

Meeting Summary

Gasoline Dispensing Facilities Rulemaking Rule Advisory Committee Meeting #2



Jan. 24, 2023, 1 – 3 p.m. PT,
Virtual meeting (Zoom)

List of attendees

Committee Members in attendance (for all or part of meeting)

- John Wasiutynski, Multnomah County
- Brent Leathers, Leathers Fuels
- David Painter, Barghausen Consulting Engineers
- Lisa Arkin, Beyond Toxics
- Shawn Carter Elton, Safeway, NW Grocers Assoc.

Technical Advisory Committee members in attendance (for all or part of meeting)

- Chuck Softich, Mascot Equipment

DEQ Staff in attendance (for all or part of meeting)

- Heather Kuoppamaki, Environmental Engineer, Lead Rule Writer
- Dan DeFehr, Air Operations Analyst
- Brandy Albertson, Air Emission Inventory Analyst
- Karen F. Williams, Air Quality Planner

Agenda Item: Welcome and Introductions

DEQ staff and rulemaking advisory committee members introduced themselves. DEQ policy analyst and meeting facilitator, Karen Williams, reviewed meeting purpose of this rulemaking and announced resources were available on the rulemaking webpage: <https://www.oregon.gov/deq/rulemaking/Pages/GDF2022.aspx>.

Agenda Item: Rulemaking Advisory Committee Charter and Project Background

Heather reviews the committee charter and reminds the RAC that DEQ considers RAC input and recommends rule changes to the Environmental Quality Commission. The EQC then makes the decision whether or not to adopt rule changes.

Heather reviews the rulemaking scope and particular areas where DEQ is asking for RAC input. DEQ is asking the RAC to consider control options - costs and feasibility; provide input on DEQ's analyses and scenarios; and provide input on applicability criteria such as throughput triggers, geographic areas of concern and timelines. There will be three RAC meetings; DEQ is aiming for public notice this summer and presenting to EQC in the fall. Heather references fact sheets sent to the RAC ahead of the meeting and goes over acronyms used.

Agenda Item: Controls summary and scope of rulemaking

Heather describes several elements of vapor control at gas stations. Stage I equipment controls vapors when gasoline fuel is moving from fuel trucks to underground or above ground tanks. Stage II controls capture vapors when fuel moves from the tank to a dispenser. Newer vehicles have onboard vapor recovery systems

that capture vapors in the gas tank of the vehicle and reuse them. Sometimes Stage II systems and the ORVR systems on vehicles are incompatible, so vapors are released. Stage II regulations are in place in the Portland metropolitan area. This rulemaking will look at the extent to which Stage II controls are still resulting in emission reductions and the point at which Stage II-ORVR incompatibility may be leading to an increase in emissions, rather than a reduction. EPA noted this back in 2012 and recommended states look at removing Stage II controls when they no longer provide benefits. There have also been updates in vapor controls, such as enhanced vapor recovery, that are in scope for this rulemaking. Stage I regulations are statewide and there have been updates in Stage I controls also that may lead to emission reductions.

Question: Will you be covering the health impacts? What's in the vapors that are being controlled?

Response: The vapors contain volatile organic compounds, from gasoline evaporating, and other precursors to ozone pollution. There are also toxic air contaminants like benzene.

Agenda Item: Current state of controls and regulations

Heather reviews Stage I and Stage II controls in more detail. Stage II systems include balanced systems and vacuum-assist systems; the vacuum-assist systems are the ones that can be incompatible with on-board vehicle vapor recovery systems. By 1996, over 99% of new vehicles had ORVR. Heather describes multiple components of enhanced vapor recovery that can be added to Stage I and Stage II systems, such as specialized valves, connections, hoses and nozzles. California has required multiple EVR elements and several states have required low permeability hoses and dripless nozzles.

Questions and Comments

Question: What's the contribution of gas stations relative to other sources of ozone precursor pollutants?

DEQ Response: DEQ doesn't have that information immediately handy but we can bring that to the next advisory committee meeting. DEQ will confer with Emissions Inventory staff and get back to you.

Comment: DEQ is wise to look at costs versus benefits, especially considering size of gas stations – not all have capability to add equipment. I've heard air agencies won't give you credit for low permeability hoses. It would also be great if DEQ could bring data about the extent of incompatibility of vacuum dispenser systems with ORVR. A balanced system is typically simpler than a vacuum-assist system.

Question: Stage I controls only apply to certain geographic areas, could we look at the I5 corridor or Lane County? There are about two dozen gas stations that have a throughput of more than 120,000 gallons/year and population has grown. Should there be more Stage 1 protections?

DEQ Response: In the current set of analysis DEQ presented to the RAC, we did not look at changing throughput but we did pose those questions for RAC consideration and want to have these discussions later.

Heather reviews where Stage I and Stage II regulations apply in Oregon. There is a statewide requirement that gas stations that have a monthly throughput over 100,000 gallons or more, or annual throughput of 480,000 gallons or more, with 250-gallon tanks have Stage I controls. In the Portland tri-county area, there are slightly more stringent requirements for Stage I; in the Portland, Salem and Medford Air Quality Management Areas, the requirements are more stringent yet, for all tanks exceeding 1,500 gallons. Stage 2 is only required in the Portland tri-county area for gas stations with annual throughputs that are 600,000 gallons or more.

Heather reviews a map of gas stations in the Portland-metro area, showing those with compatible and incompatible Stage II equipment. Compatible and incompatible stations are roughly split, 50% and 50%; 154 are incompatible and 183 are compatible. According to Oregon Dept. of Transportation, about 90% of vehicles

on the road in Oregon are equipped with onboard vapor recovery. Heather then shows a graph of reductions of volatile organic compounds in the Portland area that result from having Stage II equipment in place. After 2023, the data show that we will not be getting vapor reductions, meaning the ORVR-Stage II incompatibility will result in an increase in VOC emissions. Heather displays a map showing 2020 total annual VOC emissions from gasoline dispensing facilities by county. The map shows highest emissions along the I-5 corridor.

Questions and Comments

Question: What are the worker safety benefits of various systems, since Oregon is one of the few states with gas station attendants that may be exposed through faulty systems to benzene and VOCs several hours a day, multiple days per week?

DEQ Response: We will be looking at air toxics in our analysis for this rulemaking but we haven't done a specific analysis about faulty systems and health effects on workers. There may be some published studies, however, which we can look into.

Agenda Item: Scenarios

Heather presents results from eight scenarios, described in more detail in fact sheets sent to the RAC ahead of time. The analysis output is VOC emissions from various combinations of Stage I and Stage II controls, statewide and in the Portland metropolitan region. DEQ analyzed scenarios in four categories:

- Statewide: low permeability hoses and ECO nozzles
- Statewide: Stage I Enhanced Vapor Recovery
- Portland metropolitan: Remove some or all of Stage II systems
- Portland metropolitan: Convert to Stage II compatible systems

DEQ used EPA emission factors and projected emission to 2029. Heather shows a bar chart of 2029 VOC emissions statewide from the 8 scenarios. The least amount of VOC emissions result from a scenario where Stage I systems are required to have EVR, installing low permeability hoses and ECO nozzles and all incompatible Stage II systems are removed.

DEQ asks the RAC for feedback on the following questions:

- Are there other specific scenarios DEQ should look at, beyond the eight presented?
- Are there changes to any of the scenarios that you would recommend? Why?
- Are there any scenarios that do not need to be analyzed in further detail?

Questions and Comments

Question: In the bar chart, what is the difference between Stage I EVR and Stage I as-is

DEQ Response: Stage I EVR means updated equipment, like better adapters and fittings, so overall emissions are lower. "As-is" means the Stage I requirements we have now.

Question: So that would also include not expanding Stage I requirements to other geographic areas?

DEQ Response: Yes. In these scenarios, DEQ did not look at changing the Stage I geographic or threshold requirements. That's not because that's not an important scenario to evaluate - we may look at that later.

Question: So there could be a scenario where VOCs are additionally reduced if Stage I EVR was expanded to gas stations with a throughput of more than 125,000 gallons?

DEQ Response: Yes, but it might be a little harder for us to analyze it in the same detail - we might not have a complete list of all those sites since they don't have permits.

Comment: I looked at the throughput data from the Lane Regional Air Protection Authority and I'm assuming you have access to that.

DEQ Response: DEQ did use LRAPA throughputs in our calculations. But, for these scenarios didn't use thresholds for throughput; rather we projected throughput in 2029. But since we have the throughput data, we could model scenarios with different thresholds.

Comment: We have a relatively small number of gas stations and my goal has been to eliminate redundant technology. Stage II nozzles and hoses are pretty fragile; if they show signs of wear, you have to replace them even if they are still functional. I have concerns about looking to California Air Resources Board as a model; I would have liked to see Oregon eliminate Stage II controls when the federal government said that was allowed. Chasing the last point five percent of pollution is very expensive for an industry that is already heavily regulated; and it may not accomplish very much.

DEQ Response: In Scenarios 2 and 3, we did look at the emission effects from eliminating Stage II controls. We will be going into the costs associated with the scenarios shortly – we will be looking at the cost to emission reduction benefits. DEQ will appreciate any cost information you can provide.

Question: Are you calling just the stations that have vacuum dispensers incompatible, versus the balanced dispensers?

DEQ Response: Our data is based on DEQ gas station inspection records; they note vacuum-assist sites as well as vacuum-assist sites that are compatible. So, we are calling incompatible stations only those with vacuum-assist that are not compliant with ORVR.

Comment: In the summer, with high ground temperatures, when a tank is filled with cold gasoline, the gas warms up at night; when the stations is not operating, you get emissions from evaporation if you don't have a system to manage pressure in the tanks – back end vapor processors. Not all small gas stations could afford this equipment, though. But chiefly, when pressure in the tanks is low, the only emissions will be at the fueling points. And, regarding the concern stated earlier about emissions affecting gas station workers, that is a concern – that's who you're protecting when capturing emissions at fueling points.

Comment: I think the cost DEQ reflects for changing out equipment is probably low because there are other factors besides the cost of the equipment. I support eliminating the incompatible vacuum-assist systems; gas station owners have to constantly replace this equipment at high expense. But customers like the vacuum assist systems and have left our stations to go to stations that have vacuum assist nozzles. It would help to have a level playing field – where DEQ would specify approved nozzles for all stations, make it fair across the board. Maybe there could be tax breaks for smaller operators.

Question: Could the RAC member please clarify if more emissions are occurring at night?

Response from RAC member: If the ground is warm and the gasoline is cold, the pressure in the tank will rise at night. If that pressure isn't managed with a vapor process, there is exhaust at the vent stacks. During the daytime, when there is active pumping, pressure in the tanks is negative and there won't be emissions from the vent stacks.

Question: What is the difference between the scenario: Stage I as-is/remove all Stage II versus Stage I EVR/remove all Stage II? If we installed Stage I EVR but removed all Stage II, there would still be a reduction in emissions?

DEQ Response: Yes, that's correct. The difference between the two scenarios is the enhanced vapor recovery at all Stage I gas stations. And, for clarification, any station that has Stage II also has to have Stage I.

Question: For the RAC member that mentioned customers, are those retail customers?

Response from RAC member: The retail customer prefers the vacuum-assist nozzle, without the "accordion." But, if we went to a balanced system (with the accordion) and everyone had to have it, then customers would adapt.

Heather shows a table with estimated costs for each of the scenarios. The costs are represented as cost changes from the first scenario, which is leave to State I and Stage II as-is – or the current state. DEQ included annualized costs over a 10-year period for equipment installation and testing or equipment removal. DEQ calculated estimated costs five gas station size categories based on annual throughput. DEQ asks RAC members for any input they can provide to refine these cost estimates. Heather presents a four quadrant graph that shows the relative placement of each scenarios' costs and associated VOC emissions. Scenario 8 (Stage I as-is; low perm hose and ECO nozzle, remove incompatible Stage II) plots in the low cost/low emissions quadrant; Scenario 7 (Stage I EVR; low perm hose and ECO nozzle, remove incompatible Stage II) plots in the high cost, low emission quadrant.

The questions posed to the RAC are:

- Are the cost estimates included reasonable? Are there other costs associated with the various scenarios that were not included?
- Is there better cost-related data available that you can share with DEQ?

Question: Do the costs include labor or just equipment cost?

DEQ Response: The estimates do include labor costs. DEQ relied on fiscal analyses that agencies in other states have done, and how much they allowed for labor. DEQ updated costs to current day dollars. DEQ would appreciate any information RAC members can provide on labor costs.

Comment: Did DEQ use specific number of dispensers per site that you averaged?

DEQ Response: Yes, that's in the Scenarios fact sheet we sent ahead to RAC members; we included the estimated number of different types of equipment for each of the five gas station size categories.

Comment: The cost can be greatly different from one site to the next, depending on the amount and kind of equipment they have.

Comment: I can forward DEQ some real-world costs. DEQ should include permitting fees. I'd also suggest DEQ look more at hoses: getting rid of long hoses helped reduce system malfunctions and fuel spills.

Comment: With any technology or equipment change, there are retraining costs. Workers need to learn how to maintain, inspect and evaluate equipment that's different from what they've been using for 20 years. There's also the cost of equipment not working properly, if it's finicky, and vapors being released. Those aren't numbers but my feeling based on managing stations.

Comment: I noted that Scenarios 5 and 6 are the middle ground in cost and emission reductions.

Question: Are the costs per station?

DEQ Response: this is actually total costs averaged across all stations in Oregon. Because of different numbers of dispensers and other equipment, it's hard to get a per-station cost.

Question: If I owned five stations, would I multiply the estimated costs in the table by 5? Is this the cost each year?

DEQ Response: Table shows costs every year, by gas station, by scenario, depending on gas station size, with costs amortized over 10 years.

Comment: DEQ could present this information in different ways – for example, to show the up front costs or cost per pound of VOC reduced. The amortized cost presentation is a little confusing.

Agenda Item: Additional Topics

Heather highlights some other issues for RAC members, not related to scenarios and costs but may be items that could be addressed in this rulemaking. DEQ inspectors have noted severe corrosion of turbine heads – the pump that takes the gas from the tank to the dispenser – this could be a source of emissions. DEQ could also look at the frequency of inspections, doing inspections at times in addition to control changes. Heather proposes a series of questions for RAC members to consider:

- Are there changes in throughput limits or geographic areas that DEQ should examine?
- Should DEQ examine tiered requirements based on the gasoline throughput?
- Would changes to inspection, monitoring, recordkeeping, and/or reporting requirements provided additional emission reductions?
- Does the RAC have any suggestions for limiting turbine head corrosion?
- Does the RAC have any input on when to require specific control changes?
- Should we mandate decommissioning on incompatible Stage II requirements? Can this be done by Jan 1, 2024 based on supply chain concerns, etc.?

Comment: What about a fee structure to incentivize smaller stations to update equipment. Like saving on a permit fee. We need to get everybody on board.

Comment: My experience installing new tanks and Stage I equipment in the 90s and keeping track of loss percentages, and doing inventory control by comparing input to daily sales – we reduced losses from 0.5 % per month to 0.1% per month. Vapor control is quite useful. A lot of vapor is being released from stations in the state that don't use Stage I controls; we should try to limit that. At least those stations that can afford it; it will partially pay for itself because the station doesn't lose product.

Comment: I support that. All stations should have Stage I controls.

Comment: In other states where Stage II has been decommissioned, the station has the option to wait until there is dispenser failure to change equipment. Or the station can phase in new equipment if that is required, rather than have to do it in a certain amount of time.

Question: Does DEQ have a list of all gas stations with Stage I controls? In Lane County, there have been seven new large gas stations constructed in the last few years. What are the requirements for new stations not in the tri-county Portland area? Have they installed Stage I?

DEQ Response: If the station is above 480,000 throughput, they are required to have Stage I controls and a permit. The general permit for new gas stations requires Stage I controls in air quality management areas for stations with more than 100,000 gallons/month, 480,000 gallons/year and tanks of at least 1,500 gallons. A station would have three years to install Stage I after exceeding any of these thresholds. Installing Stage I equipment later would almost certainly be more expensive than installing it when station is first built.

Information from an LRAPA representative attending the meeting: All of the seven stations referred to have Stage I controls installed.

DEQ Response and Correction: Any new station with construction commenced after Nov. 9, 2006 would have to have Stage I installed.

Agenda Item: Next steps

Heather request that RAC members send any information they would like to submit within three weeks, by Feb. 14, 2023.

Agenda Item: Public input

Chuck Softich: As a distributor, it is our standard practice to quote Stage I vapor recovery for all new stations. That's been the standard for years.

Gary Lentsch: If a station had a small tank, like 2,000 gallons of E-85, and they only go through 10,000 gallons every year, would they be required to upgrade their equipment under these rules? And are governmental municipalities exempt?

DEQ Response: The requirements based on tank size and throughput are all up for discussion. But government entities are not exempt from existing rules; DEQ has many permits with cities around the state for their tanks. The threshold is 120,000 gallons/year for a permit.

Meeting adjourned at approximately 3 p.m. Pacific Time.

Translation or other formats

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