State of Oregon
Department of Environmental Quality Memorandum

Date: Jan. 10, 2024

To: Environmental Quality Commission

From: Leah Feldon, Director

Subject: Agenda item D, Informational item: Gasoline Dispensing Facility Emissions Rulemaking Jan. 24, 2024, EQC meeting

Purpose of item This is an informational briefing for the commission on the Gasoline Dispensing Facility Emissions rulemaking. DEQ will request EQC action in March 2024.

Background This item is a precursor to a proposed action for EQC in March 2024 and implementation efforts (communications, outreach, and training) that would occur for several months thereafter. Current rules applicable to Gasoline Dispensing Facilities are found in OAR chapter 340 divisions 242 and 244. This change is relevant to the Air Contaminant Discharge Permit program and the Title V operating permit program, as GDF requirements may also be incorporated in ACDP and Title V permits if a regulated facility meets certain applicability thresholds.

Gasoline dispensing facilities, or GDFs, are sites where gasoline is dispensed to motor vehicles, boats, airplanes, and other gasoline tanks from stationary storage tanks. In Oregon and across the U.S., GDFs emit vapors that contain Hazardous Air Pollutants and contribute to the formation of smog. Gasoline vapors are primarily composed of compounds such as benzene, hexane, toluene, xylenes, and a mixture of other nonmethane hydrocarbons, or volatile organic compounds. Emissions of these pollutants occur during stationary storage tank loading (underground or aboveground tanks), breathing, spillage, vehicle refueling, and through permeation of vapors through fueling hoses. Vapor recovery systems are designed to capture or reduce emissions associated with these activities.

There are generally two groups of vapor recovery systems currently used at GDFs.

- Stage II vapor recovery systems are comprised of specific types of hoses and nozzles which capture emissions generated by the dispensing of fuel into motor vehicles and return the vapor emissions back to the GDF's gasoline storage tank. This equipment is generally found installed on the dispenser.

- Stage I vapor balance systems are designed to control emissions generated during the storage tank filling process. This equipment is generally located in the ground or otherwise attached to the gasoline storage tanks.

Many GDFs in Washington, Multnomah, and Clackamas counties are required to install and utilize Stage II vapor recovery systems. However, some Stage II vapor recovery systems have become less effective at emissions recovery because these systems are not compatible with modern Onboard Refueling Vapor Recovery systems, or ORVR, which are also designed to capture the gasoline vapor emissions during the motor vehicle refueling process but are contained within the vehicle itself. In some instances, both ORVR and the Stage II system try to capture the vapor creating a break in the vacuum necessary for both systems to operate, which causes vapors to be released instead of captured.

Under authority of the Clean Air Act, the Environmental Protection Agency required many ozone nonattainment areas to have Stage II systems starting in the early 1990's. Oregon DEQ phased in those requirements in a 1991 rulemaking for the Portland-Vancouver Air Quality Management Area, which was in non-attainment for ozone from 1992-1996. ORVR began being phased in with 1998 model year vehicles and by 2006 was standard in all passenger cars and light trucks (up to 10,000 lbs.).

In 2012, EPA removed the requirement for Stage II systems because these systems no longer result in the emissions reduction benefits that were once observed, particularly as older vehicles that do not have ORVR are removed from the fleet. EPA issued guidance to states with instructions on how to evaluate the fleet of vehicles in the state to determine when it was appropriate to remove Stage II requirements within that state.

Oregon's fleet of vehicles is older than most other states, so the percentage of vehicles with ORVR lagged behind much of the rest of the U.S. However, recent DMV data has demonstrated that Oregon fleet is now new enough that Stage II vapor recovery is no longer needed to reduce emissions from GDFs. In fact, Oregon is one of the last states to retain these Stage II requirements.

GDF permitting and current requirements (OAR 340-244 and -242)
DEQ issues permits for GDFs to construct and operate in Oregon (excluding Lane County). Many GDFs outside of the tri-county area in Oregon that are required to hold an air permit are not currently required to install equipment to control gasoline vapors. For those that are required to install control equipment, they install Stage I vapor balance systems. These Stage I systems are designed to control emissions generated during the storage tank filling process. DEQ currently issues two General Air Contaminant Discharge Permits, or ACDPs, for various GDFs; general ACDPs

help expedite permitting, establish standardized permit condition language for owners and operators, and assess a lesser fee than a source specific ACDP.

Need for rulemaking

Some of the currently installed Stage II vapor recovery systems are expected to result in a net increase in VOC emissions by the end of 2024 due to their incompatibility with ORVR systems. DEQ initiated this rulemaking, following EPA guidance, to address the risk of increased emissions, to protect public health and to help ensure Oregon meets federal air quality standards.

GDFs operate where people live, work, and play and contribute to localized concentrations of air toxics emissions. In DEQ's review of the current state of controls for new gas stations, DEQ also identified that new and cost-effective control technology exists that would provide emission reductions for Stage I GDFs.

The purpose of this rulemaking is two-fold. First, to ensure required control technologies do not result in an increase in emissions. Second, to require more effective vapor control components at facilities across the state when owners and operators are already making relatively substantial changes to their gas stations.

Federal regulations at 40 C.F.R. part 63 subpart CCCCCC are also relevant to this update. The proposed rules, if adopted, would then be the basis of an equivalency request to EPA whereby DEQ requests to use the Division 244 rules in place of this federal regulation applicable to GDF owners/operators. This process would reduce the number of rules and requirements applicable to GDF owners/operators, simplify permit requirements for regulated entities, and help streamline permit writing work by DEQ staff. Without an equivalency request, facilities are subject to both federal regulations for gasoline dispensing with reporting and other obligations to EPA as well as the gasoline dispensing rules within division 244 which establishes the obligations to DEQ.

Rulemaking process

DEQ began this rulemaking effort with a Technical Advisory Committee meeting on Mar. 20, 2022, followed by three Rules Advisory Committee meetings (Jan. 24, 2023, Apr.18, 2023, and Aug. 29, 2023) and one Fiscal Advisory Committee meeting on Oct. 26, 2023.

DEQ's public notice period for this proposed rulemaking was active from Dec. 2, 2023, through Jan. 5, 2024. DEQ held one public hearing on Jan. 3, 2024.

Proposed rules

The proposed rules establish additional requirements for Stage I systems, known as Stage I EVR. Stage I EVR systems are specific, approved components which have

enhanced features to help reduce emissions more than the currently required Stage I vapor balance systems. This equipment is required in California and components are readily available for purchase and installation by owners and operators in Oregon from several service providers and equipment sales companies.

The proposed rules also establish that newly constructed GDFs with ≥ 600,000 gallons per year in throughput must install Stage I EVR for, and that existing GDFs must install Stage I EVR on newly added or replaced gasoline storage tanks in most cases (based on the facility's throughput). The proposed rules establish that facilities with high throughput must install Stage I EVR by the end of 2029 on all existing dual-point tanks.

Key issues

The proposed rules require that owners and operators of GDFs purchase and install different equipment than is currently required/installed at facilities across the state which incurs an expense to the owners and operators of affected facilities. These GDF rules have been crafted to minimize fiscal impacts on smaller GDFs; the largest fiscal impacts will be incurred by the GDFs with highest throughput. The environmental impact of the proposed rule to the public is an overall reduction in emissions from gasoline dispensing facilities across the state, resulting in a reduced social and health cost of exposure to gasoline vapors.

EQC involvement

DEQ intends to bring a rule proposal for commission action at the March 2024 EQC meeting.

Supporting materials

A. Public notice and draft rules
B. DEQ's rulemaking webpage

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Translation or other formats

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