

DEQ Information Meeting

Zenith Energy Terminal

Zoom Webinar | April 17, 2024



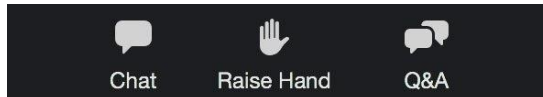
Using Zoom Webinar

- 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 the ways DEQ regulates Zenith
- Answer questions
- Share next steps

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



You will hear from these DEQ programs

- Spill Contingency Planning
- Fuel Tank Seismic Stability
- Air Quality Permitting

You will have the opportunity to ask questions after each program's presentation as well as ask questions during the overall Q&A portion of tonight's meeting after presentations conclude.



Spill Contingency Planning

Scott Smith, Emergency Response Planner



What is Spill Contingency Planning?

- What does DEQ require from Zenith?
 - Submit an Oil Spill Contingency Plan every five years.
 - Two Equipment Deployment Drills per year.
 - One annual tabletop exercise per year.



Oil Spill Contingency Plans

- Key elements in a spill response plan
 - Immediate notifications of a spill to government agencies required.
 - Training and preparation for spills through drill program.
 - Air monitoring during emergencies for responder and community safety.
 - Deployment of boom, access to oil spill cleanup equipment.
 - Wildlife response capability.



ORS 468b.300

DEQ Emergency Response Program

- What does DEQ do if there is a spill
 - Acts as State on Scene Coordinator: primary agency for oil spill response.
 - Coordinates with Zenith, plus other federal, state and local agencies.
 - Ensures Zenith follows the Northwest Area Contingency Plan.
 - “Rapid, aggressive and coordinated response.”



Spill drills

- Two exercises/year
- One tabletop/year
- One worst case every three years
 - Last done in October 2022



Test Zenith's ability to properly use boom, skimmers, vac trucks, etc. for potential spill response

Questions?



Fuel Tank Seismic Stability

William Ian Johnson, Fuel Tank Seismic Stability Inspector



Fuel Tank Seismic Stability Program

- Established in September 2023
- Applies to large capacity bulk fuels terminals in Columbia, Lane and Multnomah counties.
- Must minimize risk of damage or spills from a Cascadia-level earthquake.



This slide shows the main elements of the new statute passed by the Legislature.

- One element of this law is that it requires the very largest fuel storage facilities in three counties - Columbia, Multnomah and Lane - to address their systems' vulnerability to damage from a magnitude 9 earthquake. The Seismic Vulnerability Assessments are due to DEQ by June 1, 2024.

- The rules DEQ proposed and EQC adopted almost two weeks ago define the elements of a risk mitigation program. Mitigation is expected to minimize the risk of damage or spills resulting from ground shaking due to a

magnitude 9, or similar earthquake. The content and schedules for facility risk mitigation plans is defined in the rules. We anticipate that this may be accomplished through equipment retrofit, replacement, or spill containment based on facility specific considerations. Facility owners will submit their proposed plan and implementation timeline for DEQ review and approval.

- The other element is the fuel resiliency requirements for Oregon Department of Energy.

Facilities

High-Capacity Fuel Storage Facilities	County
Cascade General Inc. (Vigor Shipyard)	Multnomah
McCall Oil & Chemical Corp	Multnomah
Zenith Terminals	Multnomah
Phillips 66	Multnomah
Chevron USA Inc.	Multnomah
Shell Portland Distribution Terminal	Multnomah
Kinder Morgan Liquids Term LLC	Multnomah
Northwest Natural Gas Co	Multnomah
Pacific Terminal Services Inc.	Multnomah
Nu-star Portland Terminal	Multnomah
Sea-Port Midstream Partners	Multnomah
Owens Corning Roofing and Asphalt LLC	Multnomah
PDX Fuel LLC	Multnomah
SFPP LP (Kinder Morgan Eugene)	Lane
PGE	Columbia
Columbia Pacific Bio-Refinery	Columbia



This shows the 17 facilities we believe are subject to these risk mitigation requirements. The next few slides show maps of the facilities by county.

Seismic Vulnerability Assessment and Risk Mitigation Implementation Plan

- Seismic Vulnerability Assessment:
 - Includes geotechnical, structural and safety assessments.
 - Due **June 1, 2024**.
- Risk Mitigation Implementation Plan:
 - Due **180 days** after DEQ approves the Seismic Vulnerability Assessment.
 - Propose risk mitigation measures to address vulnerabilities.
 - Outline one-, three-, and five-year mitigation actions.
- All actions must be implemented within 10 years of approval.



An especially important part of division 300 rules is about performance objectives and building codes. There have been a lot of complicated engineering considerations and deliberations behind these rules, but in the end, it all boiled down to a very simple rule that provides two options for facilities to meet the earthquake safety requirements.

The first option builds on the existing Oregon Administrative Rule chapter 340 division 142: Oil and /Hazardous Materials Emergency Response Requirement and establishes a performance objective called the Maximum Allowable Uncontained Spill. This can apply to any element of the facility, including but not limited to -

retrofits, replacements, reconstruction, removal, relocation intended to achieve the performance objective of reducing the volume of the spill expected. It can also include new or improved secondary containment systems that are earthquake resilient. Established engineering practices are used to define a **Design Level Earthquake**, then engineers develop facility specific approaches to limit anticipated damage and to prevent exceeding the Maximum Allowable Uncontained Spill at each point of analysis. For oil spill that amount is 42 gallons as provided in Oregon Administration Rules chapter 340, division 142.

The second option is to meet the specific new construction design standards from a widely used standard called American Society of Civil Engineers Standard 7. Any structures or retrofits may be designed to withstand the Design Level Earthquake calculated for each site using the ASCE 7 new construction standard applying the most stringent risk category.

Both options can apply to existing and new structures as facilities choose. But engineering experts anticipate that the maximum spill approach will be more common for existing facilities and the code approach will be more common for new construction.

Questions?



Air Quality Permit

David Graiver, Air Quality Permit Writer, Northwest Region



Zenith Energy Terminal Location



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

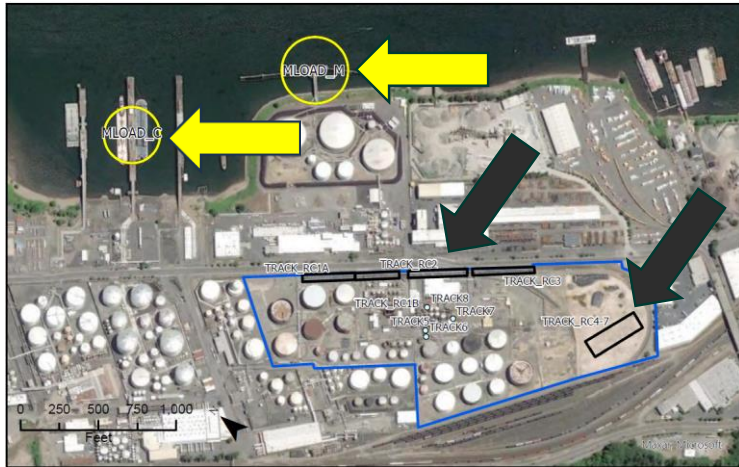


Zenith's Air Quality Permitting Process

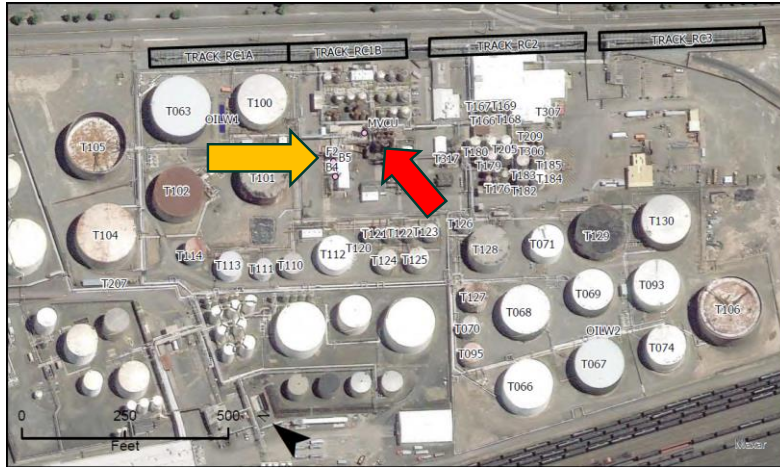
1. Air quality permit application – **Submitted**
2. Public information meeting – **Today's meeting**
3. Public comment period begins – **Later this spring**
 - Announced via DEQ public notice
 - Draft air quality permit published
4. Public hearing – **Announced with public notice**
5. Public comment period ends – **Minimum 35 days**
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
 - Fugitive leaks
- Combustion units
 - Boilers/heaters
 - Emergency engines



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 IIII & NESHAP ZZZZ
- Gasoline distribution: NESHAP BBBB



Air Pollutants

Organic liquid storage and loadout

- 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



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)



Other Permit Conditions

- Performance testing
- Emission standards and performance standards
- Plant site emission limits
- Compliance demonstration formulas
- Monitoring and recording requirements
- Reporting and notification requirements



Cleaner Air Oregon

- Health risk-based air toxics regulatory program
- Existing facility
- Classified as a Group 3 facility
- Call in date to the program will depend on:
 - Staffing and resource logistics,
 - Updated triennial emission inventory, and/or
 - Additional new information



Questions?



What's next

- Public notice and hearing later this spring for draft air quality permit
- Can provide comment verbally or in writing
 - Verbal and written comments hold equal weight.
- Sign up for updates through GovDelivery



- Public notice posted later this spring about the draft air quality permit, public hearing and comment period
- Virtual public hearing will be scheduled and announced with the public notice
- Comments submitted verbally at the hearing or in writing via email or mail will hold equal weight
- DEQ may revise the draft air quality permit based on comments received
- If you would like to receive email updates about this permitting action, please sign-up for the GovDelivery subscription:
https://public.govdelivery.com/accounts/ORDEQ/subscriber/new?topic_id=ORDEQ_699

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

