Oregon

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By email

To: Facility Owners and Operators

Ref: "*Roadmap to compliance with Oregon Administrative Rules Chapter 340 Division 300", March 2024*

The Oregon Department of Environmental Quality has completed the first round of reviews of all 2024 submittals of facilities' Seismic Vulnerability Assessments. DEQ sent technical comments to individual facilities but there are common themes related to the Roadmap to achieve compliance with OAR 340-300 issued in March 2024. The Roadmap can be found on our website at the following link: https://www.oregon.gov/deq/ss/Documents/ftssRoadmapComp.pdf.

We are providing the following comments to all facilities by this letter to clarify expectations regarding the steps and processes.

1. The Final SVA requires a comprehensive list of all the deficiencies identified for the facility by all disciplines (structural, geotechnical, electrical, mechanical, etc.). All the deficiencies identified in the SVA must be addressed in the Risk Mitigation Implementation Plan (RMIP). Per OAR 340-300-004(5), the RMIP must be submitted to DEQ no later than 180 calendar days after DEQ's approval of the SVA. This tight timeline requires the majority of investigations and assessments to occur in the SVA.

2. The SVA process starts with the initial geotechnical investigation and report. In many cases this results in large inertial loads, combined with excessive ground displacements. The latter imposes large kinematic loads (i.e., displacement demand) on structures and components.

3. As part of the SVA, each structural component (using applicable Checklists, see Forms 2-9) is required to be evaluated structurally based on the seismic demand as given in the geotechnical report. In almost all cases, the seismic performance of the existing structural components (e.g. tanks, berms, pipeline supports) subjected to the inertial and kinematic loads would not satisfy the requirements of OAR 340-300 and would not be acceptable. If the structural components are expected to require structural modifications, repairs and strengthening to comply with OAR 340-300 even after the completion of the geotechnical mitigations at the site, this must be identified in the SVA and included in the Form 10 as a deficiency.

4. This initial structural assessment is not the same as a Cal ARP walk-through or a risk assessment with ratings (e.g. ALARP). Even though the component appears to be fit-for-purpose and adequate based on some initial design seismic criteria and current operational "good" condition, that does not imply that it is acceptable. Per OAR 340-300-0004(1)(a):

   (a) Retrofits, replacement, updates, reconstruction, removal, relocation or other mitigation measures intended to comply with the Codes and Standards as defined by OAR 340-300-

0002(2) to achieve the performance objective and meet the specification of OAR 340-300-0003 to reduce the expected spill as a result of the Design Level Earthquake to below Maximum Allowable Spill. Meeting the requirements of Risk Category IV design of new structures satisfies the intent of this rule.

5. In the final SVA, all the applicable checklists (i.e. Forms 2-9) should be completed and all identified deficiencies are listed in Form 10 for all components with an appropriate "Condition Assessment Rating" (from 6 to 1). Table 1 of the "Roadmap" provides guidance for the "Condition Assessment Ratings".

6. If a component deficiency is rated "fair" to "critical" (ratings 4 – 1), DEQ may require the facility to immediately implement some sort of reduced operations, limit loads, or change operations to reduce potential spill volumes until an approved mitigation plan is implemented and all components are re-assessed at that time and found to satisfy OAR 340-300.

7. A "final" Geotech report in the RMIP addressing limitations outlined by the project team with refined ground displacement trends across the site values could then be used for subsequent structural assessment analysis/mitigation. This final report includes the proposed mitigation process and implementation procedure. Per OAR 340-300-0004 (3) thru (5), the risk mitigation implementation plan must outline interim sections that will be completed within 1, 3 and 5 years, based on the risk reduction, feasibility, and order of importance.

8. As part of the RMIP, with the mitigation plan determined and the seismic demand reduced (inertial and kinematic loads), the structural components can then be re-assessed and determined "fit-for-purpose" to comply with item 4 above. Note that these deficiencies all have the mitigation plan mentioned, with completion dates for compliance. All structural retrofits, replacements, updates, reconstruction, etc., must comply with OAR 340-300-0004(a), which states that the performance objectives are met and that the expected spill is below the maximum allowable. Meeting the requirements of Risk Category IV design of new structures satisfies the intent of this rule. One option is to provide sufficient engineering analyses and justification that the maximum allowable spill is within the 1-barrel (42 gallon) limit.

9. Per OAR 340-300-0005(1), the RMIP implementation status reports must be submitted by June 1st of each year until its implementation's completion and approval by DEQ.

DEQ is also meeting with the facilities when requested to provide feedback regarding understanding the SVA expectations versus information that is part of the RMIP. We hope that these will help facilitate submittals to meet the rules' requirements.

To help facilitate each meeting, we will be discussing the following:

- Overall, the geotechnical evaluations are initially satisfactory but need additional investigations for structural analyses of tanks and components and listing of those deficiencies to allow for tracking through the mitigation phase.

- There appears to be confusion about location of assessment work – whether it should be part of the SVA phase or RMIP phase.

- Evaluations have been based on cursory walk throughs. The SVA requires more close inspection, including possibly invasive testing. The current cursory style of inspection is leading to assessments that simply categorize components as acceptable at its current state, which doesn't

describe the component's ability to comply with the performance objective of Maximum Allowable Uncontrolled Spill or Risk Category IV design requirements.

Please contact Killian Stoltenburg at Killian.stoltenburg@deq.oregon.gov to schedule a meeting between our team and yours.

Thank you,

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