

**Figure C-1. Facility Layout**

Boardman Solar Energy Facility, Morrow and Gilliam Counties, Oregon

December 19, 2016

Rev. 00

**Invenergy**



# Oregon Fuel Action Plan

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# Emergency Powers: Fuel

## State Declared Emergency - Management of Resources (ORS 401.188)

- ✓ Control, restrict and regulate the use of food, feed, **fuel**, clothing, and other commodities, materials, goods, and services

## Oregon Department of Energy (ODOE) Authority – (ORS 176.750-785)

- ✓ Develop and maintain a statewide contingency plan in response to petroleum shortages that impact Oregon
- ✓ Provide adequate fuel supplies to maintain emergency services, transportation, and the operation of the economy to ensure the health, safety, and welfare of the residents of the State of Oregon while an emergency exists

## Fuel Executive Order

- ✓ Authorizes ODOE to implement the strategies in the Oregon Fuel Action Plan in response to a Cascadia Subduction Zone Earthquake and Tsunami





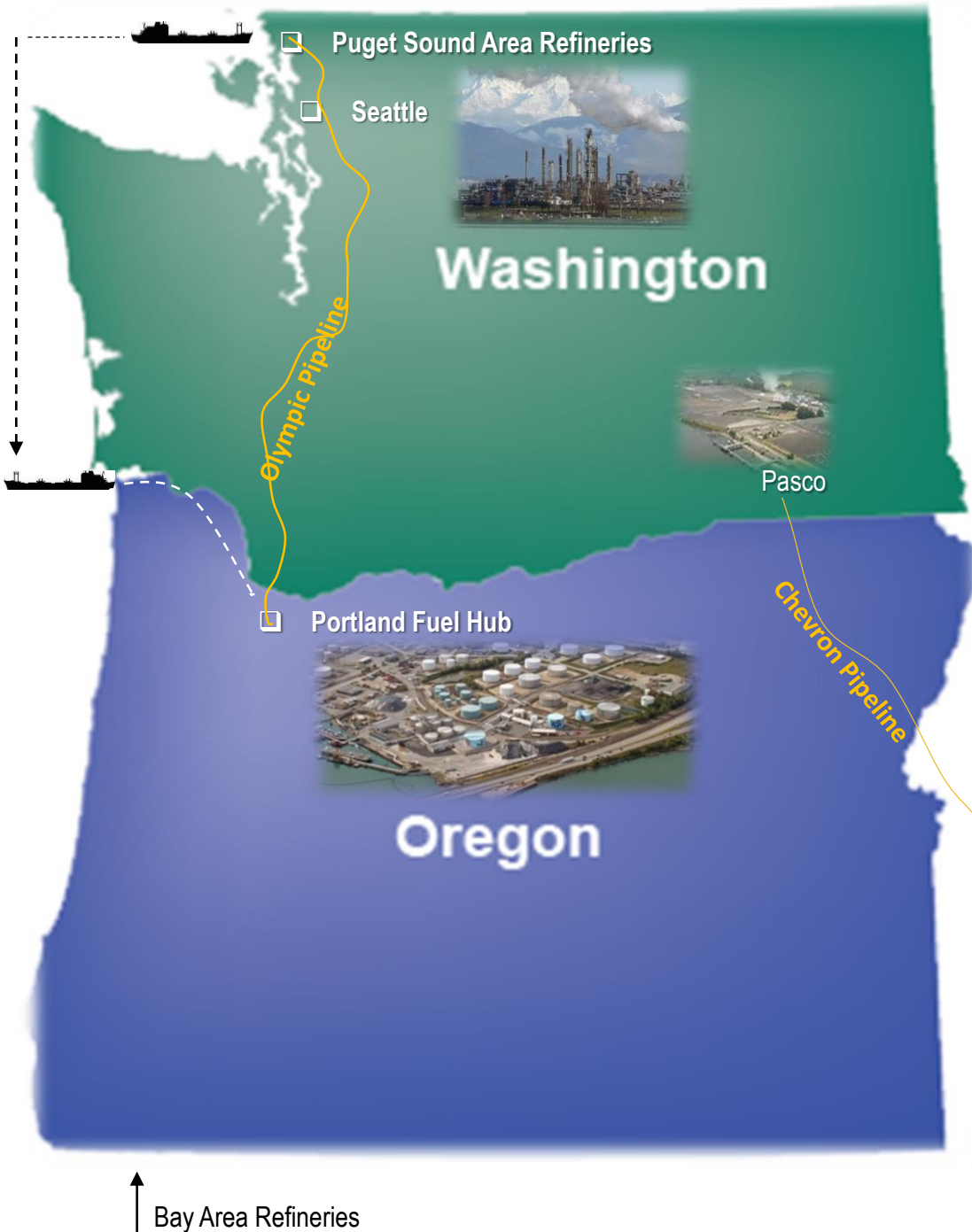
# Federal State Structure

## EMERGENCY SUPPORT FUNCTIONS (ESFs)

ESF	SECTOR	PRIMARY STATE AGENCY
1	Transportation	Oregon Department of Transportation
2	Communications	Oregon Public Utility Commission Oregon Department of Administrative Services
3	Public Works	Oregon Department of Transportation
4	Firefighting	Oregon State Fire Marshal Oregon Department of Forestry
5	Information and Planning	Oregon Emergency Management
6	Mass Care	Oregon Department of Human Services
7	Resource Support	Oregon Department of Administrative Services
8	Health and Medical	Oregon Health Authority
9	Search and Rescue	Oregon Emergency Management Oregon State Fire Marshal
10	Hazardous Materials	Oregon State Fire Marshal Oregon Department of Environmental Quality
11	Food and Water	Oregon Department of Human Services
<b>12</b>	<b>Energy</b>	<b>Oregon Department of Energy (nuclear-petroleum-LNG)</b> Oregon Public Utility Commission ( <i>electricity-natural gas</i> )
13	Military Support	Oregon Military Department
14	Public Information	Oregon Emergency Management
15	Volunteers and Donations	Oregon Emergency Management
16	Law Enforcement	Oregon State Police
17	Agriculture and Animal Protection	Oregon Department of Agriculture
18	Business and Industry	Oregon Emergency Management

- Designated lead state and federal agency for each ESF sector
- ESF 12 federal lead is U.S. Department of Energy
- Structure for states to request and receive federal and military resources in response to emergencies

# Oregon Imports 100 Percent of the States Refined Petroleum Products



- Washington refineries supply more than 90 percent
  - ✓ About 90 percent by Olympic Pipeline to Oregon
  - ✓ Remaining product by tanker ships to Oregon
  - ✓ Portland Fuel Hub – located on liquefiable soils  
*anticipate significant fuel supply loss*
- Utah refineries supply less than 5 percent to eastern Oregon communities
- California refineries supply less than 5 percent to southern Oregon communities

# Oregon Fuel Supply & Distribution System



Petroleum  
Distribution Terminals  
Portland Fuel Hub



Pipeline to Eugene Terminal &  
Portland International Airport



Barges on Columbia  
to Eastern Oregon



Est. 1,500 Tanker Trucks  
Throughout Oregon



Est. 2,400  
Fueling Locations

- Annual fuel imports estimated at three billion gallons
- Six day fuel delivery cycle
- Product delivered throughout Oregon by pipeline, barges, and tanker trucks



# Oregon Supply & Distribution System Lacks Flexibility



Refineries in Washington State operating at near capacity



Portland Fuel Hub terminals reserve less than 7 day supply of fuel



Retail service stations reserve 2 – 3 day supply of fuel

# Seismic Study Site Aging Petroleum Infrastructure



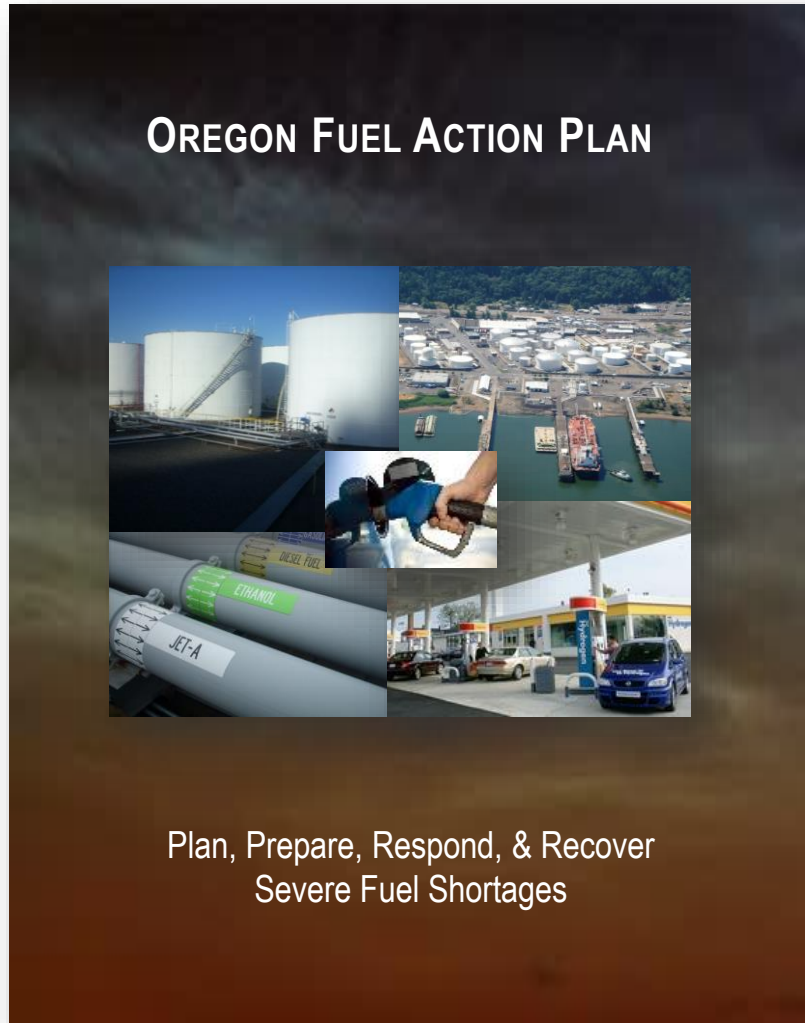
Olympic Pipeline built in the 1960s without seismic design standards

Only 3 of the hundreds of fuel tanks at the Portland fuel hub to survive Cascadia

Marine docks receiving fuel will be damaged with moderate earthquake



# Oregon Fuel Action Plan



- Identifies ODOE authority and responsibilities to control and direct the state's overall response to petroleum emergencies
- Provides structure for federal, state, county, tribal and industry coordination
- Provides structure for fuel allocation that identifies pre-approved priority users of fuel and user responsibilities
- Identifies state and county priority lifeline routes to support fuel deliveries
- Pre-designates Fuel Points of Distribution (FPOD) for receiving emergency fuel

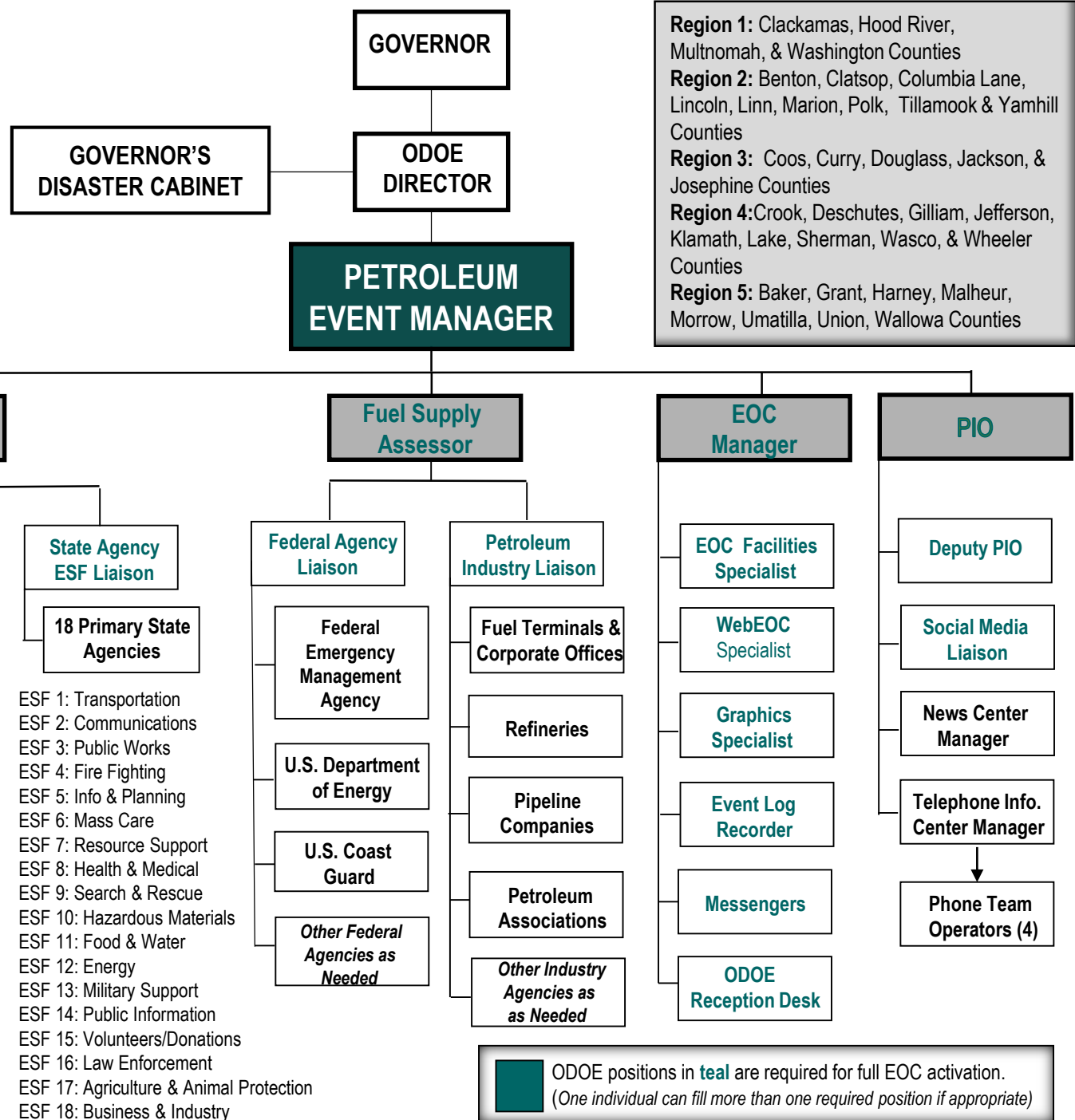
# Oregon Fuel Action Plan: 9 Priority Actions



Action 1	Action 2	Action 3	Action 4	Action 5	Action 6	Action 7	Action 8	Actions 9
Notification Activation and Authorities	Public Information	Damage Assessment	Assess Fuel Needs & Determine Priorities	Outside Assistance: Fuel Supply	Fuel Conservation Measures	Temporary Waivers	Fuel Allocation	Recovery
<ul style="list-style-type: none"> <li>- Initial Notifications</li> <li>- Activate ODOE AOC</li> <li>- Succession &amp; Authorities</li> </ul>	<ul style="list-style-type: none"> <li>- ODOE Fuel Emergency Outlook Web Page</li> <li>- Public Information Campaign – social media</li> <li>- News conferences</li> <li>- Telephone Information Center</li> </ul>	<ul style="list-style-type: none"> <li>- Assess impacts to petroleum infrastructure</li> <li>- Estimate timeline for repairs</li> <li>- Provide fuel sector info &amp; status updates</li> </ul>	<ul style="list-style-type: none"> <li>- Assess fuel availability in Oregon</li> <li>- Assess 18 state ESFs, counties, and tribal fuel needs</li> <li>- Determine state &amp; regional fuel priorities</li> <li>- Governor’s Disaster Cabinet</li> </ul>	<ul style="list-style-type: none"> <li>- Identify &amp; obtain fuel source</li> <li>- Identify viable fuel delivery options into Oregon</li> <li>- Identify viable options for dispensing fuel</li> </ul>	<ul style="list-style-type: none"> <li>- Issue voluntary fuel conservation measures</li> <li>- Issue mandatory fuel conservation measures</li> </ul>	<ul style="list-style-type: none"> <li>- Obtain temporary environmental operational, and safety waivers as needed to ensure the timely delivery of fuel</li> </ul>	<ul style="list-style-type: none"> <li>- Review &amp; approve/deny fuel requests <i>(ESF Primary State Agencies, counties &amp; tribes)</i></li> <li>- Allocate fuel to approved state agencies, counties &amp; tribes</li> <li>- Odd/Even Fuel Allocation</li> <li>- <b>Fuel Request Form Provided</b></li> </ul>	<ul style="list-style-type: none"> <li>- Allocate fuel to support recovery activities</li> <li>- State Recovery Coordinating Team - SRF 6</li> <li>- Governor’s Recovery Cabinet</li> <li>- Terminate fuel recovery activities as appropriate</li> </ul>

# ODOE Emergency Response Structure

- 24/7 Response Capabilities
- Response Position Procedures:
  - Key objectives
  - Task checklists
  - Guidance documents
  - Reference materials





# Fuel Allocation: Saving Lives and Restoring Critical Lifelines & Services



**Challenge** - Allocating fuel to emergency and essential service providers in the state involves 120 state agencies, 36 counties, 240 cities, and 9 federally-recognized tribes

**Standardized Structure** – Identifies three categories of priority fuel users:

- 18 ESF Primary State Agencies
- 36 Counties
- 9 Federally-Recognized Tribes



# Priority Fuel Users: Responsibilities



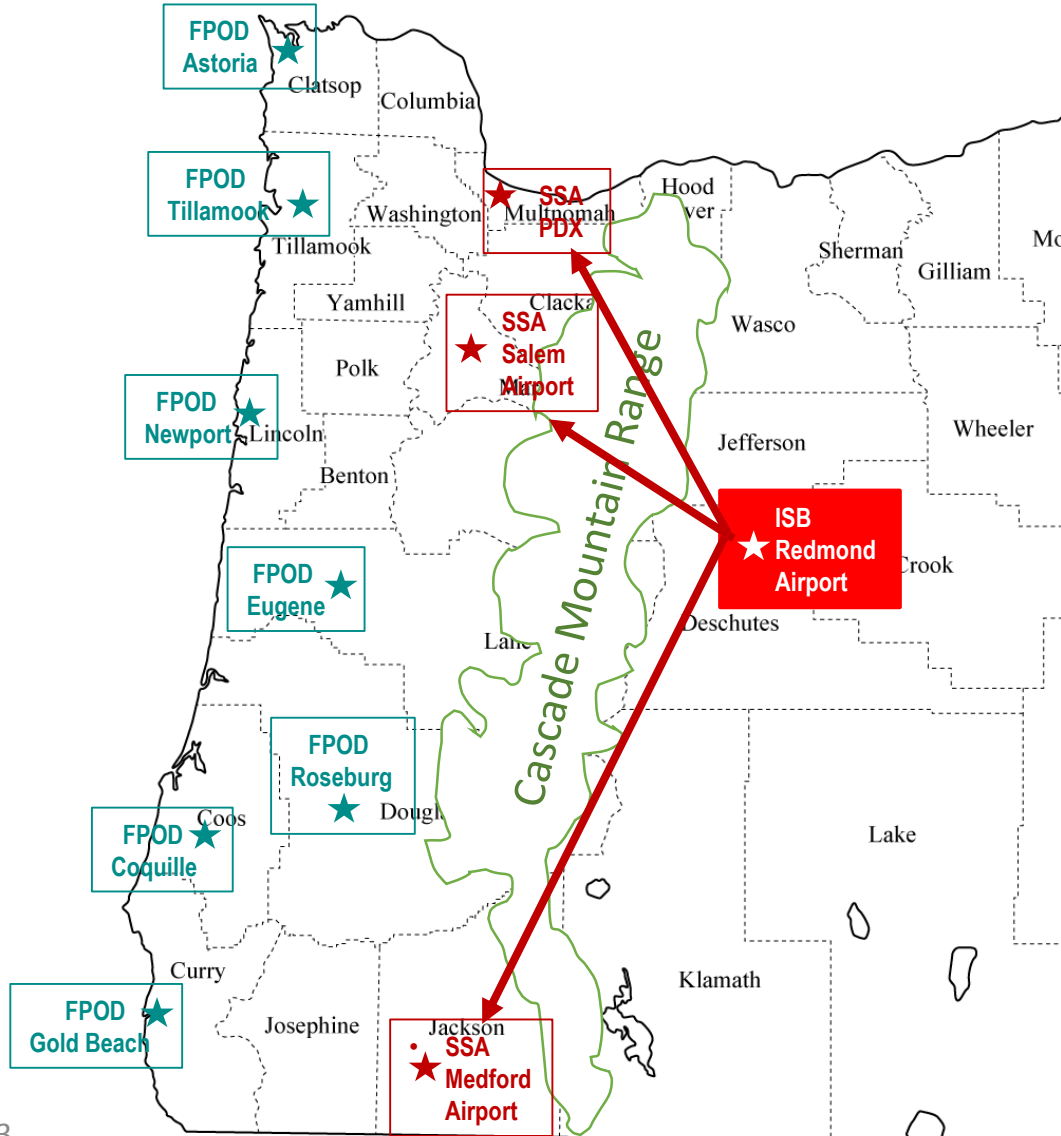
County	City	Name	Address	State	Zip	Capacity (gallons)	Fuel Type	Above Below	Backup Power	Longitude	Latitude
Wheeler	Fossil	Faa	Kinzua Rd	OR	97830	1,000-4,999	Diesel	Above		0.0000000	0.0000000
Wheeler	Fossil	Fossil Fill-Up, Llc	609 W Main St	OR	97830	2000	Gasoline	Underground		-120.2138429	44.9991949
Wheeler	Fossil	Fossil Fill-Up, Llc	609 W Main St	OR	97830	2000	Diesel	Underground		-120.2138429	44.9991949
Wheeler	Fossil	Fossil Fuel Inc	750 6Th St	OR	97830	10,000-49,999	Petroleum Distillates	Above		0.0000000	0.0000000
Wheeler	Fossil	Fossil Fuel Inc	750 6Th St	OR	97830	5,000-9,999	Petroleum Distillates	Above		0.0000000	0.0000000
Wheeler	Fossil	Fossil Fuel Inc	750 6Th St	OR	97830	10,000-49,999	Petroleum Distillates	Above		0.0000000	0.0000000
Wheeler	Fossil	Fossil Fuel Inc	750 6Th St	OR	97830	5,000-9,999	Diesel Fuel High Sulfur	Above		0.0000000	0.0000000
Wheeler	Fossil	Fossil Fuel Inc	750 6Th St	OR	97830	10,000-49,999	Diesel Fuel Low Sulfur	Above		0.0000000	0.0000000
Wheeler	Fossil	Fossil Fuel Inc	750 6Th St	OR	97830	10,000-49,999	Gasoline Unleaded	Above		0.0000000	0.0000000
Wheeler	Fossil	Wheeler County	115 1St St	OR	97830	500-999	Gasoline	Above		-120.2188156	44.9998682
Wheeler	Fossil	Wheeler County	115 1St St	OR	97830	500-999	Diesel Fuel	Above		-120.2188156	44.9998682
Wheeler	Kimberly	Faa	Se 1/4 Section 3	OR	97848	1,000-4,999	Diesel	Above		0.0000000	0.0000000
Wheeler	Mitchell	Fossil Fuel Inc	101 Main St	OR	97750	1,000-4,999	Petroleum Distillates	Above		-120.1543244	44.5667935
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Wheeler	Mitchell	Fossil Fuel Inc	101 Main St	OR	97750	1,000-4,999	Diesel Fuel High Sulfur	Above		-120.1543244	44.5667935
Wheeler	Mitchell	Wheeler County	500 Hwy 26	OR	97750	500-999	Gasoline	Above		-120.1593730	44.5685329
Wheeler	Mitchell	Wheeler County	500 Hwy 26	OR	97750	500-999	Diesel Fuel	Above		-120.1593730	44.5685329
Wheeler	Spray	Lazy Wolf Resort Llc	607 Willow Hwy 19	OR	97874	10,000-49,999	Gasoline Unleaded	Above		-119.7936725	44.8331353
Wheeler	Spray	Lazy Wolf Resort Llc	607 Willow Hwy 19	OR	97874	1,000-4,999	Diesel Fuel Low Sulfur	Above		-119.7936725	44.8331353
Wheeler	Spray	Long Elk Market Llc	800 Willow St	OR	97874	1000	Gasoline	Underground		-119.7941967	44.8349497
Wheeler	Spray	Long Elk Market Llc	800 Willow St	OR	97874	1000	Diesel	Underground		-119.7941967	44.8349497
Wheeler	Spray	Spray School District 1	E Pine & Hwy 19	OR	97874	500-999	Diesel	Above		0.0000000	0.0000000
Wheeler	Spray	Wheeler County	917 Willow St	OR	97874	500-999	Gasoline	Above		-119.7950611	44.8368651
Wheeler	Spray	Wheeler County	917 Willow St	OR	97874	500-999	Diesel Fuel	Above		-119.7950611	44.8368651

## Prior to an Emergency

- Identify and assess fuel needs for critical missions for sector or jurisdiction of responsibility
- Identify all fueling locations in the county – Initial fuel source for life safety missions
- **Estimated 3 weeks** before bulk fuel supplies can be brought into some communities



# Fuel Strategy: Air Response



## INITIAL AIR RESPONSE ACTIVITIES

Required Support: Federal, Military, and Industry

### *Bulk Fuel Source – Outside Region*

- Bulk fuel “pushed” into the federal Incident Support Base - Redmond Municipal Airport
- Initial daily bulk fuel push
  - Unleaded gasoline – est. 75,000 gallons
  - Diesel – est. 400,000 gallons
- ODOE directs movement of bulk fuel from federal ISB to State Staging Areas and to the pre-designated fuel points in the impacted communities



# Fuel Strategy: State and Local Lifeline Routes

## Oregon Department of Transportation (ODOT)



- **State Lifeline Routes** - Guide initial repairs on the transportation, power, and communication systems to support the delivery of fuel to the impacted communities
- **County Lifeline Routes** – Counties to identify local priority routes that connect to state lifeline routes
- **Fuel Points of Distribution (FPOD)** - Pre-designate FPODs to receive emergency fuel supplies
- **Marion County Example:**
  - Identified Tier 1 priority routes connecting to state lifeline routes
  - Pre-designated 9 FPODs to receive emergency bulk fuel supplies

**ODOE has fuel data from 24 of 36 counties**

# Fuel Pre-Drafted Mission Assignments



**Fuel Testing Kits** – Test fuel quality at FPODs for water seepage and other impurities

**Air Drops** – Transport fuel by air to FPODs until roadway transportation is viable (1,000 – 3,000 gallon capacity)

**Refuel On the Move** – Mobile fueling capabilities to support road, utility, and communications crews (5,000 – 10,000 gallon capacity)

**Bulk Tanker Drops** – Bulk fuel deliveries over land when roadways are viable (5,000 – 10,000 gallon capacity)

**Fuel Tank Farms** – Infrastructure and operational support for portable fuel tank farms (100,000 gallon capacity)



# Fuel Pre-Drafted Mission Assignments



**Fuel Barges** – Store and offload fuel to support emergency response and recovery activities along the Columbia River

**Maritime Assets** – Deliver bulk fuel and operate portable fueling points along the Oregon Coast

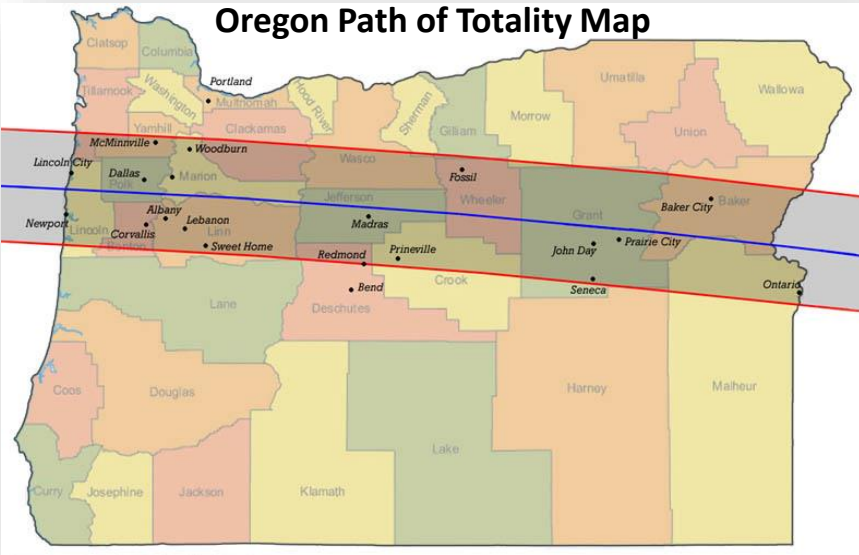
**Foreign Vessels** – Lift Jones Act to allow foreign vessels to deliver bulk fuel to Oregon ports

**Rail** – Transport, store, and offload fuel to support emergency response and recovery activities along the Columbia River and into Portland

Waterway  
Railway



# Oregon Fuel Action Plan: Scalable



- **Strategies for all types of emergencies resulting in long-term or severe fuel disruptions and shortages**
- **Plan Activation in Response to Actual Events**
  - **December 2016 Winter Storm**
  - **August 21, 2017 Solar Eclipse**
  - **Summer 2017 Statewide Fire Response**
- **Ongoing Training: Industry, Federal/Military, State, & Local**
  - **January 25, 2018 Fueling Anxiety Exercise – Portland Metropolitan Region** (*Clackamas, Columbia, Multnomah, and Washington Counties*)
  - **Summer 2018 Fuel Sector Exercise – Oregon Coast Region**
- **Program Readiness – Annual Plan Update**

# Oregon Fuel Action Plan



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