

# DEQ Information Meeting

## Zenith Energy Terminal

*Zoom Webinar | October 28, 2024*



## Using Zoom Webinar

---

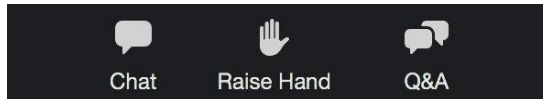
- Hear the audio either through your computer or by calling in by phone with the phone number provided upon registration.
- Note that you will not be able to speak unless the host enables your audio and then you unmute.



## Asking a question

---

- You should see the following along the bottom of your screen.



- To ask a question: type it into the Q&A or raise your hand and the host will un-mute you. (\*9 if you're on the phone)
- Use chat if you're having technical difficulties.



# Purpose of today's meeting

---

## Why are we here

- Provide information about:
  - Air Quality Regulations and Zenith
  - Draft Air Contaminant Discharge Permit
- Answer questions
- Share next steps

*As always, please speak for yourself and be respectful of others.*



# Air Quality Permit

David Graiver, Air Quality Permit Writer, Northwest Region



## What is an Air Contaminant Discharge Permit (ACDP)?

---

- Regulate stationary source emissions
  - Criteria pollutants
  - Hazardous air pollutants
  - Toxic air contaminants
- Outside the scope of an ACDP
  - Mobile sources
  - Location and land use
  - Off-site production and end use of products



Criteria Pollutants: PMs, CO, NO<sub>x</sub>, SO<sub>2</sub>, VOC

HAP: 188 compounds designated by US EPA

TAC: 600+ compounds, specifics in CAO Rules, OAR 340-245

# Zenith Energy Terminal Location



Located in Linnton neighborhood in NW Portland.

## Zenith – What Do They Do?

---

- Receives, Stores, & Ships Liquid Products
- Receipt & Shipping
  - Truck, Rail, Marine Vessel, Pipeline
- Storage in Tanks
- Liquid Products
  - Crude, Jet Fuel, Gasoline, Diesel
  - Ethanol, Renewable/Bio Diesel, Renewable Naphtha





## How Did We Get Here?

---

- **May 2007** – Title V Permit Renewal Issued
- **Aug 2017** – Source Submits NC for Marine Loading of Crude Oil and VOC Control Device
- **Jan 2021** – DEQ Requests Updated LUCS
- **Aug 2021** – City of Portland Provides Disapproved LUCS
- **Oct 2022** – City of Portland Provides Approved LUCS



## Zenith's Air Quality Permitting Process

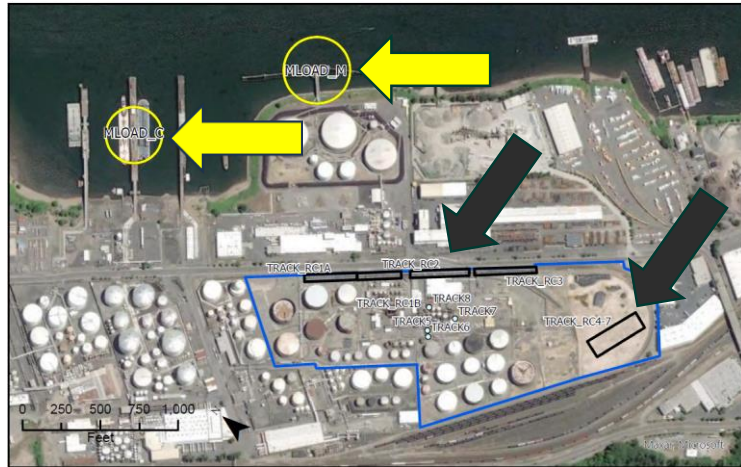
---

1. Air quality permit application – **Received November 21, 2022**
2. Public information meeting – **April 17, 2024**
3. Public comment period begins – **October 10, 2024**
  - Announced via DEQ public notice
  - Draft air quality permit published
4. Public hearing – **November 19 & December 4, 2024**
5. Public comment period ends – **December 16, 2024**
6. Public comments review and response – **After comment period**
7. DEQ air quality permit decision – **Following comment review**



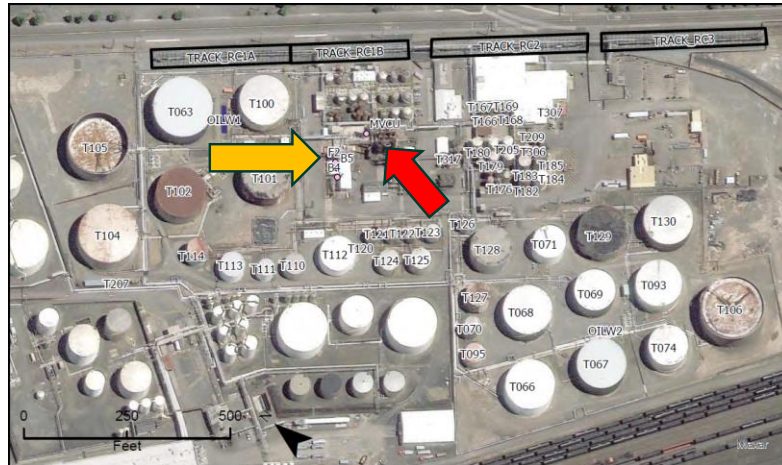
DEQ may revise the draft permit based on comments received.

# Zenith Emissions Units



Point out 2 loading docks, Chevron dock and McCall dock. Blue area is tank farm, black boxes are truck/rail racks

# Zenith Emissions Units



Orange: two boilers and heater  
Red: Vapor Combustion Unit

## Additional Zenith Emissions Units

---

- Product receipt and loading
  - Pipeline
- Product storage & conveyance
  - Fugitive leaks
- Combustion units
  - Boilers/heaters
  - Emergency engines



Fugitive leaks: Associated with piping; any time there is a connection of some kind there is an opportunity for vapors to escape

# Air Pollutants

---

## **Organic liquid storage and loadout & Fugitive leaks**

- Volatile organic compounds
- Hazardous air pollutants

## **Combustion units**

- Particulate matter
- Oxides of nitrogen
- Carbon monoxide
- Sulfur dioxide
- Volatile organic compounds
- Greenhouse gases
- Hazardous air pollutants



# Air Pollution Controls

---

## **Organic liquid storage and loadout**

- Leak detection and repair
- Floating roofs
- Vapor combustion unit

## **Fugitive emissions**

- Leak detection and repair
- Best management practices

## **Combustion units**

- Good combustion practices
- Follow applicable requirements



LDAR – utilize a detecting device such as FID or PID to determine VOC concentrations at potential leak points. Repairs must be made within specified time frame if a leak is detected

Floating Roof – VOCs volatilize from liquid to air. Floating roofs reduce the air space in tanks to limit volatilization

Good combustion – proper operation of unit, good air/fuel ratios

## Calculating Emissions

---

- **Tanks:** AP-42 Chapter 7 Algorithms, Physical Properties
- **Product Loading:** AP-42 Chapter 5.2, Physical Properties
- **Fugitive Leaks:** EPA Protocol for Equipment Leak Estimates
- **Boilers/Heater:** AP-42 Chapter 1.4, DEQ EFs
- **Engines:** AP-42 Chapter 3.3, NSPS IIII Limits
- **VCU:** Test Data, DEQ EFs, Manufacturer Specs



AP-42 is EPA compendium of emission factors



# Changes in Emissions

---

## Plant site emission limits

- Volatile organic compounds reduced to 39 tons per year
- Site specific limits
- New pollutants:
  - Fine particulate matter (PM<sub>2.5</sub>)
  - Greenhouse gases

## Emission calculation updates

- Updated algorithms for tank emissions
- Source test data (VCU)
- Different materials handled
- Fugitive leaks



## Changes in Emissions

Pollutant	Plant Site Emission Limits (PSEL)		
	Previous PSEL (tons/yr)	Proposed PSEL (tons/yr)	PSEL Increase (tons/yr)
Total particulate matter	14	--	(14)
Coarse particulate matter	14	--	(14)
Fine particulate matter*	--	--	--
Carbon monoxide	99	24	(75)
Oxides of nitrogen	77	26	(51)
Sulfur dioxide	81	--	(81)
Volatile organic compounds	179	39	(140)
Greenhouse gases*	--	29,800	29,800
Hydrogen sulfide	9	--	(9)

\* Fine Particulate Matter and Greenhouse gases were not regulated pollutants at the time of the Title V permit issuance



Reductions: CO, NOx, and VOC all reduced PSELs

GHG – new PSEL

PM, SO2, H2S – Potential to emit below DEQ de minimis levels (1 ton/yr for each of these pollutants) so no PSEL required for these pollutants.

# Changes to the Air Quality Permit

---

## **New equipment**

- Vapor combustion unit
- Loading activities
- Emergency engines

## **Oregon regulation changes**

- 2015: Particulate matter emissions and opacity limits
- 2022: Site specific emission limits
- Fine particulate matter (PM<sub>2.5</sub>) and greenhouse gases as regulated pollutants

## **Federal regulation changes**

- Engine rules: NSPS IIII & NESHAP ZZZZ
- Gasoline distribution: NESHAP BBBB



## Permit Content – What Changed?

---

- Plant Site Emission Limits
- Asphalt Refinery Emission Units Removed
- Updated Storage Tank Requirements
- Engine Requirements
- Vapor Combustion Unit
  - Source Testing
  - Operational & Monitoring Requirements
- LUCS Requirements



## Cleaner Air Oregon

---

- Health risk-based air toxics regulatory program
- Existing facility
- Prioritized as a Group 3 facility
- Call-in date to the program will depend on:
  - Staffing and resource logistics
  - Additional emissions information
- Reach out to the Cleaner Air Oregon program with questions at [cleanerair@deq.oregon.gov](mailto:cleanerair@deq.oregon.gov)



- Cleaner Air Oregon, or CAO, is DEQ's industrial air toxics permitting program that requires sources to perform a risk assessment based on their air toxics emissions.
- For the purposes of the CAO program, Zenith is considered an existing source because it commenced construction before November 16, 2018; or Submitted all necessary applications to DEQ under OAR 340 divisions 210 or 216 before November 16, 2018, and all such applications were deemed complete by DEQ.
- DEQ established a Prioritization for calling-in existing sources to perform risk assessments – there are approximately 360 permitted sources that need to go through the program.
- There are three prioritization groups – groups 1 and 2 each have 20 sources, with group 3 having the remaining 300+ sources.
- DEQ is has completed call-ins for the group 1 sources, and is currently mid-way through the group 2 sources.
- Zenith is in group 3 based on the amount and toxicity of the emissions from the facility, as well as the location of the facility in an industrially zoned area away from homes and schools.
- Zenith will be called in sometime after completion of the group 2 sources,

which will be completed in late 2025.

- This means that Zenith will likely not be called-in to the program sometime in 2026 or later unless DEQ obtains new emissions information that demonstrate significantly increased potential risks.
- If you have any follow-up questions, please reach out to the CAO program directly – we will provide the email link in the chat.

## What's next

---

- **November 19:** Public Hearing at the University of Portland Buckley Center Auditorium
  - From 7 – 9 p.m.
  - In person with virtual option. In person attendees will be invited to provide comment first with online and phone attendees following
- **December 4:** Public Hearing
  - From 6 – 8 p.m.
  - Virtual
- **December 16:** Public comment period ends at 5 p.m.
- DEQ will review and respond to all comments prior to final decision



# Questions?





## What's next

---

- **November 19:** Public Hearing at the University of Portland Buckley Center Auditorium
  - From 7 – 9 p.m.
  - In person with virtual option. In person attendees will be invited to provide comment first with online and phone attendees following
- **December 4:** Public Hearing
  - From 6 – 8 p.m.
  - Virtual
- **December 16:** Public comment period ends at 5 p.m.
- DEQ will review and respond to all comments prior to final decision



**Thank you!**



## Zenith's Actual Emissions

	PSEL	2019	2020	2021	2022	2023
Particulate matter	14	0.05	0.05	0.08	0.09	0.10
Sulfur dioxide	81	NR	0.03	0.17	0.17	0.19
Oxides of nitrogen	77	1.90	1.94	3.39	3.44	3.89
Volatile organic compounds	179	20.5	25.2	33.0	49.5	43.1
Carbon monoxide	99	1.60	1.63	13.9	5.45	6.09
Greenhouse gases	N/A	6,000	5,747	4,445	4,515	5,103

All emissions in tons per year

PSEL = Plant Site Emission Limit

NR = Not Reported

