Proposed Amended Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities

WORKING GROUP MEETING 2
JULY 15, 2021

JOIN ZOOM MEETING
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MEETING ID: 938 1404 4899
TELECONFERENCE DIAL-IN: 1-669-900-6833

Agenda

1. Summary of Working Group Meeting No. 1
2. Working Group Meeting Comments and Responses
3. Rule 1178 Universe
4. South Coast AQMD Rule 1178 Requirements
5. Other Agency Requirements Comparison
6. Next Steps
• Staff provided information on:
  • Background on storage tank rules (Rule 463 and PAR 1178)
  • Factors behind amending Rule 1178
  • Types of tanks subject to the rule
  • Where leaks from storage tanks originate and identification of leaks
  • Rule development process
WORKING GROUP MEETING COMMENTS AND RESPONSES
Community representatives commented about concerns of underground leaks, soil contamination, tank integrity and stability.

Response

- Rule 1178 contains requirements for vapor containing components on storage tanks and monitoring of storage tank emissions.
- Department of Toxic Substances Control (DTSC) has regulatory authority regarding handling of underground leaks that cause soil contamination.
- Storage tanks are subject to other standards and regulations that contain requirements for tank integrity inspection.
  - American Petroleum Institute and Steel Tank Institute provide industry standards for tank integrity testing.
VOC Emissions from Storage Tanks and Related Operations at Petroleum Facilities

Rule 462 – Organic Liquid Loading
➢ Regulates VOC emission from loading organic liquids into trucks, trailers, or railroad

Rule 1149 – Storage Tank and Pipeline Cleaning and Degassing
➢ Regulates VOC emission from floating roof landings, cleaning, maintenance, testing, repair, removal of tank and pipelines from service

Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil
➢ Regulates emission from handling and treating VOC contaminated soil resulting from storage or transfer operations

Rule 1173 – Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants
➢ Regulates emission from components connected to storage tanks

Rule 1180 – Refinery Fenceline and Community Monitoring
➢ Monitors VOC emissions from refineries
Rule 462 – Organic Liquid Loading
➢ Regulates VOC emission from loading organic liquids into trucks, trailers, or railroad

- Applicability
  - Applies to liquids with TVP of 1.5 psia or greater
  - Facilities categorized by year constructed and amount of liquid transferred
- General requirements (>20,000 gallons/day, constructed after 1976)
  - Vapors released from transfer operations vented to approved vapor recovery
    - Vapor recovery systems equipped with continuous monitoring
    - Vapor recovery emission limitation
  - Leak inspection of vapor recovery units
    - Inspection method and frequency
    - Repair timeline
Rule 1149 – Storage Tank and Pipeline Cleaning and Degassing

- Regulates VOC emissions from roof landings, cleaning, maintenance, testing, repair, removal of tank and pipelines from service

• Applicability
  • Applies to pipelines open to atmosphere outside of a facilities, storage tanks, reservoirs and other containers storing VOCs
  • Storage vessels categorized by size and TVP of stored liquid

• General requirements
  • Vapor space concentration limitation
  • Vapor space venting to control device
  • Control devices for pipelines open to atmosphere
  • Notification of degassing events
  • Vapor recovery outlet concentration limitations
  • Recordkeeping
Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil

➢ Regulates emissions from handling VOC contaminated soil

• Applicability
  • Applies to excavation, grading, handling and treating VOC contaminated soil resulting from leaks and spills when storing or transferring liquid

• General requirements
  • Approved mitigation plan
  • Notification of excavation and VOC detection during excavation
  • Monitoring VOC during excavation
  • Handling, inspection, recordkeeping for VOC contaminated stockpiles
  • Treatment and transfer of VOC contaminated soil
Rule 1173 – Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants

- Regulates emissions from components at petroleum and chemical plants

- Applicability
  - Applies to valves, fittings, pumps, compressors, etc. located at refineries, chemical plants, marine terminals, oil and gas production, natural gas processing and pipeline transfer facilities

- General requirements
  - Leak concentration standards
  - Leak thresholds per number of components
  - Inspections
  - Maintenance
  - Continuous monitoring and notification for pressure relief devices
  - Recordkeeping and reporting of leaks, repairs and re-inspections
• Applicability
  • Applies to petroleum refineries
• General requirements
  • Fenceline air monitoring plan and plan submittals
    • Air monitoring plan criteria
    • Schedule for plan submittals
  • Notification of maintenance or equipment failure
  • Recordkeeping
  • Fee schedule
Community representatives commented on the coordination of South Coast AQMD with other regulatory agencies to ensure sources of emissions from storage tank operations are appropriately regulated.

**Response**

- Environmental issues related to soil and groundwater contamination are generally handled by other agencies such as Department of Toxic Substances Control and water agencies.
- Staff has reached out to Department of Toxic Substances Control and water agencies and communicated comments received at the Working Group meeting and invited them to participate in the development of Proposed Amended Rule 1178.
- South Coast AQMD participates in an interagency task force to discuss refinery incidents and regulatory updates on quarterly basis.
  - Other participants include CARB, CalEPA, OSHA and other air districts.
- South Coast AQMD staff coordinates with other agencies as issues arise.
Community representatives commented on a Bay Area Air Quality Management District document released containing the rule development project scope for organic liquid storage

- Suggested emission reductions can be achieved by installing vapor recovery units on floating roof tanks

**Response**

- BAAQMD has not made a determination on use of vapor recovery with floating roof tanks
  - No requirements for vapor recovery on floating roof tanks in BAAQMD’s current organic liquid storage tank rule
- South Coast AQMD staff will analyze feasibility of vapor recovery with floating roof tanks as part of technology assessment for PAR 1178
RULE 1178 UNIVERSE
Facilities Subject to Rule 1178

• Applies to petroleum facilities emitting more than 20 tons VOC in any year starting in year 2000
  • Facilities remain subject to rule once emitting 20 tons or more in any reporting year
  • Facilities emitting less than 20 tons VOC per year subject to Rule 463
• Petroleum facilities include those primarily engaged in production, refining, storage, transfer or distribution of petroleum products
• 4 Types of facilities subject to Rule 1178
  • Refineries
  • Bulk storage
  • Bulk loading
  • Portable tank suppliers
Facilities Subject to Rule 1178 (continued)

• 41 facilities with tanks subject to Rule 1178

11 Refineries
Refine crude product into usable fuels through processes

8 Bulk Storage Facilities
Intermediate site for storage usually connected by pipeline

12 Bulk Loading Facilities
Storage site for fuels to be moved by tanker (truck or boat)

10 Portable Tank Suppliers
Supply smaller tanks for temporary uses such as tank degassing
Tanks Subject to Rule 1178

- Above-ground with capacity ≥ 19,815 gallons storing organic liquid with TVP > 0.1 psia

Stationary Tanks
Above-ground tanks and permanent equipment at site

Portable Tanks
Individually permitted tanks

Portable Tank Systems
Permitted as a system containing 2 or more tanks used individually or together in a process
Stationary Tanks Types and Sizes

1. Even distribution of the four different types of tanks

2. About 70 percent of tanks are large capacity (>1 million gallons)

<table>
<thead>
<tr>
<th>Tank Size Category (gal)</th>
<th># Tanks</th>
<th>Total Gallons Stored</th>
<th>Average Tank Capacity (gal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤50000</td>
<td>70</td>
<td>3 million</td>
<td>43,000</td>
</tr>
<tr>
<td>&gt;50,000 to 150,000</td>
<td>43</td>
<td>4 million</td>
<td>93,000</td>
</tr>
<tr>
<td>&gt;150,000 to 1 million</td>
<td>217</td>
<td>100 million</td>
<td>460,000</td>
</tr>
<tr>
<td>&gt;1 million</td>
<td>778</td>
<td>3 billion</td>
<td>3.9 million</td>
</tr>
</tbody>
</table>
Stationary Tanks Types and Sizes (continued)

308 fixed roof tanks w/ vapor recovery

250 internal floating roof tanks

290 external floating roof tanks

260 domed external floating roof tanks

Tank Size Distribution

- ≤50,000 gallons
- >50,000-150,000 gallons
- >150,000-1 million gallons
- >1 million gallons

- 45% ≤50,000 gallons
- 22% >50,000-150,000 gallons
- 29% >150,000-1 million gallons
- 4% >1 million gallons

- 75% ≤50,000 gallons
- 4% >50,000-150,000 gallons
- 20% >150,000-1 million gallons
- 1% >1 million gallons

- 77% ≤50,000 gallons
- 16% >50,000-150,000 gallons
- 7% >150,000-1 million gallons
- <1% >1 million gallons

- 85% ≤50,000 gallons
- <1% >50,000-150,000 gallons
- <1% >150,000-1 million gallons
- 14% >1 million gallons
Portable Tanks

- 55 permits for individual portable tanks
  - Tanks located at 2 refinery facilities
- Maximum capacity 21,000 gallons each
- Used for temporary holding of liquids or holding smaller amounts of liquids
  - Equipment malfunction
  - Process upset
  - Maintenance or repair activities
  - Store process water for oil recovery
- Carbon adsorbers for emission control
Portable Tank Systems

- 25 permits for portable tank systems
  - Up to 20 tanks
  - Maximum capacity 22,000 gallons each
  - Various use
  - Carbon adsorbers for emission control
- 6 permits for sludge dewatering systems
  - 2 – 8 tanks per system
  - Capacity <30,000 gallons each
  - Used to recover useful oil from sludge
  - Systems typically made up of feedstock tanks, 1 oil tank, 1 water tank
  - Carbon adsorbers for emission control
SOUTH COAST AQMD RULE 1178 REQUIREMENTS
Facilities
Petroleum facility that emits more than 20 tons in any year starting in 2000

Equipment
Above-ground tanks

Capacity
19,815 gallons or more

Contents
Organic liquids with true vapor pressure > 0.1 psia under actual storage conditions

• Rule 1178 adopted to further reduce emissions from larger emitting facilities
Control Requirements Overview

• Controls include roof types and specific requirements for components on each roof type.

Roof type requirements

• Domed external floating roof; or
• External floating roof; or
• Internal floating roof; or
• Fixed roof with vapor recovery system

Roof type component requirements

• External and internal floating roofs
  • Covers on roof openings
  • Rim seal system requirements
  • Fixed roof with vapor recovery system
  • Pressure vacuum device
  • Vapor tight roof openings
Floating roofs require specific emission control devices on all roof openings
- Gaskets (rim vents, vacuum breakers)
- Gasketed covers (guidepoles, sample wells)
- Sleeves or flexible enclosure systems (roof drains, roof legs, guidepoles)

**Examples:**

- Gasket and bolts
- Enclosures

Roof opening gaps cannot exceed “visible gap” allowance of 1/8” (0.125”) or must remain in vapor tight condition (<500 ppm) at all times
Floating Roof Gap Requirements

Gaps between primary seal and tank shell
- No gap larger than 1.5"
- Gaps >0.5” not to exceed cumulative length of 30% of circumference
- Gaps >0.125” not to exceed 60% of circumference
- No continuous gap >0.125” can exceed 10% of circumference

Gaps between secondary seal and tank shell
- No gap larger than 0.5”
- Gaps >0.125” not to exceed cumulative length of 5% of circumference
Other Control Provisions

- Other requirements for storage tanks include:
  - Configuration of primary and secondary seals
  - No holes or tears in seals
  - Pressure-vacuum vents settings and operating conditions
<table>
<thead>
<tr>
<th>Roof Type</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed roofs</td>
<td>• EPA Method 21 measurements quarterly</td>
</tr>
<tr>
<td></td>
<td>• Annual performance test on vapor recovery system</td>
</tr>
<tr>
<td></td>
<td>• Engineering data sheets on pressure-vacuum vents</td>
</tr>
<tr>
<td>External floating Roof</td>
<td>• EPA Method 21 or measure gaps of all roof openings semi-annually and each time tank is degassed or emptied</td>
</tr>
<tr>
<td></td>
<td>• Complete gap measurements of rim seal system on semiannual basis and each time tank is emptied or degassed</td>
</tr>
<tr>
<td>Internal floating roof</td>
<td>• Visually inspect rim seal system and roof openings and perform hydrocarbon level inspections on semi-annual basis</td>
</tr>
<tr>
<td></td>
<td>• Complete gap measurements of rim seal system every time tank is degassed or emptied (at least once every 10 years)</td>
</tr>
<tr>
<td>Domed external floating roof</td>
<td>• Visually inspect rim seal system and roof openings and perform hydrocarbon level inspections on semi-annual basis</td>
</tr>
<tr>
<td></td>
<td>• Complete gap measurements of rim seal system every time tank is degassed or emptied (at least once every 10 years)</td>
</tr>
</tbody>
</table>
OTHER AGENCY REQUIREMENTS COMPARISON
• Staff compared Rule 1178 requirements to storage tank requirements for:
  • San Joaquin Valley APCD: Rule 4623 – Storage of Organic Liquids
  • Bay Area AQMD: Regulation 8, Rule 5 – Storage of Organic Liquids
• Staff identified differences in other agencies’ rules
• SJVAPCD’s Rule 4623 – Storage of Organic Liquids contains requirements for limiting VOC emissions from storage tanks
  • Applies to tanks 1,100 gallons or greater storing organic liquid
  • VOC control requirements
    • Specifications for tank roof type, pressure-vacuum valve, external and internal floating roof tanks, deck fittings, roof landings, vapor recovery systems
    • Inspection, maintenance, degassing and cleaning
    • True vapor pressure testing
    • Recordkeeping
    • Test methods
Comparison of SJVAPCD Rule 4623 and Rule 1178

- SJVAPCD requires controls dependent on tank size and liquid true vapor pressure

<table>
<thead>
<tr>
<th>Category</th>
<th>SJVAPCD</th>
<th>South Coast AQMD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controls for tanks &gt;19,800 - 39,600 gal</td>
<td>▪ Pressure vacuum relief valve, or internal floating roof, or external floating roof, or vapor recovery (liquid TVP 0.5 to &lt;1.5 psi)</td>
<td>▪ Internal floating roof, or external floating roof, or vapor recovery (liquid TVP &gt;0.1 psia)</td>
</tr>
<tr>
<td>Controls for tanks &gt;39,600 gal</td>
<td>▪ Internal floating roof, or external floating roof, or vapor recovery (liquid TVP 0.5 to &lt;11 psia)</td>
<td>▪ Doming for external floating roofs storing liquids with TVP ≥3 psia (crude oil tanks exempt)</td>
</tr>
</tbody>
</table>

- South Coast AQMD more stringent:
  - Controls required for liquids with TVP >0.1
  - Vapor recovery systems required for fixed roofs
  - Doming required for most external floating roof tanks storing liquids with TVP ≥3 psia
Comparison of SJVAPCD Rule 4623 and Rule 1178

• SJVAPCD’s rule contains definitions for:
  • Visual gap (gap in roof component seals and covers); and
  • Gas leak (VOC concentration threshold measured with gas detection device)

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<tr>
<th>Category</th>
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<tr>
<td>Visual gap definition</td>
<td>0.060”</td>
<td>0.125” (1/8”)</td>
</tr>
<tr>
<td>Leak definition</td>
<td>Gas Leak: &gt;10,000 ppm</td>
<td>Gas leak: &gt;500 ppm</td>
</tr>
</tbody>
</table>

• SJVAPCD more stringent:
  • Visual gap definition
• South Coast AQMD more stringent:
  • Leak definition
Comparison of SJVAPCD Rule 4623 and Rule 1178

• SJVAPCD’s rule contains inspection requirements dependent on tank type

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<th>Category</th>
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<tr>
<td>Inspections (internal)</td>
<td>▪ Annual visual inspections and gap measurements every 5 years</td>
<td>▪ Semi-annual visual and hydrocarbon level inspections</td>
</tr>
<tr>
<td></td>
<td>▪ Seal and fitting gap measurements when emptied or degassed, no less than every 10 years</td>
<td>▪ Seal and fitting gap measurements when emptied or degassed, no less than every 10 years</td>
</tr>
<tr>
<td>Inspections (external)</td>
<td>▪ Annual visual inspections and gap measurements</td>
<td>▪ Semi-annual gap measurements</td>
</tr>
<tr>
<td>Inspections (fixed)</td>
<td>▪ Voluntary inspection program</td>
<td>▪ Quarterly inspections</td>
</tr>
</tbody>
</table>

• South Coast AQMD more stringent:
  • Internal floating roof inspection requirements (SJVAPCD more stringent for gap measurement frequency in some cases)
  • External floating roof inspection requirements
  • Fixed roof inspection requirements
### Comparison of SJVAPCD Rule 4623 and Rule 1178

- SJVAPCD’s rule contains gap requirements for primary and secondary seals

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<th>South Coast AQMD</th>
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<tbody>
<tr>
<td>Primary seal type</td>
<td>▪ Metallic shoe or liquid mounted</td>
<td>▪ Metallic shoe or liquid mounted</td>
</tr>
<tr>
<td>Primary seal gap</td>
<td>▪ Maximum gap 1.5” (welded tanks w/ shoe seal)</td>
<td>▪ Maximum gap 1.5” (all seals)</td>
</tr>
<tr>
<td></td>
<td>▪ Maximum gap 2.5” (riveted tanks w/ shoe seal)</td>
<td></td>
</tr>
<tr>
<td>Secondary seal gap</td>
<td>▪ Maximum gap 0.5”</td>
<td>▪ Maximum gap 0.5”</td>
</tr>
<tr>
<td>Gap allowance (primary)</td>
<td>▪ Not more than 10% (gaps &gt; 0.5”)</td>
<td>▪ Not more than 30% (gaps &gt; 0.5”)</td>
</tr>
<tr>
<td></td>
<td>▪ Not more than 30% (gaps &gt; 0.125”)</td>
<td>▪ Not more than 60% (gaps &gt; 0.125”)</td>
</tr>
<tr>
<td></td>
<td>▪ No continuous gap more than 10% (gap &gt; 0.125”)</td>
<td>▪ No continuous gap more than 10% (gap &gt;0.125”)</td>
</tr>
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<td>Gap allowance (secondary)</td>
<td>▪ Not more than 5% (gaps &gt; 0.125”)</td>
<td>▪ Not more than 5% (gaps &gt; 0.125”)</td>
</tr>
</tbody>
</table>

- South Coast AQMD more stringent:
  - Requirements for primary seal gaps on riveted tanks
- SJVAPCD more stringent:
  - Requirements for primary seal gap allowances
BAAQMD Storage Tank Rule

- BAAQMD’s Regulation 8, Rule 5 – Storage of Organic Liquids contains requirements for limiting VOC emissions from storage tanks
  - Applies to storage tanks with capacity of 264 gallons and greater
  - VOC control requirements
    - Specifications for tank roof type, pressure-vacuum valve, external floating roof and internal floating roof tanks, deck fittings, roof landings, vapor recovery systems
    - Inspection, maintenance, degassing and cleaning
    - True vapor pressure testing
    - Recordkeeping
    - Test methods
Comparison of BAAQMD Regulation 8, Rule 5 and Rule 1178

- BAAQMD requires controls dependent on tank size and liquid true vapor pressure

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<tr>
<th>Category</th>
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<th>South Coast AQMD</th>
</tr>
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<tbody>
<tr>
<td>Controls for tanks ≥19,800 to &lt;39,626</td>
<td>▪ Submerged fill pipe (liquid TVP &gt;0.5 to 1.5 psia) ▪ Internal or external floating roof (liquid TVP &gt;1.5 to &lt;11 psia)</td>
<td>▪ Internal floating roof, or external floating roof, or vapor recovery ▪ Required for liquids with TVP &gt;0.1 psi ▪ Doming for external floating roofs storing liquids with TVP ≥3 psia (crude oil tanks exempt)</td>
</tr>
<tr>
<td>Controls for tanks &gt;39,600 gal</td>
<td>▪ Internal or external floating roof (liquid TVP &gt;0.5 to &lt;11 psia)</td>
<td></td>
</tr>
</tbody>
</table>

- South Coast AQMD more stringent:
  - Controls required for liquids with TVP >0.1 psia
  - Doming required for most external floating roof tanks storing liquids with TVP ≥3 psia
  - BAAQMD has different requirements for controls on larger tanks storing liquids with higher TVP
  - Tanks must be equipped with internal or external floating roof – no option for fixed roof tanks with vapor recovery
Comparison of BAAQMD Regulation 8, Rule 5 and Rule 1178

• BAAQMD’s rule contains definitions for:
  • Visual gap (gap in roof component seals) and
  • Gas leak (VOC concentration threshold measured with gas detection device)

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<tr>
<td>Visual gap definition</td>
<td>▪ 0.060”</td>
<td>▪ 0.125” (1/8”)</td>
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<tr>
<td>Leak definition</td>
<td>▪ Gas Leak: &gt;100 ppm (&gt;500 ppm for pressure-vacuum devices)</td>
<td>▪ Gas leak: &gt;500 ppm</td>
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</tbody>
</table>

• BAAQMD more stringent:
  • Visual gap definition
  • Leak definition
Comparison of BAAQMD Regulation 8, Rule 5 and Rule 1178

• BAAQMD’s rule contains inspection requirements dependent on tank type

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<tr>
<td>Inspections (internal)</td>
<td>▪ Semi-annual visual inspections</td>
<td>▪ Semi-annual visual and hydrocarbon level inspections</td>
</tr>
<tr>
<td></td>
<td>▪ Seal gap measurements every 10 years</td>
<td>▪ Seal and fitting gap measurements when emptied or degassed, no less than every 10 years</td>
</tr>
<tr>
<td></td>
<td>▪ Fittings gap measurements when accessible</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Semi-annual visual and hydrocarbon level inspections</td>
<td></td>
</tr>
<tr>
<td>Inspections (external)</td>
<td>▪ Semi-annual gap measurements</td>
<td>▪ Semi-annual gap measurements</td>
</tr>
<tr>
<td></td>
<td>▪ Pressure-vacuum devices inspected semi-annually</td>
<td>▪ Quarterly inspections of all components</td>
</tr>
<tr>
<td>Inspections (fixed)</td>
<td>▪ Pressure-vacuum devices inspected semi-annually</td>
<td></td>
</tr>
</tbody>
</table>

• South Coast AQMD more stringent:
  • Gap measurement inspection frequency for internal floating roofs
  • Fixed roof inspection requirements
Comparison of BAAQMD Regulation 8, Rule 5 and Rule 1178

- BAAQMD’s rule contains gap requirements for primary and secondary seals

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<td>Primary seal type</td>
<td>▪ Metallic shoe or liquid mounted</td>
<td>▪ Metallic shoe or liquid mounted</td>
</tr>
<tr>
<td>Primary seal gap</td>
<td>▪ Maximum gap 1.5” (welded tanks w/ shoe seal)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ Maximum gap 2.5” (riveted tanks w/ shoe seal)</td>
<td>▪ Maximum gap 1.5” (all seals)</td>
</tr>
<tr>
<td>Secondary seal gap</td>
<td>▪ Maximum gap 0.5”/0.06”*</td>
<td>▪ Maximum gap 0.5”</td>
</tr>
<tr>
<td>Gap allowance (primary)</td>
<td>▪ Not more than 10% (gaps &gt; 0.5”)</td>
<td>▪ Not more than 30% (gaps &gt; 0.5”)</td>
</tr>
<tr>
<td></td>
<td>▪ Not more than 40% (gaps &gt; 0.125”)</td>
<td>▪ Not more than 60% (gaps &gt; 0.125”)</td>
</tr>
<tr>
<td></td>
<td>▪ Not more than 10% (gaps &gt; 1.5”) (riveted)</td>
<td>▪ No continuous gap more than 10% (gaps &gt; 0.125”)</td>
</tr>
<tr>
<td></td>
<td>▪ No continuous gap more than 10% (gaps &gt; 0.125”)</td>
<td></td>
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<td>Gap allowance (secondary)</td>
<td>▪ Not more than 5% (gaps &gt; 0.125”)</td>
<td>▪ Not more than 5% (gaps &gt; 0.125”)</td>
</tr>
</tbody>
</table>

*Applies to welded tanks and external floating roofs installed after 1985 and internal floating roofs installed after 1993

- South Coast AQMD more stringent:
  - Primary seal gap requirement for riveted tanks
- BAAQMD more stringent:
  - Secondary seal gap requirements for certain tanks*
  - Primary seal gap allowances for welded tanks
Summary

- Staff identified requirements in SJVAPCD and BAAQMD rules more stringent than requirements at South Coast AQMD

- Areas where SJVAPCD and BAAQMD are more stringent than Rule 1178:
  - Gap requirements
  - Inspections
  - Leak definitions

- Staff did not identify requirements for other leak detection techniques in other rules

- Rule development will focus on
  - Areas where Rule 1178 is less stringent compared to other agency requirements
  - Areas for improvement such as leak detection and repair requirements
Next Steps

- Survey
- Technology Overview
- Working Group Meeting #3 - TBD
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