



## Western States Petroleum Association Testimony

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Committee members, thank you for the opportunity to provide feedback. WSPA understands policymakers' concern about the risk of exposure to the public to toxic inhalants such as ammonia and chloride due to a major seismic event. Following the passage of Senate Bill 1567 in 2022, Portland's petroleum and renewable fuel tankage facilities are already engaged in a broad regulatory process related to seismic risk analysis and evaluation of advanced engineering designs. This is in addition to the current regulatory requirements for emergency response plans, secondary containment, and other regulatory compliance (summarized in the Appendix below), which includes EPA Section 112 (r) requirements.

Given the focus in the testimony on chlorine and ammonia, the existing efforts in the Critical Energy Infrastructure Hub, and the more acute consequences of those referred to toxics<sup>1</sup>, WSPA requests that the project study first focus on those toxic compounds and allow stakeholders to engage with the policymakers and resilience office on future steps.

Thank you for your consideration.

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<sup>1</sup> Ammonia IRIS sheet [CA SRN 7664-41-7](#) as an example.

## Technical Memorandum

### **Oregon Critical Energy Infrastructure (CEI) Hub Petroleum Product Storage System Integrity Summary**

Storage of petroleum products at the CEI Hub began over 100 years ago. Since that time, facility modernizations, upgrades, and replacements have occurred in compliance with numerous state and federal design standards including seismic hazards. While petroleum product storage at the CEI Hub has approximately 100 years with no recorded major petroleum product releases, the potential for a seismic event has and continues to be a risk management focus of the WSPA member companies.

To assist in a further understanding of standards and programs applicable to petroleum product storage facilities at the CEI Hub, WSPA presents this summary of the established, multi-faceted regulatory framework on state and federal levels to address the safe, reliable operation of storage facilities. Specifically, the regulatory programs for the petroleum product storage are a set of integrated policy and regulatory elements:

- Tank System Design
- Risk Management
- Prevention and Preparedness
- Incident Response

#### **Element 1 – Tank System Design**

The WSPA-represented facilities in the CEI Hub are regulated by the U.S. Department of Transportation (USDOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) and/or U.S. Environmental Protection Agency (USEPA). All storage tanks must comply with API-650 (Welded Tanks for Oil Storage), developed by the American Petroleum Institute (API) for the design/construction of above ground atmospheric storage tanks. API-650 addresses the design and construction of oil storage tanks. These standards are intended to improve operational excellence, ensure compliance and safe practices, and mitigate risks.

**API-650 Annex E** (Seismic Design of Storage Tanks), standards for designing above ground steel storage tanks subjected to seismic loads, provides for additional design features to reduce the likelihood of a complete storage tank failure and a release of its entire contents, by focusing on structural stability during a seismic event. Applicable to tanks constructed after Annex E promulgation, the main design factors are diameter, height, product level, and tank anchors.

The design load requirements for the standard are derived from ASCE 7 (American Society of Civil Engineers - Minimum Design Loads for Buildings and Other Structures). ASCE 7 is based on a maximum considered earthquake ground motion defined as the motion due to an event with a 2% probability of exceedance within a 50-year period (a recurrence interval of approximately 2,500 years).

**API-2610** (Design, Construction, Operation, Maintenance, and Inspection of Terminal and Tank Facilities) covers the design, construction, operation, inspection, and maintenance of petroleum terminal and tank facilities associated with marketing, refining, pipeline, and other similar activities. Section 9 of API-2610 (Dikes and Berms) provides requirements for dike and berm height, capacity, and permeability.

**API-653** (Tank Inspection, Repair, Alteration, and Reconstruction) provides minimum requirements for maintaining the integrity of such tanks after they have been placed in service and addresses inspection, repair, alteration, relocation, and reconstruction.

**API Recommended Practice 2021** (Management of Atmospheric Storage Tank Fires) provides experience-based information to enhance the understanding of fires in atmospheric storage tanks containing flammable and combustible materials. It presents a systematic management approach which can assist tank fire



prevention. If fires do occur, this information can help responders optimize fire suppression techniques to reduce the severity of an incident and reduce the potential for escalation.

## **Element 2 - Risk Management**

**Oregon Occupational Safety & Health Division (OSHA)** requires each facility to have in place a program pursuant to **Oregon Administrative Rule (OAR) 1910.119 - Process Safety Management of Highly Hazardous Chemicals (PSM)**. This regulation provides for a comprehensive program with specified management system elements including: Process Hazards Analysis (PHA), Mechanical Integrity (MI), Management of Change (MOC), and Emergency Planning and Response (EPR). This state PSM program compliments and is in compliance with the federal Occupational Safety and Health under their PSM program.

**U.S Environmental Protection Agency (USEPA)** requires facilities that handle certain listed hazardous substances, including oil terminals, to have evaluated their safety precautions for using the hazardous materials and to prepare a **Risk Management Plan (RMP)** which implements Section 112(r) of the 1990 Clean Air Act (CAA) Amendments. This plan requires the facility to examine many of the same management system elements that DOSH and the federal OSHA under their PSM programs.

WSPA member companies are in the process of developing geohazards-specific programs to mitigate the effects of geohazards, including seismic activities, on storage tanks and associated pipelines. The focus is on responding quickly and effectively in the event of an incident. Utilizing the U.S. Geological seismic data, which is instantaneously transmitted, companies can immediately isolate at-risk equipment, conduct manned and aerial surveys, and administer pressure tests to verify integrity.

In addition, all pipelines at the CEI Hub are equipped with numerous data transmitting devices to detect any unconformity that could indicate a leak. The data from each sensing device is continuously transmitted to Control Rooms that are monitored 24/7 days a week, 365 days a year. In the event of an incident, personnel can remotely close pipeline valves and stop the flow and provide immediate response.

## **Element 3 - Prevention and Preparedness**

Pursuant to the Federal Clean Water Act, **USEPA** is responsible for the implementation of the oil pollution prevention regulations which set forth comprehensive facility requirements for prevention, preparedness, and response to oil discharges, including developing and implementing **Spill Prevention, Control and Countermeasure (SPCC) Plan** requirements to contain and prevent discharges from reaching navigable waters and adjoining shorelines.

The subsequent **Oil Pollution Act (OPA 90)** further defined USEPA's ability to prevent and respond to catastrophic oil spills. In addition, OPA 90 also required oil storage facilities to prepare Facility Response Plans and the U.S. Coast Guard to do the same for oil tankers.

The **State of Oregon** has comparable prevention and preparedness requirements as established in **OAR 340-141-0150, Oil Spill Contingency Planning Standards** and **OAR 340-141-0160, Prevention Strategies for Facilities**. OAR 340-141-0150 establishes oil spill prevention and emergency response contingency planning standards. OAR 340-141-0160 requires the development of spill prevention strategies that will, when implemented, provide the best achievable protection from damages caused by the discharge of oil into the waters of the state.

## **Element 4 - Incident Response**

Federal and state regulations require that all oil-handling facilities and vessels have a response plan in place and the preparedness, readiness, and capabilities to respond effectively to an oil spill incident.

Under the **National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Parts 9 and 300)**, **USEPA** has direct responsibilities associated with emergency response. USEPA On-Scene Coordinators (OSCs) are responsible for coordinating or directing federal, state, or local emergency response actions, as necessary, to protect people and the environment. U.S. Chemical Safety and Hazard Investigation



Board investigators will coordinate their actions and release of information with the USEPA OSC while emergency response activities are being performed.

Pursuant to **Oregon Administrative Rule (OAR) 340-142, Oil and Hazardous Materials Emergency Response Requirements**, facility owners and operators implement the applicable spill plan or other contingency plan document prepared in compliance with the requirements of a federal, state, or local government authority. The purpose of these rules is to identify the emergency response actions, reporting obligations, and follow-up actions required in response to a spill or release, or threatened spill or release of oil or hazardous materials. Included in OAR 340-142-130

is the requirement for operators to coordinate activity with the Oregon Department of Environmental Quality during an emergency, following a protocol of organization consistent with the National Incident Management System (NIMS).

### **Critical Energy Infrastructure Hub Seismic Requirements**

In 2022, Senate Bill 1567 authorized Oregon Department of Environmental Quality (DEQ) to develop a program to evaluate the vulnerability of large capacity fuel storage and distribution facilities in Columbia, Lane and Multnomah counties in the event of an earthquake. The bill requires these facilities to develop and implement a plan to reduce risk to protect the life and safety of employees, surrounding communities and the environment and was adopted by the Environmental Quality Commission in September 2023 to meet the statutory deadline of June 1, 2024, when facilities must complete their Seismic Vulnerability Assessments, which are currently being prepared.