

DEQ Information Meeting

Zenith Energy Terminal

Zoom Webinar | October 28, 2024



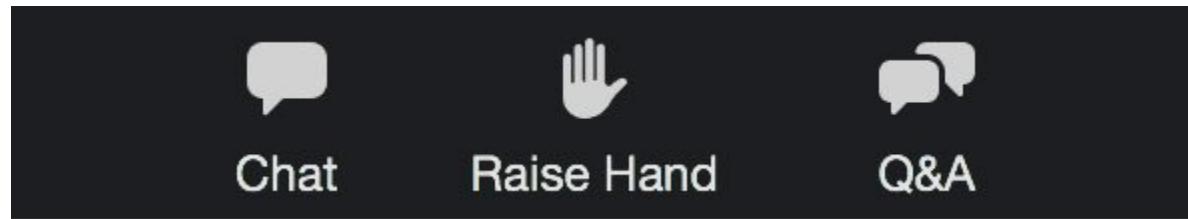
State of Oregon
Department of Environmental Quality

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



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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

Zenith Energy Terminal Location



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?

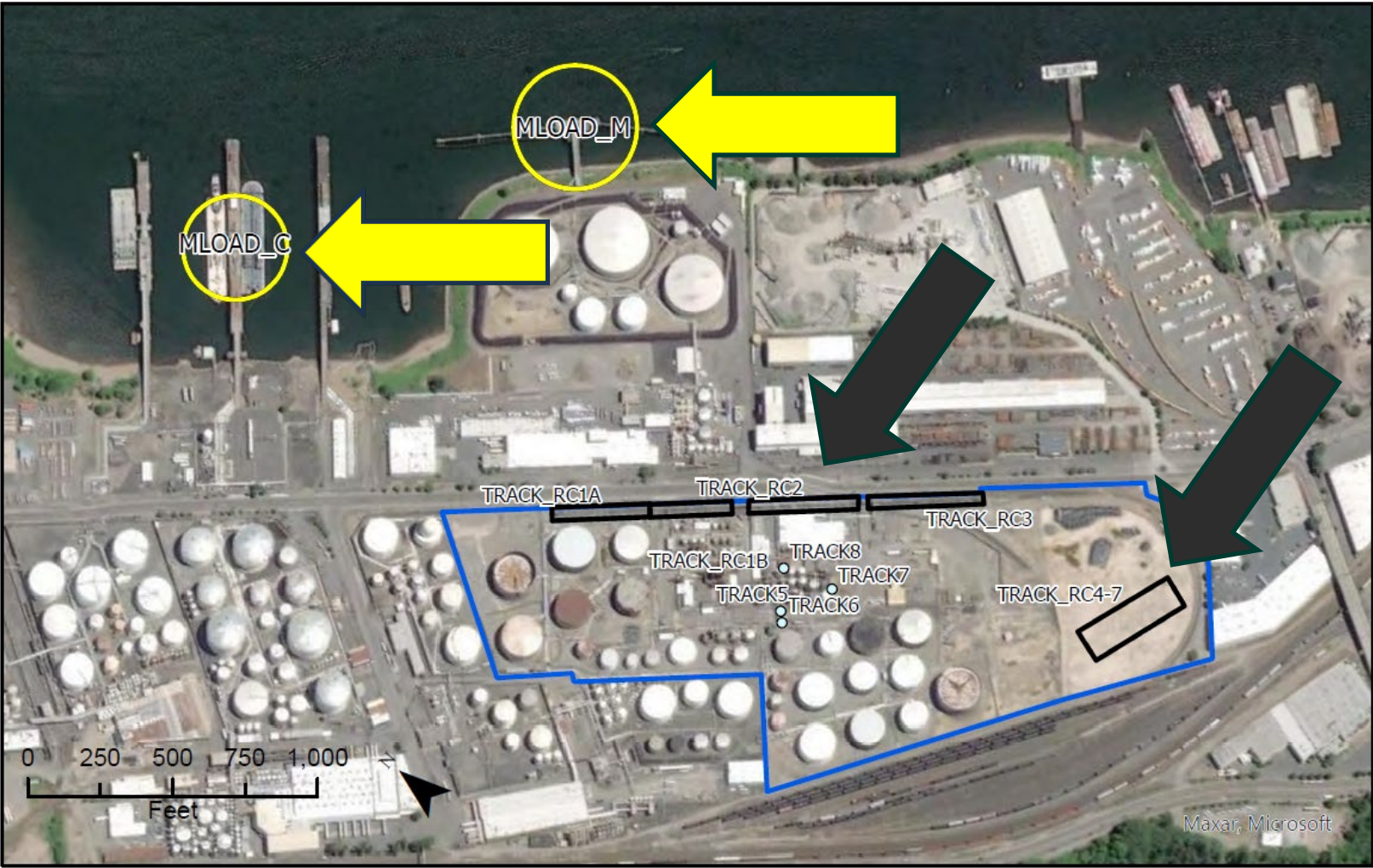
- **May 2007** – Title V Permit Renewal Issued
- **Aug 2017** – Source Submits NC for Marine Loading of Crude Oil and VOC Control Device
- **Jan 2021** – DEQ Requests Updated LUCS
- **Aug 2021** – City of Portland Provides Disapproved LUCS
- **Oct 2022** – City of Portland Provides Approved LUCS



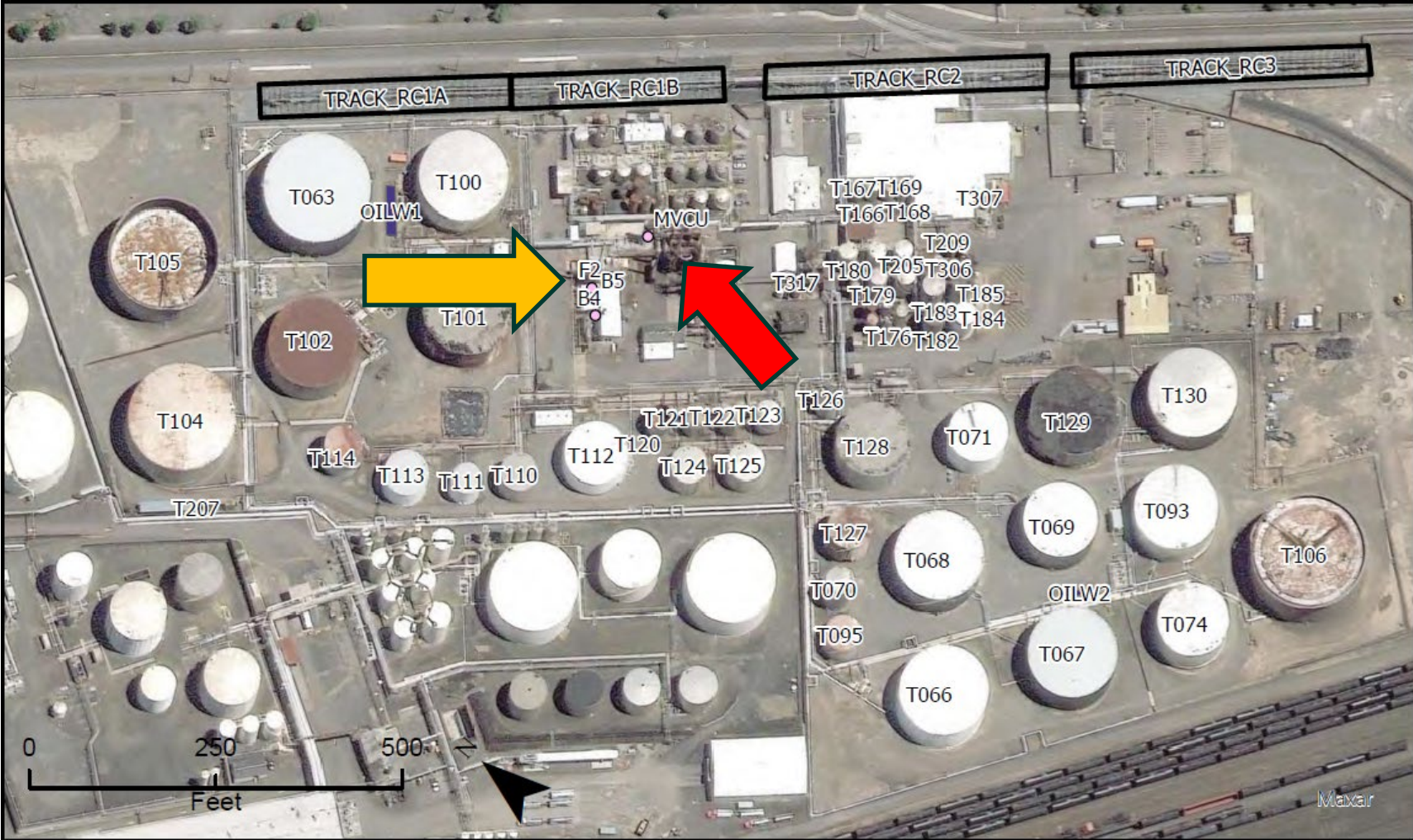
Zenith's Air Quality Permitting Process

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**

Zenith Emissions Units



Zenith Emissions Units





Additional Zenith Emissions Units

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

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



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 III Limits
- **VCU:** Test Data, DEQ EFs, Manufacturer Specs

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_{2.5})
 - 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



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_{2.5}) and greenhouse gases as regulated pollutants

Federal regulation changes

- Engine rules: NSPS III & 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

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?



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Thank you!



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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

