

**Engineering Evaluation
ConocoPhillips
Former 76 Service Station No. 7004, Plant #17181
Application Number 13031**

Background

On behalf of the Former 76 Service Station, SECOR International Inc. has applied for a change in condition of its existing portable SVE permit under A/N 4036 and Plant # 13708. They are requesting a modification to the existing permit because the service station will be within 1000 feet of a school and thus, this permit requires public notification. Thus, this application is for a change in condition to include the location address known as: 15599 Hesperian Blvd in San Leandro, CA. In addition, the facility will be subject to Regulation Rule 5, Table 2-5-1 (benzene concentration is reduced from 6.7 lbm/yr to 6.4 lbm/yr).

Emission Calculations – no change

As applicant under A/N 4036 has agreed not to exceed the toxic trigger level.

New Source Review

This proposed project will emit over 10 lbs per highest day and is therefore required to implement BACT. BACT will be used for S-1. For Soil Vapor Extraction operations, BACT is defined as attainment of set destruction efficiencies corresponding to set influent concentration values. Operation of the Carbon vessels will be conditioned to ensure attainment of the following required destruction efficiencies: $\geq 98.5\%$ if inlet POC ≥ 2000 ; $\geq 97\%$ if inlet POC ≥ 200 to < 2000 ppmv; $\geq 90\%$ if inlet POC < 200 ppmv. Offsets need not be imposed as annual emissions will not exceed 10 tons.

CEQA

The project is considered to be ministerial under the Districts proposed CEQA Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors and therefore is not discretionary as defined by CEQA. This project is in compliance with Chapter 9.3 of the permit handbook.

Compliance

Based on the information submitted, this operation is expected to be in compliance with Regulation 8-47-301, Emission Control Requirements, Specific compounds, and 8-47-302, Organic compounds. The POC emissions will be vented through a Thermal/Catalytic abatement system at all times of operation.

This project is within 1,000 ft from the nearest public school and is therefore subject to the public notification requirements of Regulation 2-1-412.

Recommendation

Recommend that a conditional Permit to Operate be issued for the source:

S-1: Portable Dual Phase Extraction System consisting of a 350 max scfm vacuum blower, and ancillary equipment, abated by A-1, Thermal/Catalytic Oxidizer.

Conditions

1. The operator of this source shall provide written notification to the Permit Services Division at least 3 days prior to start-up of operation at any new location. The notification shall include:
 - a. Application Number (13031) and Plant Number (17181).
 - b. Street address, including zip code, for the location where the equipment will be operated.
 - c. The name and telephone number of a contact person where the equipment will be operated.
 - d. The date of initial start-up and estimated duration of operations at that location.
 - e. The distance from the source to the outer boundary of the nearest K-12 school, or indication that the distance is greater than 1500 feet.

In the event that the start-up is delayed less than 5 days, the operator may provide telephone notice of said change to the assigned Plant Engineer in the Permit Services Division. If the start-up is delayed more than 5 days, written notification must be resubmitted.

2. This equipment shall not remain at any single location for a period in excess of 12 consecutive months, following the date of initial operation except as allowed under Section 2-1-220.10. If this portable equipment remains at any fixed location for more than 12 months, the portable permit will automatically revert to a conventional permanent location permit and will lose its portability.
3. This portable equipment, S-1, shall operate at all times in conformance with the eligibility requirements set forth in Regulation 2-1-220 for portable equipment.
4. This equipment is not to be operated within 1000 feet of the outer boundary of any K-12 school, unless the applicable requirements of the California Health and Safety Code Section 42301.6 have been met. This will require the submittal of an application for a revised permit to operate. The facility has met this condition, and this portable unit will be allowed to operate at the following address: 15599 Hesperian Blvd, San Leandro. The school that is located within 1000 feet of the source is Community Christian School located at 562 Lewelling Blvd in San Leandro. A Public Notice will be issued to comply with the California Health and Safety Code.
5. This equipment shall be used exclusively for the removal of non-chlorinated volatile organic compounds associated with petroleum products from extracted soil vapors. This shall be demonstrated by onsite sampling required in condition #10 below.
6. Precursor Organic Compound (POC) emissions from Source S-1 shall be abated by abatement device A-1, thermal/catalytic oxidizer during all periods of operation. Soil vapor flow rate shall not exceed 350 scfm.
7. The POC abatement efficiency of abatement device A-1 shall be maintained at a minimum of 98.5% by weight for inlet concentrations greater than or equal to 2000 ppmv (measured as C₆). For inlet concentrations below 2000 ppmv and greater than or equal to 200 ppmv, a minimum abatement efficiency of 97% shall be maintained. For inlet concentrations below 200 ppmv, a minimum abatement efficiency of 90% shall be maintained. The minimum abatement efficiency shall be waived if outlet concentrations are shown to be less than 10 ppmv (measured as C₆). In no event shall benzene emissions to the atmosphere exceed 0.25 pounds per day. Annual emissions of benzene shall not exceed 6.4 pounds per year (per Regulation 2-Rule 5 (trigger levels of Table 2-5-1)).
8. While operating as a thermal oxidizer, the minimum operating temperature of A-1 shall not be less than 1400 degrees Fahrenheit. While operating as a catalytic oxidizer, the minimum operating temperature of A-1 shall not be less than 600 degrees Fahrenheit.
9. To determine compliance with condition #8, the thermal/catalytic oxidizer shall be equipped with continuous measuring and temperature recording instrumentation. The temperature data collected from the temperature recorder shall be maintained in a file which shall be available for District inspection for a period of at least 2 years following the date on which such data are recorded.

10. To determine compliance with condition #7, within 24 hours after start-up of the thermal/catalytic oxidizer at any new location, and within 24 hours of conversion from thermal to catalytic mode at an existing location, the operator of this source shall:
 - a. Analyze the inlet gas stream to determine the vapor flow rate and concentration of POC present.
 - b. Analyze the exhaust gas to determine the flow rate, and the concentration of benzene and POC present.
 - c. Calculate the benzene emission rate in pounds per day based on the exhaust gas analysis and the operating exhaust flow rate. The soil vapor flow rate shall be decreased, if necessary to demonstrate compliance with Condition #7.
 - d. Calculate the POC abatement efficiency based on the inlet and exhaust gas sampling analysis. For the purpose of determining compliance with condition #7, the POC concentration shall be reported as hexane.
 - e. Submit to the District's Permit Services Division the test results and emission calculations within one month from the testing date. Samples shall be analyzed according to modified EPA test methods 8015 and 8021 or their equivalent to determine the concentrations of POC and benzene.
11. Within 30 days from the completion of each treatment operation at any given location, the operator of this source shall provide the assigned Plant Engineer in the Permit Services Division with a summary showing the following information.
 - a. The dates and total number of days that the equipment was at that location and the dates and total number of days that the equipment was operated at that location.
 - b. A summary of the abatement efficiency and benzene emission rate as determined and reported in the start-up sampling report required by condition 10e above.
 - c. The results of any additionally performed emission test, analysis or monitoring results logged in for the date of operation they were taken.
 - d. The total throughput of contaminated soil vapor processed by S-1 at that location (indicated in cubic feet).
 - e. The total emissions of benzene at that location based on the sampling results required by condition 10 above.
12. Within 30 days after the end of every calendar year, the operator of this source shall provide the assigned Plant Engineer in the Permit Services Division a year end summary showing the following information.
 - a. The location (s) at which the equipment was operated including the dates operated at each location.
 - b. The total throughput of contaminated soil vapor for the previous four quarters (indicated in cubic feet).
 - c. The total benzene emissions for the previous four quarters (indicated in pounds per year).
13. The operator shall maintain a file containing all measurements, records and other data that are required to be collected pursuant to the various provisions of this conditional Permit to Operate. All measurements, records and data required to be maintained by the operator shall be retained for at least two years following the date the data is recorded.
14. Any non-compliance with these conditions shall be reported to the Compliance and Enforcement Division at the time that it is first discovered. **The submittal shall detail the corrective action taken and shall include the data showing the exceedance as well as the time of occurrence.**

by _____ date _____
Irma Salinas
Air Quality Engineer II