City Council Work Session

Council Work Session

Zenith Energy Terminal Portland Terminal

January 21, 2025 9:30 am – 11:30 am

Available Online

Council in attendance:

- Councilor Avalos
- Councilor Dunphy
- Councilor Smith
- Councilor Kanal
- Councilor Pirtle-Guiney
- Councilor Ryan
- Councilor Koyama Lane
- Councilor Morillo
- Councilor Novick
- Councilor Clark
- Councilor Green
- Councilor Zimmerman

Staff Presentation: Zenith Energy Terminal Portland Terminal Work Session 839.31 KB

Posted January 21, 2025 7:17 am

Zenith Presentation: Zenith Energy Terminal Portland Terminal Work Session 4.69 MB

Posted January 21, 2025 8:39 am

Council Chamber doors open to the public 15 minutes before the meeting starts. Learn more about visiting City Hall to attend a Council meeting. Watch the live broadcast on YouTube, on the Open Signal website, or on cable TV (Xfinity Channels 30 and 330, CenturyLink Channels 8005 and 8505).

City Council will hold a community listening session to hear public comment regarding Zenith on January 21 from 12:00 p.m. to 2:00 p.m.

Work sessions are public meetings related to a specific topic where information is presented to Council. Council does not vote or take any action; public testimony is not taken. The public and press may attend work sessions when held in person or watch the live broadcast online or on cable TV.

Location

City Council Chambers

1221 SW Fourth Avenue
Second Floor Auditorium
Portland, OR 97204

Get Directions
More about this location

Contact

Donnie Oliveira

Deputy City Administrator, Community & Economic Development

donald.oliveira@portlandoregon.gov

Related

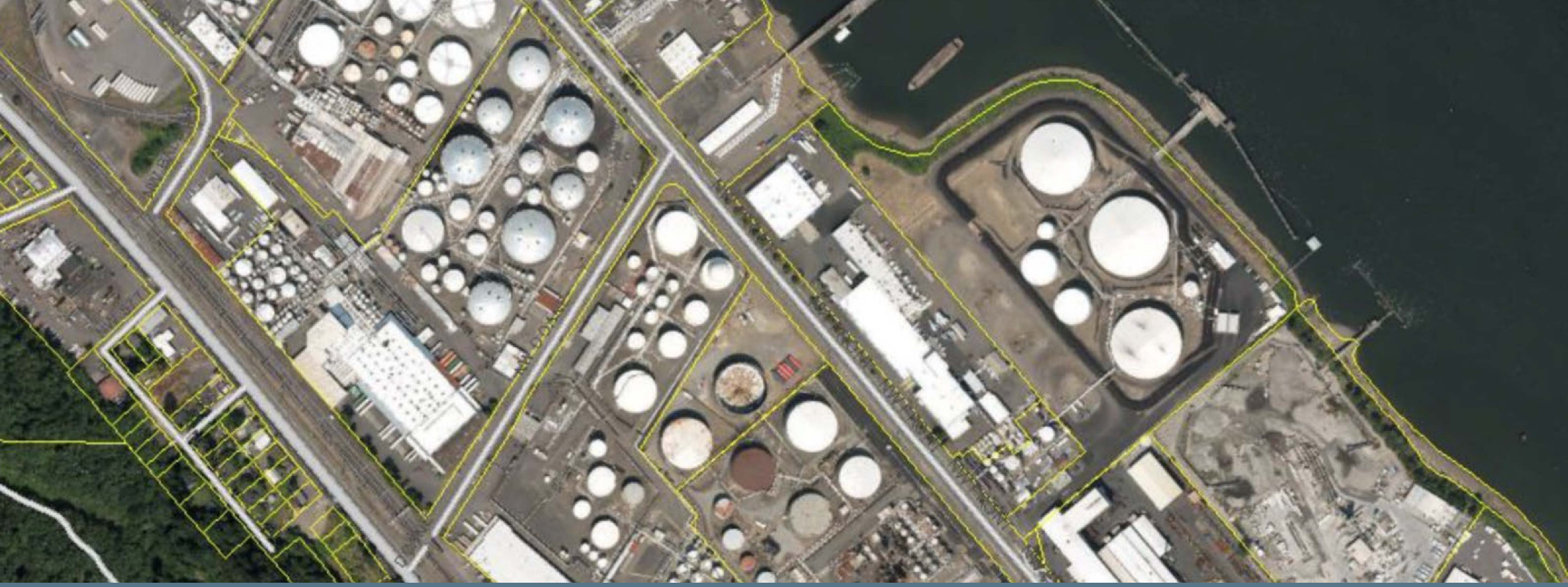
Council absences

Virtual Council participation

Council calendar and meeting information

Current City Council Meeting Agenda

Engage with Council



Zenith Work Session

January 21, 2025

COMMUNITY & ECONOMIC DEVELOPMENT

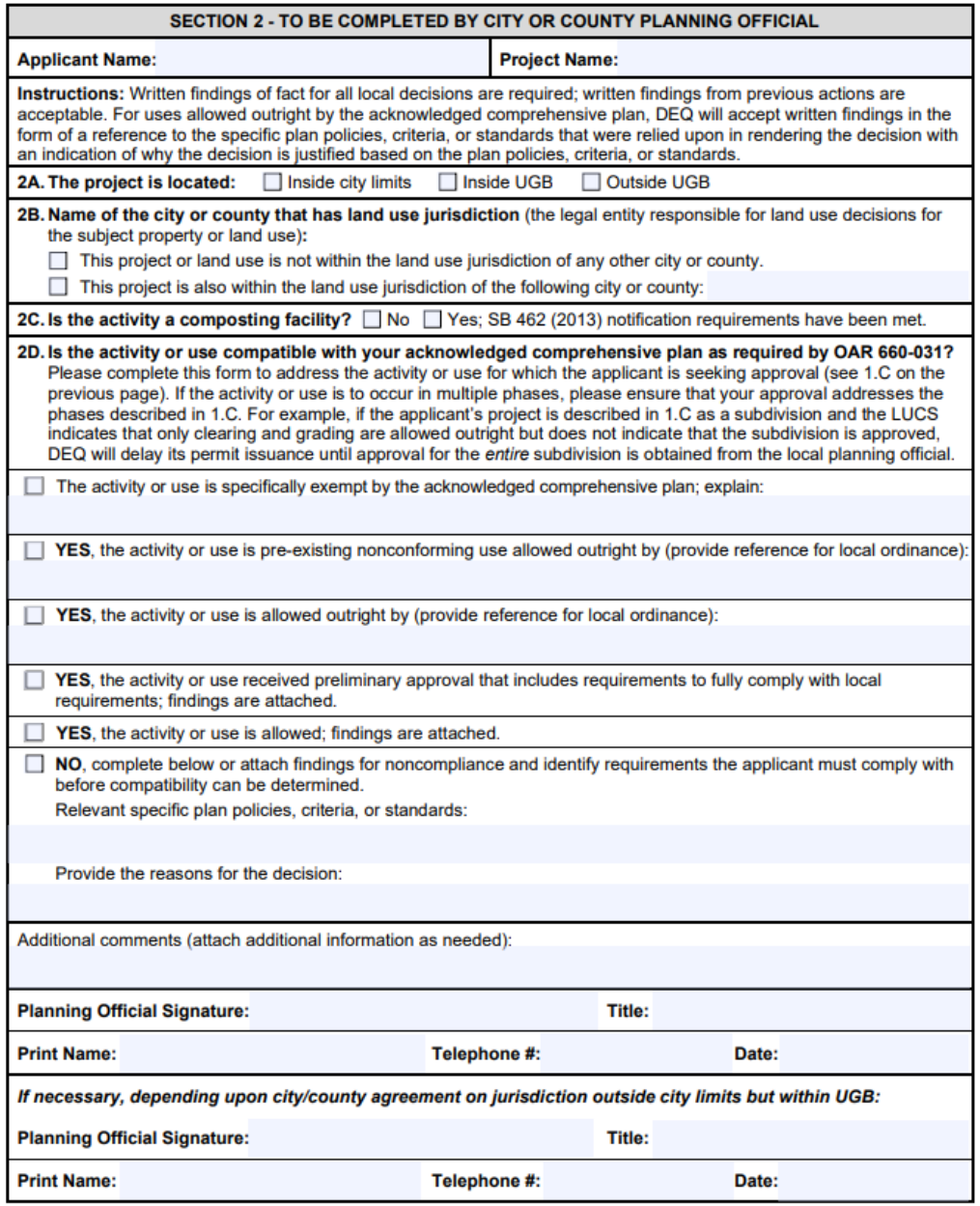
Staff Presentation Agenda

- What is a LUCS?
- Land Use Regulations Overview
- Zenith Operations and Timeline
- 2021 LUCS denial
- 2022 LUBA decision
- 2022 LUCS approval
- ACDP permit process
- Current Planning Efforts

What is a LUCS?

A land use compatibility statement (LUCS) is a statement that evaluates whether a proposed use or activity is compatible with the existing land use regulations that apply to a particular location.

- PP&D receives requests for approximately 150 LUCS, annually
- Agencies requesting completion of a LUCS include:
  - Oregon DEQ
  - Oregon DMV
  - Oregon Department of Agriculture
  - Oregon Liquor and Cannabis Commission
  - Oregon Health Authority
- Oregon law does not provide for or require any procedural requirements



SECTION 2 - TO BE COMPLETED BY CITY OR COUNTY PLANNING OFFICIAL

Applicant Name: | **Project Name:**

Instructions: Written findings of fact for all local decisions are required; written findings from previous actions are acceptable. For uses allowed outright by the acknowledged comprehensive plan, DEQ will accept written findings in the form of a reference to the specific plan policies, criteria, or standards that were relied upon in rendering the decision with an indication of why the decision is justified based on the plan policies, criteria, or standards.

2A. The project is located: ☐ Inside city limits ☐ Inside UGB ☐ Outside UGB

2B. Name of the city or county that has land use jurisdiction (the legal entity responsible for land use decisions for the subject property or land use):

☐ This project or land use is not within the land use jurisdiction of any other city or county.

☐ This project is also within the land use jurisdiction of the following city or county:

2C. Is the activity a composting facility? ☐ No ☐ Yes; SB 462 (2013) notification requirements have been met.

2D. Is the activity or use compatible with your acknowledged comprehensive plan as required by OAR 660-031? Please complete this form to address the activity or use for which the applicant is seeking approval (see 1.C on the previous page). If the activity or use is to occur in multiple phases, please ensure that your approval addresses the phases described in 1.C. For example, if the applicant's project is described in 1.C as a subdivision and the LUCS indicates that only clearing and grading are allowed outright but does not indicate that the subdivision is approved, DEQ will delay its permit issuance until approval for the *entire* subdivision is obtained from the local planning official.

☐ The activity or use is specifically exempt by the acknowledged comprehensive plan; explain:

☐ **YES**, the activity or use is pre-existing nonconforming use allowed outright by (provide reference for local ordinance):

☐ **YES**, the activity or use is allowed outright by (provide reference for local ordinance):

☐ **YES**, the activity or use received preliminary approval that includes requirements to fully comply with local requirements; findings are attached.

☐ **YES**, the activity or use is allowed; findings are attached.

☐ **NO**, complete below or attach findings for noncompliance and identify requirements the applicant must comply with before compatibility can be determined.

Relevant specific plan policies, criteria, or standards:

Provide the reasons for the decision:

Additional comments (attach additional information as needed):

Planning Official Signature: | **Title:**

Print Name: | **Telephone #:** | **Date:**

If necessary, depending upon city/county agreement on jurisdiction outside city limits but within UGB:

Planning Official Signature: | **Title:**

Print Name: | **Telephone #:** | **Date:**

How a LUCS is processed

1. Applicant emails City application form, agency form, and any relevant plans, studies, or narrative to Land Use Services Technicians.
2. LUS Technicians set up file in AMANDA and bill the applicant. The applicant is contacted with information on how to pay the fee about 3-4 business days after emailed submittal.
3. After fee is paid, the supervisor is contacted to assign the LUCS to a planner. Assignment is typically made within 1-2 business days.
4. Planner reviews application materials and researches zoning code based on uses and activity described by the applicant in submitted materials.
5. Planner fills out form and signs. Typical check boxes on form include Yes (either exempt, non-conforming but allowed, allowed by right, or received preliminary approval) or No (allowed by M49 or identify requirements to comply with before it can be determined).
6. Form is returned to applicant via email approximately 4 weeks from payment.

Land Use Regulations

2035 Comprehensive Plan

Current Zoning Code

2035 Comprehensive Plan

Examples of policies utilized:

Policy 6.48. Fossil fuel distribution. Limit fossil fuels distribution and storage facilities to those necessary to serve the regional market.

Policy 4.79. Natural hazards and climate change risks and impacts. Limit development in or near areas prone to natural hazards, using the most current hazard and climate change-related information and maps.

Policy 4.81. Disaster-resilient development. Encourage development and site-management approaches that reduce the risks and impacts of natural disasters or other major disturbances and that improve the ability of people, wildlife, natural systems, and property to withstand and recover from such events.

Current Zoning Code

PP&D reviews a number of code sections to determine if an activity or use for which the applicant is seeking approval is compatible with the zoning regulations, including:

- Use Regulations of the base zone (PCC 33.100 through 150)
- Additional use and development regulations (PCC 33.200s)
- Overlay zones and plan districts regulations (33.400s and 33.500s)
- Definitions (PCC 33.910)
- Description of uses (PCC 33.920)

For example: PCC 33.140.100.B.16

16. Bulk Fossil Fuel Terminals. This regulation applies to all parts of Table 140-1 that have a [15].

    a. Existing Bulk Fossil Fuel Terminals. Bulk Fossil Fuel Terminals that existed on August 31, 2022 are allowed, but the total amount of fossil fuel that can be stored on the site in storage tanks is limited to the fossil fuel storage tank capacity that existed on August 31, 2022. Total fossil fuel storage tank capacity on the site in excess of the capacity that existed on August 31, 2022 is prohibited. Adding storage tank capacity exclusively for renewable fuels or to comply with the Renewable Fuel Standard (PCC Chapter 16.60 Motor Vehicle Fuels) is not considered an increase in capacity. Storing coal on the site is prohibited.

    b. New Bulk Fossil Fuel Terminals are prohibited.

Fossil Fuel Terminal Zoning Code

Defines Fossil Fuel and Renewable Fuel

Prohibits new Bulk Fossil Fuel Terminals with more than 2 million gallons of storage tank capacity

Limits existing Fossil Fuel Terminals

- Prohibit expansion of fossil fuel storage tank capacity
- Allow reconfiguration of existing fossil fuel storage tank capacity
- Exceptions for:
  - Fuel distributors that are exclusively by truck
  - Fossil fuel storage for exclusive use at airports, marine terminals, railyards, freight terminals, and fleet facilities
  - Reprocessing petroleum products

Fossil Fuel Terminal Zoning Code

2015 Council Resolution opposing expansion of fossil fuel infrastructure

2016 Council adoption of zoning code amendments

2017-18 LUBA, Court of Appeals, Oregon Supreme Court - remanded to City

2019 Council re-adoption

2020-21 LUBA appeal - remand to City

Happening concurrently: in 2021, DEQ asks Zenith for LUCS for air quality permit, City denies

2022 Council re-adoption

2023-24 LUBA decision in favor of City, Court of Appeals affirms

2023-25 Federal court challenge continues (*State of Montana et al. v. City of Portland*)

History of Zenith's Operations & Permits

	Permits and Other Related Activities:
2017 Zenith acquires the Portland Terminal facility	
2018	Fire - install marine vapor control system Trade - install power and gas lines to vapor system Trade - power, lighting, controls to railcar racks)
2019 Zenith begins loading crude oil Proposes new connection to McCall Dock City denies franchise change for dock connection	Transportation - chain link fence along sidewalk Land Use Early Assistance (proposal for new pipelines to McCall dock) Trade (electrical circuits for railcar racks) Construction - replace concrete pads between tanks) Trade - add 6 marine pumps Trade - new power line from PGE pole Trade - install 6-inch drain pipe for railcar racks Land Use - proposal for new pipelines to McCall dock, withdrawn)

History of Zenith's Operations & Permits

Continued

2020

Application for additional rail racks for renewable fuels (*permit issued*)

City approves LUCS for stormwater permit for railcar rack roof.

2021

2014 off-loading racks permit finalized

DEQ starts permit process and requires new LUCS

City denies LUCS

Permits and Other Related Activities

Trade - install motor, light fixtures, power line
Construction - install rail infrastructure for renewable fuels (*under construction)*
Construction - nonconforming upgrades (bike parking and landscaping
Construction - tree removal near high voltage power line
Fire - fire alarm control panel upgrade
LUCS - DEQ stormwater permit for railcar rack roof
Fire - install new piping for railcar racks

Land Use - zoning confirmation letter
Complaint - Grading without permits. (Site inspection found no grading activities.)
LUCS - DEQ air quality permit (*denied)*
Trade (replace lighting with LED fixtures)

History of Zenith's Operations & Permits

Continued

2022	Permits and Other Related Activities
LUBA decision – remand	Trade - install pump, motors and power service Trade - install electric heaters in warehouse Stormwater - replace stormwater pipe LUCS - DEQ air permit. Approved.
City approves LUCS	
2023	
Greenway review for McCall Dock connection	Trade - install motors, pumps and mixers Land Use - Greenway Review for renewable pipes to McCall dock. Approved with conditions. Construction - demolish 8 storage tanks Fire - degassing of Tank 68 Fire - demolish 8 storage tanks
Franchise change for renewables	

History of Zenith's Operations & Permits

Continued

2024

Zenith application for McCall dock renewable pipeline connection (*issued*)

DEQ draft ACDP permit, requires new LUCS

Zenith submits revised LUCS application

Permits and Other Related Activities

Trade - Install wiring to railcar rack pumps
Trade - relocate power line
Trade - install power lines
Trade - Install electrical circuits, motors and lights
Construction – McCall renewable pipeline connection
LUCS – Revised DEQ Air Permit. Pending.

2021 LUCS denied, City Determined Incompatible with Comprehensive Plan

The City directly applied the 2035 Comprehensive Plan policies.

Heavy Industrial (IH) zone does not prohibit the fossil fuel terminal use.

The City found that the terminal activities are not compatible with the City's comprehensive plan policies, including:

- Goal 3B: A climate and hazard resilient urban form
- Policy 3.3: Equitable development
- Policy 4.33: Off-site impacts
- Policy 4.79: Natural hazards and climate change risks and impacts
- Policy 4.80: Geological hazards
- Policy 7.14: Natural hazards

2022 LUBA Decision

LUBA remanded the decision back to the City for additional work. Key decision points:

- Oregon law does not prohibit local governments considering comprehensive plan policies in considering a LUCS.
- The City did not adequately explain why the use is not compatible with 2035 Comprehensive Plan.
- The City's decision requires findings and substantial evidence to support the decision.

LUBA determined that the LUCS is a quasi-judicial determination that requires findings. LUBA did not consider whether the LUCS was a statutory "permit" that requires a quasi-judicial land use hearing.

Zenith's 2022 LUCS, City Approved

Commitments made by Zenith:

- Phase out crude oil transports within five years (October 2027).
- Disable 8 of 44 railcar spots for unloading crude oil.
- Remove 30 storage tanks over the next seven years.
- No new storage tanks for fossil fuels.
- Reduce emissions of volatile organic compounds to less than 40 tons per year.
- Cease operations of asphalt refinery.

Compliance measures to enforce these commitments, including:

- Allowing City inspectors to confirm that railcar spots are not used for crude oil.
- Hiring, third party inspectors to sample and test materials to confirm no crude oil.
- Allowing City inspectors on-site, immediately, to confirm that no new storage tanks have been constructed.

2024 Air Contaminant Discharge Permit Process

- **December 6, 2024: DEQ requires a new LUCS by February 4, 2025.**
- **December 17, 2024: Zenith submits new LUCS request with key changes:**
  - **Tax lot clarification:** Updated to identify tax lots for use of the Chevron and McCall docks that were explained in the 2022 LUCS but not listed on the application.
  - **Aviation fuel clarification:** The request includes new valves and associated piping/components necessary to handle jet fuel to be blended with sustainable aviation fuel (SAF) to produce SAF jet fuel blend.
- **PP&D is currently processing that new LUCS request.**

Current Planning Efforts

Fossil Fuel Terminal Zoning and Comprehensive Plan Amendments Project

- **FEMA Hazard Mitigation Grant** to provide dedicated staff
- **Purpose:** Amend the 2035 Comprehensive Plan polices to provide a stronger policy foundation to adopt additional zoning code restrictions on fossil fuel infrastructure.
- **Process:** Research policy and code options, community feedback, Planning Commission recommendation, City Council adoption.

- **Upcoming Critical Energy Infrastructure Hub Work Session:**
  - March 17, 2025, 9:30 a.m. - 11:30 a.m.

Questions and Discussion

Presentation to Portland City Council

January 21, 2025

ZENITH ENERGY

1. *Safe and reliable operator*
2. *Highly regulated*
3. *Leader of renewable fuel transition in Oregon*

Zenith Energy's Portland Terminal

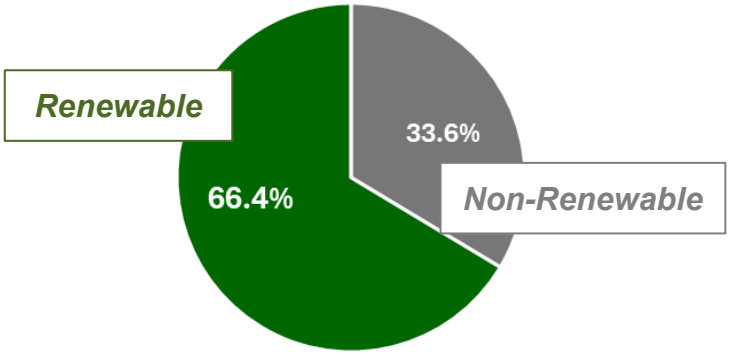
Who is Zenith?

- Zenith is committed to safe operations and being stewards to the environment.
  - Portland Terminal has had ***ZERO*** reportable releases/spills.
- Portland Terminal is the largest renewable fuels terminal in the Pacific Northwest.

Why Zenith's Portland Terminal?

- Pacific Northwest relies on rail and marine imports for supply of renewable fuels, which requires storage. Zenith's Portland Terminal is the only major rail facility in the market.
- Because local and state climate-related programs are premised on a renewable fuel supply, Portland Terminal is critical infrastructure needed for those programs to succeed.

Portland Terminal storage capacity already contracted to renewable fuels:



Is Zenith Committed to Renewable Energy Transition?

Yes. Zenith started work to handle renewable fuels in Portland in 2018, has invested over $30 million on Portland Terminal improvements just since Oct. 2022 to facilitate the transition to renewable fuels, and operates the only terminal in Oregon that is obligated to stop handling its largest revenue fossil fuel product.

Zenith Energy's Portland Terminal

Products Handled at Portland Terminal:

- Renewable Fuels – currently stored:

RD	BIO	SAF
Renewable Diesel	Biodiesel	Sustainable Aviation Fuel component

- Non-Renewable Fuels – currently stored:

CO	ULSD	AVGAS
Crude Oil (ending no later than Oct. 2027)	Ultra-Low Sulphur Diesel	Aviation Gasoline

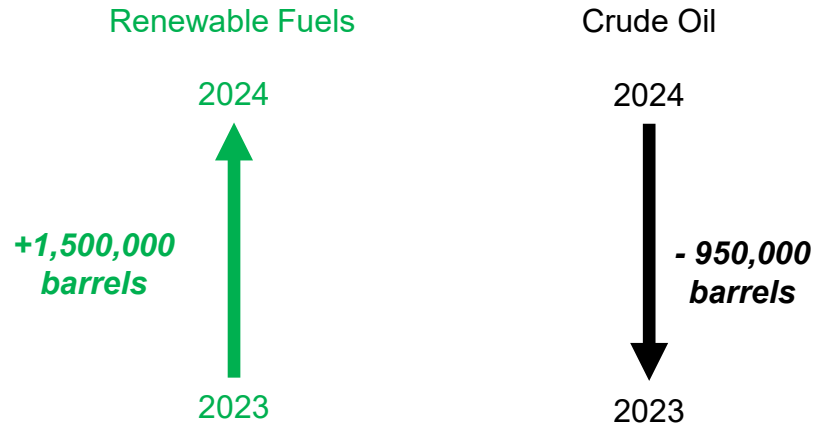
PDX's Sustainable Aviation Fuel Goal:

"***The Port is committed to bringing sustainable aviation fuel (SAF), a renewable alternative to traditional jet fuel, to PDX as soon as possible***.
Often made from plant-based materials, SAF helps reduce the amount of air pollutants that can impact human health and the environment—directly benefitting our local communities."

https://www.portofportland.com/Environment (emphasis added).

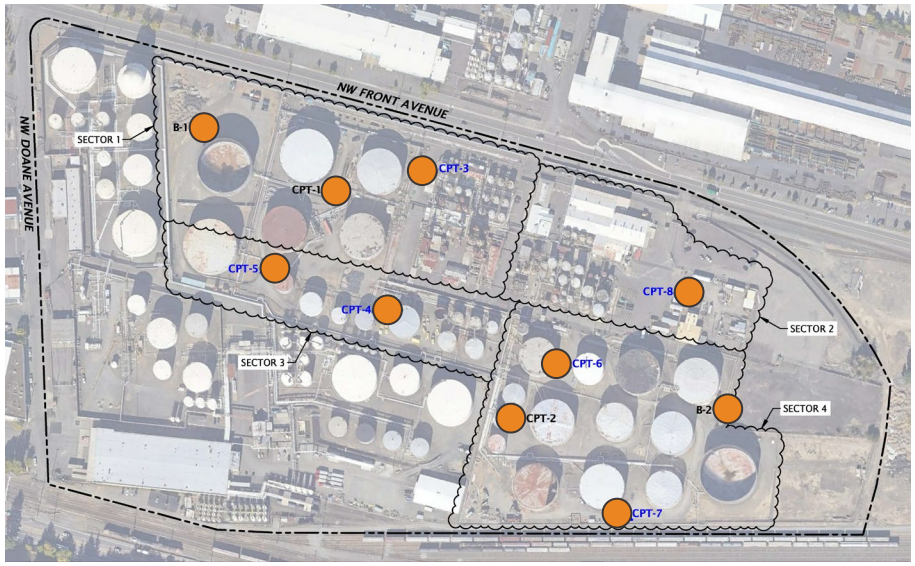
Product Currently leaves Zenith's Portland terminal for delivery to LAX, SFO and SeaTac.

Volume Handled at Portland Terminal:



Zenith Energy's Portland Terminal – Low Seismic Risk

- Multiple, site-specific seismic vulnerability assessments by Oregon-registered engineers
  - Potential seismic events assessed included 9.0 magnitude Cascadia subduction zone event
  - Soil borings and cone penetration tests throughout site.
  - Examined the structural integrity of all in-service storage tanks, buildings, containment berms, piping and pipe support structures
- Seismic Vulnerability Assessment submitted to DEQ.

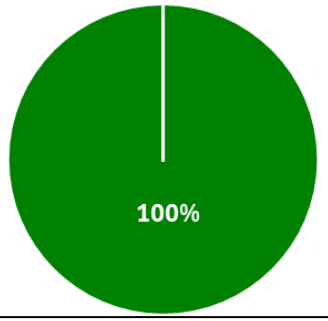


Locations of Soil Borings and Cone Penetration Tests

Key findings of the Seismic Vulnerability Assessments:

1. Terminal poses low risk in connection with seismic events, including a 9.0 magnitude Cascadia subduction zone event.
2. Storage tanks are stable against seismic induced forces and will withstand sliding, overturning, shell stresses and sloshing.
3. Liquefaction-induced settlement computed to be 4 to 9 inches; low risk to large-diameter storage tank and similar large structures.
4. Containment dike walls are appropriately responsive to the spill risk identified by the assessment.
5. Lateral spreading is not considered a site hazard.
6. Warehouse and building site are not at risk of collapse or lateral spreading.

All in-service tanks have been seismic assessed



Zenith will complete seismic assessments before returning any tank to service.

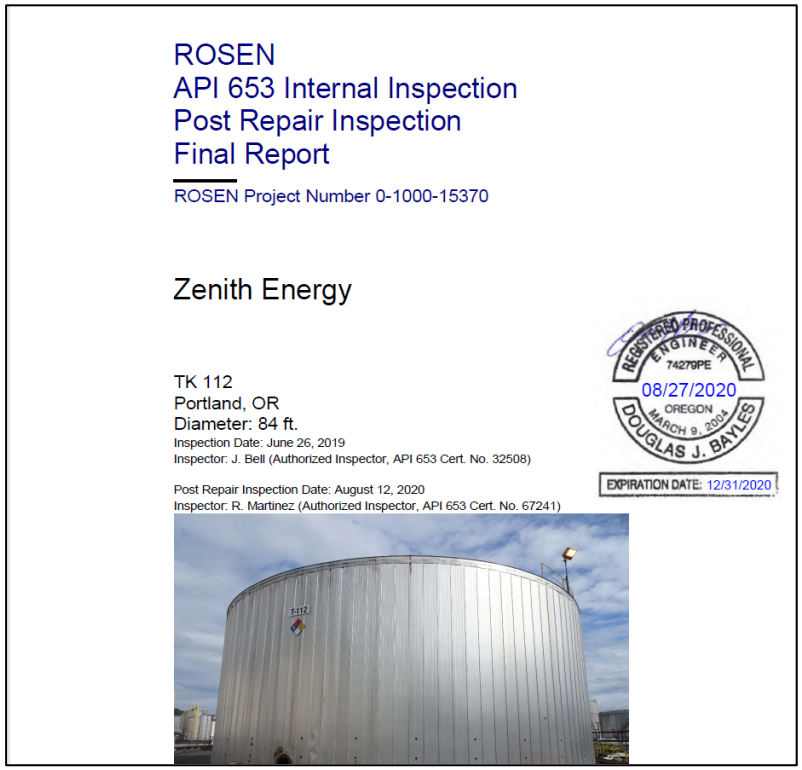
ZENITH ENERGY

Zenith Energy's Portland Terminal – Ensuring Tank Safety

- Storage Tank Standards
  - API 653 (*Tank Inspection, Repair, Alteration, and Reconstruction*) (most recent update - 2020): For maintenance, inspection, modification, and repair of existing storage tanks.
  - API 650 (*Welded Tanks for Oil Storage*) (most recent update - 2020): For construction of new storage tanks and addresses seismic evaluation.

- API 653 Inspections
  - Certified, third-party inspectors perform external inspections every 5 years and full internal inspections every 10-20 years (plus monthly visual external inspections by Zenith operators).
  - Includes full thickness scan of tank bottom, shell and roof, inspection of where floor is welded to shell and inspection of foundation.

- API 653 Repairs:
  - Examples (as needed): repairs to roof, bottom and tank shell; replace thinning steel
  - Certified, third-party inspectors perform post-repair inspection
  - After completed inspections and repairs, tank is essentially brand new.


ROSEN
API 653 Internal Inspection
Post Repair Inspection
Final Report

ROSEN Project Number 0-1000-15370

Zenith Energy

REGISTERED PROFESSIONAL ENGINEER 74279PE 08/27/2020 OREGON MARCH 9, 2004 DOUGLAS J. BAYLES

EXPIRATION DATE: 12/31/2020

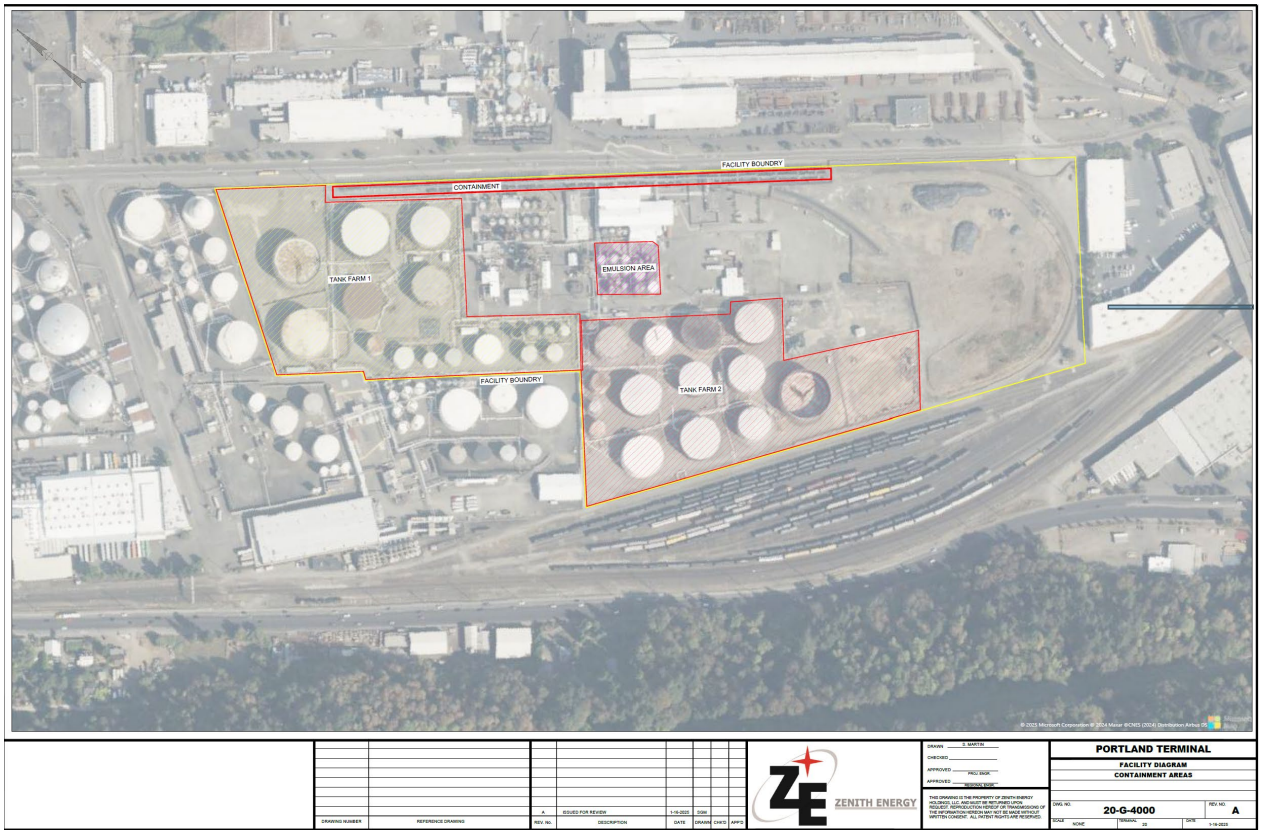
TK 112
Portland, OR
Diameter: 84 ft.
Inspection Date: June 26, 2019
Inspector: J. Bell (Authorized Inspector, API 653 Cert. No. 32508)

Post Repair Inspection Date: August 12, 2020
Inspector: R. Martinez (Authorized Inspector, API 653 Cert. No. 67241)

- Portland Terminal:
  - All in-service storage tanks satisfy API 653
  - Zenith's seismic assessments used API 650

Zenith Energy's Portland Terminal – Containment and Safety

- Containment:
  - Concrete walls and earthen berms around the tanks to keep potential releases contained within Portland Terminal.
  - Seismic assessments concluded containment is adequate (*e.g.*, "Concrete containment walls will perform well for both the shaking and post-shaking cases.").
  - Can contain 22,408,428 gallons (533,534 barrels) on site ***(3.5x more than EPA defined worst case discharge)***



- Other Improvements Include:
  - State-of-the-art fire suppression system
  - Emission control devices such as marine vapor combustion unit (MVCU)

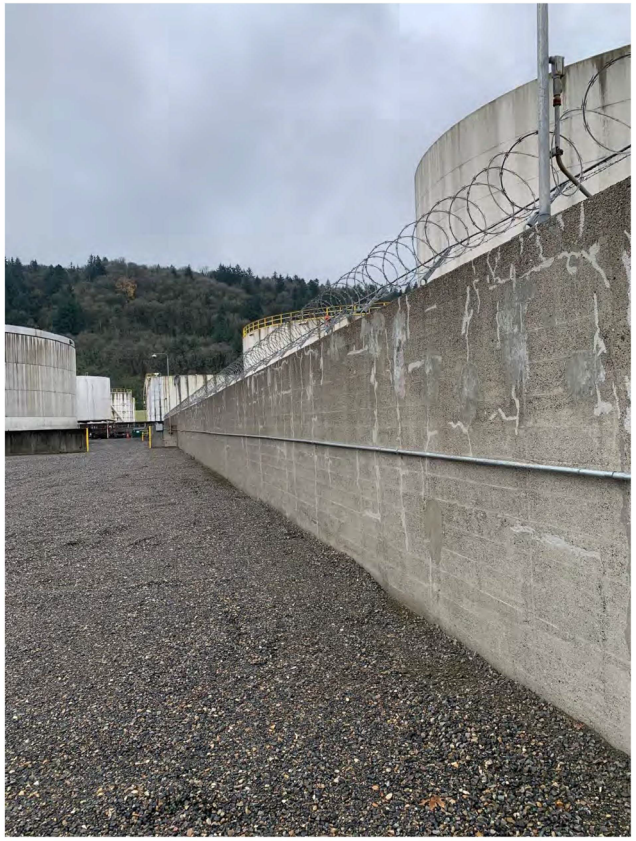


Photo 5 - 9.3-foot Concrete Containment Wall

Zenith Energy's Portland Terminal – Safety and Emergency Response

- Monitoring and Inspections
  - Continuous tank level monitoring with high level alarms and overfill protection devices.
  - Multiple daily facility inspections.
  - All marine movements are continuously staffed at dock(s).
  - Scheduled and unannounced government inspections
- Drills
  - Annual drills for potential spills, including "worst case" drill every third year.
  - Boom deployment drills – twice per year.
- Emergency Response (more details in appendix)
  - Spill Prevention Control and Countermeasure Plan
  - Facility Response Plan
  - Earthquake Response Plan
  - Emergency Shut Down
  - Clean River Cooperatives
  - Financial Assurance

CLEAN RIVERS COOPERATIVE

Boom Rodeo 2024

Congratulations 2024 Boom Rodeo Champions!

1st place: Sunoco Portland

2nd place: Tie! Phillips 66 & Sunoco Vancouver

3rd place: Zenith

The Annual Clean Rivers Cooperative Member Boom Rodeo took place on August 28th, 2024. Eleven teams participated this year, which is our highest team participation to date. special thanks to the US Coast Guard Sector Portland and the Coast Guard Auxiliary who participated along with the Clean Rivers Member Teams.

ZENITH ENERGY

Local/State Climate-Related Programs Need Portland Terminal

Nearly 40% of the carbon emissions in the Portland area are from transportation sector; decarbonizing transportation sector is critical

Portland Terminal Enables Renewable Fuel Supply

- Again, Pacific Northwest relies on rail and marine imports for supply of renewable fuels, which requires storage. Zenith's Portland Terminal is the only major rail facility in the market.

Local/State Climate-Related Programs Need Renewable Fuel Supply

- **City of Portland:** Renewable Fuel Standard - 50% renewable by mid-2026 and 99% renewable by mid-2030.
- **State of Oregon:** Clean Fuels Program and Climate Protection Program
- **Port of Portland:** Make SAF available at PDX

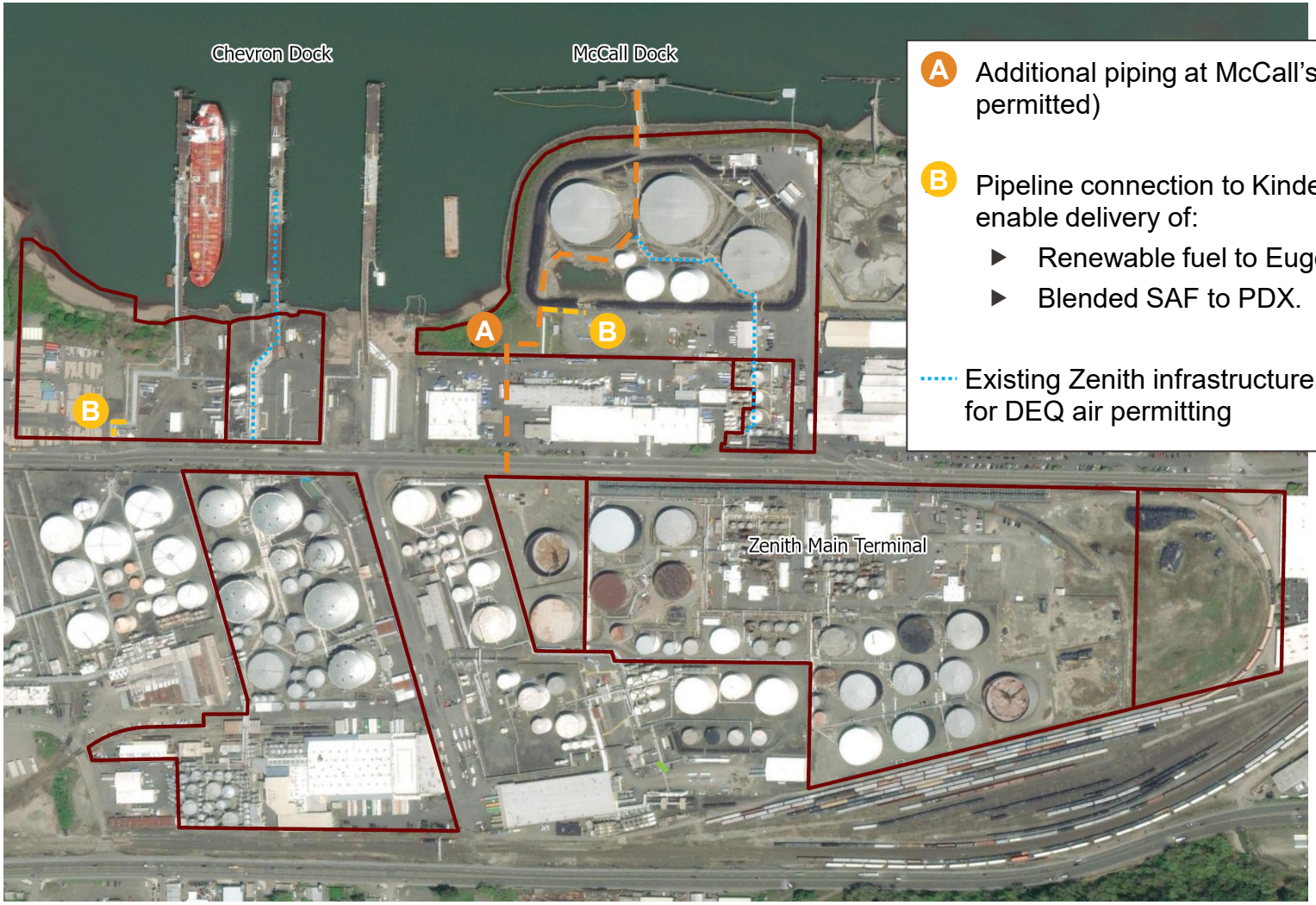
Zenith Energy's Portland Terminal:

- **Seismically sound improvements designed to avoid and, if needed, contain spills with robust planning and drills to respond to emergencies;**
- **Enables renewable fuel supply to access the Portland and Oregon market; and**
- **City and State programs to decarbonize the transportation sector CANNOT succeed without the Portland Terminal enabling that access.**

Aligned with City and State. If programs fail, Zenith fails.

Appendix

Additional Infrastructure for Renewables Transition Includes . . .



- **A** Additional piping at McCall's terminal (already permitted)
- **B** Pipeline connection to Kinder Morgan's terminal to enable delivery of:
  - Renewable fuel to Eugene and Southern Oregon
  - Blended SAF to PDX.
- ····· Existing Zenith infrastructure outside Portland Terminal for DEQ air permitting

Note: Representative routing locations depicted.

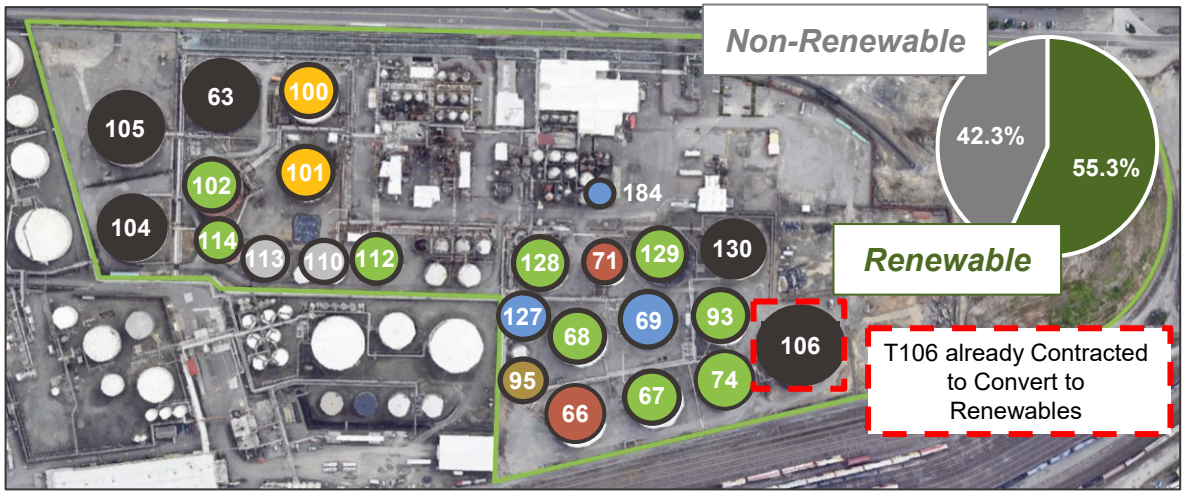
Zenith Energy's Portland Terminal – Emergency Response and Gov't Oversight

- Emergency Response
  - Spill Prevention Control and Countermeasure Plan – EPA requires facilities that could release oil into navigable waters to submit a worst-case discharge response plan.
  - Facility Response Plan – DEQ approved plan ensuring a facility can effectively contain and clean up a significant oil spill, minimizing environmental impact.
  - Earthquake Response Plan – Zenith's plan to shut down operations, inspect for spills and damage post earthquake.
  - Emergency Shut Down – control room operator automatically closes valves and shuts down pumps.
  - Clean River Cooperatives – Non-profit oil spill response organization, providing mutual aid and rapid response to spills.
  - Federal law requires environmental insurance coverage.

- **Federal, State, and Local Government Oversight**
  - Federal – United States Coast Guard (USCG), Federal Railroad Administration (FRA), Occupational Safety and Health Administration (OSHA), Department of Homeland Security (DHS), Environmental Protection Agency (EPA)
  - State – Department of Environmental Quality (DEQ), Department of Transportation (ODOT)
  - Local – Bureau of Environmental Services (BES), Portland Fire & Rescue (PF&R), Portland Permitting & Development (PP&D), Bureau of Planning and Sustainability (BPS)

Tank Plan and Renewables Transition

Tanks by Product (Contracted Today)



Zenith sees Pathway to 100% Renewables/Certified SAF Jet Blend by 2028

Tank Legend

Renewable Diesel | SAF Component | Certified SAF Jet Blend | Ethanol | Biodiesel
Crude | Aviation Gasoline / Ultra-Low Sulphur Diesel | Out of Service | Transmix
Renewable Naphtha

- More than tripled storage capacity committed to renewable fuels since Oct. 2022.
  - Converted ~80k barrel Tank 68 from crude oil to renewable diesel in early 2024; ~151k barrel Tank 106 already contracted to convert from crude oil to renewable diesel by Q1 2027.
  - Executed commercial contracts to commit additional existing tanks into renewable fuels, including Tanks 74, 93, 100, 101, 102, and 127.
  - Storage capacity already contracted to renewable fuels: ~55% by end of 2025; and ~66% by Q1 2027.
- Started handling sustainable aviation fuel (SAF) component in June 2023 (all renewable SAF component received in the State of Oregon is stored at Zenith's Portland Terminal); customers currently sending to WA and CA due to lack of infrastructure to blend and deliver to PDX.
- As of Nov. 2024, has renewable fuel commitments of approximately 840,000 gallons per day (20,000 barrels per day).
- Obtained greenway and construction approvals from PP&D and franchise agreement approval from BPS for additional renewable fuel infrastructure.
- By October 2027, Tanks 63, 104, 105 and 130 must be transitioned out of crude oil service.

ZENITH ENERGY

Local/State Climate-Related Programs Need Renewable Fuel Supply to Succeed

Nearly 40% of the carbon emissions in the Portland area are from transportation sector; decarbonizing transportation sector is critical

City of Portland:

- 2022-2025 Climate Emergency Workplan recognized that replacing petroleum diesel with renewable diesel "***is a high impact carbon and equity policy***" (emphasis added).
- Updated Renewable Fuel Standard in 2022 to move Portland's diesel fuel mix from 5% renewables in 2022 to 15% renewables by mid-2024, 50% renewable by mid-2026 and 99% renewable by mid-2030.

  "Biodiesel, renewable diesel, and ethanol can be readily blended with petroleum diesel and gasoline to reduce the carbon emissions that result from the use of non-renewable fossil fuels and may also improve air quality and public." Ordinance No. 191100.

State of Oregon:

- Clean Fuels Program: Requires reducing lifecycle greenhouse gas emissions from transportation fuels by at least 10% below 2010 levels by 2025, 20% by 2030, and 37% by 2035.
- Climate Protection Program: Requires caps on greenhouse gas emissions from fossil fuels. Drives increased use of biofuels, including renewable diesel (which is not currently produced in Oregon).

Port of Portland:

"***The Port is committed to bringing sustainable aviation fuel (SAF), a renewable alternative to traditional jet fuel, to PDX as soon as possible***. Often made from plant-based materials, SAF helps reduce the amount of air pollutants that can impact human health and the environment—directly benefitting our local communities. . . . [W]e're working with partners to accelerate supply chain development and support regulatory incentives to make SAF more widely available."

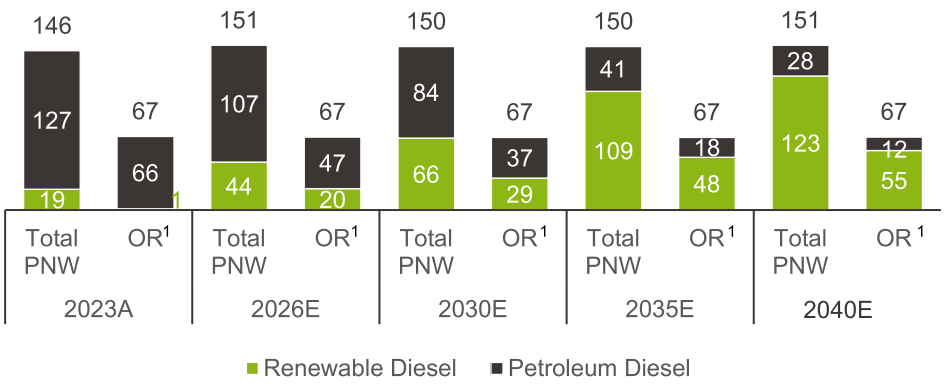
https://www.portofportland.com/Environment (emphasis added).

The Portland Terminal is Critical Infrastructure to Supply Rapidly-Growing Renewables Demand in Oregon and the Broader Pacific Northwest

Diesel Demand

- Strong forecasted Renewable Diesel demand growth in Oregon the broader Pacific Northwest
- After connecting to the Kinder Morgan terminal, the Portland Terminal can serve ~95% of Oregon's population and major demand centers in Southern Washington (approximately 67 MBpd)[1], where RD penetration is projected to increase over the next decade

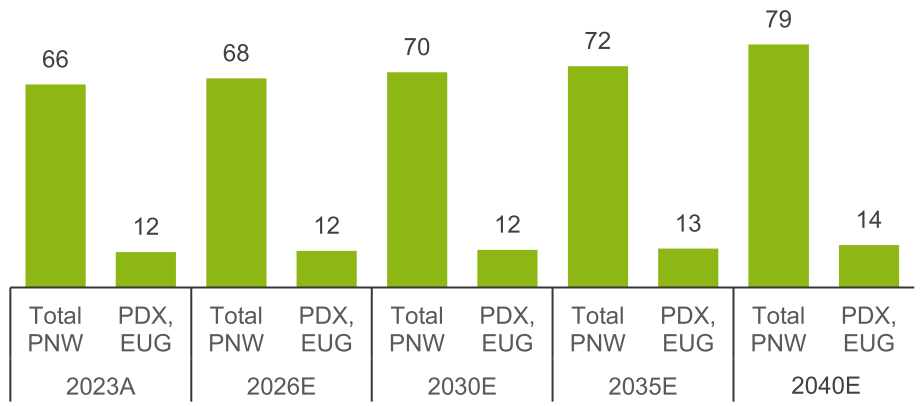
Diesel Demand by Market



Aviation Fuel Demand

- Growth in petroleum jet fuel and SAF demand is anticipated given increasing air passenger travel
- After connecting to the Kinder Morgan terminal, the Portland Terminal will have access to PDX, which recently completed an expansion allowing for a doubling of passenger traffic
- The Kinder Morgan connection would also allow for the Portland Terminal to access EUG and other regional airports
  - With PDX, collectively represents approximately 12 MBpd of aviation fuel demand

Aviation Fuel Demand by Market



Sources: Stillwater, EIA, company websites

1. Includes select adjacent Southwest Washington counties

ZENITH ENERGY