

July 14, 2022

Subject: Air Quality Impact and Regulatory Requirements for Camas Station

Background: The Camas Station is a proposed gas station to be located at the northwest corner of NW 16th Avenue and NW Brady Road in Camas. The preliminary site plan indicates that 12 retail fuel pumps would be installed. An Air Discharge Permit will be required from the Southwest Clean Air Agency (SWCAA) for construction and operation of the gas station portion of the project. SWCAA is a multi-county government agency that implements the Washington Clean Air Act in Clark, Cowlitz, Lewis, and Skamania counties. SWCAA does not regulate emissions from motor vehicles, so SWCAA's review will be limited to the gas station itself.

Gasoline vapor emissions are minimized through the use of gasoline vapor recovery measures. Stage I gasoline vapor recovery refers to the control of gasoline vapors from the fuel delivery to the underground storage tanks. Stage I control measures include equipment to return gasoline vapors displaced from the underground storage tank to the tanker truck, and measures to minimize vapor leaks from the gasoline storage tanks and fittings. Stage II vapor recovery refers to the control of gasoline vapors when fueling a motor vehicle. The function of Stage II vapor recovery equipment at gas stations is being replaced by onboard refueling vapor recovery (ORVR) equipment installed on individual vehicles. ORVR is a technology that captures gasoline vapors displaced from the vehicle fuel tank during refueling. 100% of passenger vehicles were required to be equipped with ORVR by the 2000 model year. 100% of light duty trucks and medium duty vehicles were required to be equipped with ORVR by the 2003 and 2006 model years respectively.

Emission Control Requirements: Requirements for new gas stations are found in the following regulations:

1. Title 40 Code of Federal Regulations Part 63 Subpart CCCCCC "National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities"
2. SWCAA 491 – Emission Standards and Controls for Sources Emitting Gasoline Vapors
3. SWCAA 400 – General Regulations for Air Pollution Sources

SWCAA would require a new gas station of this size to utilize the following gasoline vapor control measures:

1. Stage I Enhanced Vapor Recovery (EVR).
2. Low-permeation gasoline dispensing hoses. This minimizes the amount of gasoline vapors that pass through the hose wall.
3. Enhanced conventional nozzles. Enhanced conventional nozzles reduce spills, post-fueling drips, liquid retention, and "spitting" compared to standard nozzles.
4. Testing of the Stage I vapor recovery equipment annually and testing of the pressure/vacuum valves once every three years.

Anticipated Emissions: Gasoline vapor emissions were estimated assuming that 90% of the gasoline will be dispensed to vehicles equipped with onboard refueling vapor recovery (ORVR). SWCAA's use of the



90% value is somewhat conservative. SWCAA estimates that 93% of the gasoline dispensed in Clark County by the end of 2023 will be to ORVR-equipped vehicles. This percentage will continue to increase as older vehicles not equipped with ORVR are replaced by new vehicles with ORVR.

Assumed Throughput Basis:	5,000,000 gallons per year (only 8 stations reached this threshold in 2019 in Clark Count)
Emission Factor (90% ORVR):	1.48 lb / 1,000 gallons dispensed
Annual Emissions:	3.71 tons volatile organic compounds (gasoline vapor)
Annual Benzene Emissions:	46 pounds (based on federal limit of 0.62% benzene in gasoline)

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