pollutants. A person would just need to toggle over to the pollutant of concern. DAQ forecasts for all the pollutants, and action days could be based on either ozone, particulate, or both.

Kevin Cromar made the motion that staff does a presentation on how staff communicates air quality to the public. Seconded by William Stringer and unanimously approved by the Board.

### **D. Other Items to be Brought Before the Board.**

Public comment from citizen Sandy Neild was introduced. Ms. Neild commented that staff today mentions that chlorine levels have raised recently. She suggests that staff look at diesel exhaust fluid because it's used in 80% of the trucks on the road today. Ms. Neild also wanted to speak with the Board about ethanol. Utah is not required to put ethanol in gasoline, but it does at a minimum of 10%. When ethanol is put into gasoline, the volatility of the gasoline is raised two points, and you lose 30% of your fuel economy when 10% of ethanol is added. One of the worst things this

country could have done was to take a food source and turn it into a gasoline. We as tax payers are paying for this in our federal tax. Ms. Neild would like for Utah to take the 10% of ethanol out of Utah's gasoline, go back to the federal government and get the tax money back. This would also lower the VOCs and make our air quality better.

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

- DAQ staff will present to the Board how willful negligent actions could be required to have an expedited remedy, present the Board with some options to consider the per day violation amounts for Category A, B, C, and D, and also include a briefing on the division's procedures of compliance inspections.
- DAQ staff will do a presentation on how staff communicates air quality to the public.

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Meeting adjourned at 3:26 p.m.

Minutes approved: October 3, 2018