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(Amended November 6, 2020)
V.011022

PROPOSED AMENDED RULE 1178

FURTHER REDUCTIONS OF VOC EMISSIONS FROM STORAGE TANKS AT PETROLEUM FACILITIES

(a) Purpose

The purpose of this rule is to further reduce emissions of Vvolatile Oorganic Ccompounds (VOC) from storage tanks located at Ppetroleum Ffacilities.

(b) Applicability

The rule applies to all aboveground Sstorage Ttanks that have capacity equal to or greater than 75,000 liters (19,815 gallons), are used to store Oorganic Lliquids with a Ttrue Vvapor Ppressure greater than 5 mm Hg (0.1 psi) absolute under actual storage conditions, and all aboveground storage tanks with a Potential For VOC Emissions of 6 tons per year or more, and are located at any Ppetroleum Ffacility that emits more than 40,000 pounds (20 tons) per year of VOC as reported in the Annual Emissions Report pursuant to Rule 301 - Permit Fees in any emission inventory year ~~in any emission inventory year~~ starting with the Eemission Iinventory Yyear 2000.

(c) Definitions

(1) ACCESS HATCH is an opening in the roof with a vertical well and a cover attached to it. Access hatch provides passage for workers and materials through the roof for construction or maintenance.

(2) AMBIENT TEMPERATURE is the temperature of an Oorganic Lliquid within a storage tank that has been influenced by atmospheric conditions only and is not elevated by a non-atmospheric means of heating at the tank which includes but is not limited to steam, hot water, heaters, heat exchangers, tank insulation, or tank jacketing.

(3) CERTIFIED PERSON is a person who has successfully completed the ~~District~~South Coast AQMD tank self-inspection program and a ~~District~~South Coast AQMD approved fugitive emissions compliance inspection program, and who holds a certificate issued by the Executive Officer evidencing that such person is in good standing in this program.

~~(4) CONTINUOUS SEAL is a seal that forms a continuous closure that completely covers the annular space between the wall of the storage vessel and the edge of~~

~~the floating roof. A continuous seal may be a vapor-mounted, liquid-mounted, or metallic shoe seal. A continuous seal may be constructed of fastened segments so as to form a continuous seal.~~

(~~4~~5) DOMED ROOF is a self-supporting fixed roof attached to the top of an Eexternal F~~f~~loating R~~r~~oof tank to reduce evaporative losses.

(~~5~~6) EMISSION CONTROL SYSTEM is a combination of capture system(s) and control equipment used to recover, reduce, remove or control the release of VOC to the atmosphere. Such equipment includes, but is not limited to, absorbers, adsorbers, compressors, condensers, incinerators, flares, boilers, and process heaters.

(~~6~~7) EMISSION INVENTORY YEAR is the annual emission-reporting period beginning from July 1 of the previous year through June 30 of a given year. For example, E~~e~~mission I~~i~~nventory Y~~y~~ear 2000 covers the period from July 1, 1999 through June 30, 2000.

(~~7~~8) EXTERNAL FLOATING ROOF TANK is a storage tank with a roof consisting of a double deck or pontoon single deck which rests or floats on the liquid being contained.

(~~8~~9) ~~EXEMPT COMPOUNDS are as defined in Rule 102.~~

(~~9~~10) FACILITY is any equipment or group of equipment or other VOC-emitting activities, which are located on one or more contiguous properties within the ~~District~~South Coast AQMD, in actual physical contact or separated solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or by persons under common control), or an outer continental shelf (OCS) source as determined in 40 CFR Section 55.2. Such above- described groups, if noncontiguous, but connected only by land carrying a pipeline, shall not be considered one F~~f~~acility.

(10~~1~~) FIXED ROOF SUPPORT COLUMN AND WELL is a column made of round pipe or of structural shape with an irregular cross section that passes through the floating roof via a peripheral vertical well and is used to support the roof of an I~~i~~nternal F~~f~~loating R~~r~~oof T~~t~~ank.

(11~~2~~) FIXED ROOF TANK is a storage tank with a permanently affixed roof.

(12~~3~~) FLEXIBLE ENCLOSURE SYSTEM is a VOC emission reduction system made of a VOC impervious material which is resistant to ultraviolet radiation, completely enclosing a slotted G~~g~~uidepole and controls the vapor emission pathway from inside the storage vessel through the G~~g~~uidepole slots to the outside air.

(134) FUEL GAS SYSTEM is the piping and control system that gathers gaseous stream(s) generated by onsite operations and transports the gaseous stream for sale or for use as fuel gas in combustion devices, or in-process combustion equipment such as furnaces and gas turbines, either singly or in combination.

(145) GAUGE FLOAT is a device that is used to indicate the level of liquid within the tank. The float rests on the liquid surface and is housed inside a well that is closed by a removable cover.

(156) GAUGE HATCH/SAMPLE PORT is an opening in the roof that provides access for gauging or sampling. A Ggauge Hhatch/Ssample Pport is usually equipped with a closing cover or a funnel and slit-fabric seal to cover the opening.

(167) GUIDEPOLE is an anti-rotation device that is fixed to the top and bottom of the tank, passing through a well that is equipped with a sliding cover. The Gguidepole is used to prevent adverse movement of the roof and subsequent damage to the roof fittings and rim seals, or as access for level gauging or sampling of the liquid stock. The Gguidepole can be solid or equipped with slots or holes for gauging purpose.

(178) INTERNAL FLOATING ROOF TANK is a storage tank equipped with a fixed roof and a floating roof which rests on the liquid being contained.

(189) LADDER AND WELL is a ladder that passes through a well, and is used to access the tank bottom of an Iinternal Ffloating Rroof Ttank.

(19) LIQUID MOUNTED ~~PRIMARY SEAL~~ is when a ~~primary~~ seal ~~that~~ is mounted in full contact with the liquid in the annular space between the tank shell and the floating roof.

(20) MECHANICAL SHOE PRIMARY SEAL is a metallic band attached to the floating roof sliding in contact with the tank shell. The shoes are supported and held against the tank shell by a mechanical device, and are joined together to form a ring. The vapor space between the shoe and the roof is sealed from the atmosphere by a Pprimary Sseal of coated or VOC impervious fabric.

(21) OPTICAL GAS IMAGING DEVICE (OGI) is an infrared camera with a detector capable of visualizing gases in the 3.2-3.4 micrometer waveband.

(22) ORGANIC LIQUID is any liquid containing VOC.

(232) PETROLEUM FACILITY is any Ffacility primarily engaged in the production, refining, storage, transfer or distribution of crude petroleum or petroleum products as defined in the Standard Industrial Classification for crude petroleum and natural gas (SIC code 1311), petroleum refining (SIC code 2911), petroleum bulk stations and terminals (SIC code 5171), or other related industries (e.g., SIC codes 4226, 4612, 4613, 4923 and 5541).

(24~~3~~) POLE FLOAT is a device located inside a G~~g~~uidepole that floats on the surface of the stored liquid, and is used to indicate the liquid level inside the tank.

(25~~4~~) POLE SLEEVE is a device that extends from either the cover or the rim of an opening in a floating roof deck to the outer surface of a pole that passes through the opening.

(26~~5~~) POLE WIPER is a seal that extends from either the cover or the rim of an opening in a floating roof deck to the outer surface of a pole that passes through the opening.

(27~~6~~) POTENTIAL FOR VOC EMISSIONS means emissions that are calculated in accordance with 40 CFR §60.5365a.

(28) PRESSURE-VACUUM VENT is a vent that is used to minimize tank emissions due to breathing effects.

(29~~7~~) PRIMARY SEAL is a seal mounted below a S~~s~~econdary S~~s~~eal of a rim seal system that consists of two seals. A P~~p~~rimary S~~s~~eal, which is in contact with the floating roof tank shell, can be either M~~m~~echanical S~~s~~hoe, R~~r~~esilient F~~f~~illed, or W~~w~~iper T~~t~~ype.

(~~27~~30) RESILIENT FILLED PRIMARY SEAL is an envelope filled with resilient foam (non-metallic polyurethane) mounted at the rim of the floating roof that makes contact with the shell. A R~~r~~esilient F~~f~~illed nonmetallic P~~p~~rimary S~~s~~eal can be liquid-mounted or vapor-mounted.

(31~~2~~9) RIM MOUNTED SECONDARY SEAL is a S~~s~~econdary S~~s~~eal mounted on the rim of the floating roof of a storage tank. Rim M~~m~~ounted S~~s~~econdary S~~s~~eals are effective at reducing losses from the P~~p~~rimary S~~s~~eal fabric.

(32~~0~~) RIM SEAL SYSTEM is a closure device between the shell of the storage tank and the floating roof edge. A R~~r~~im S~~s~~eal S~~s~~ystem may consist of two seals, one above the other. The lower seal is referred to as the P~~p~~rimary S~~s~~eal and the upper seal is referred to as the S~~s~~econdary S~~s~~eal.

(33~~1~~) RIM VENT is a device consisting of a weighted pallet that rests on a valve seat. Rim V~~v~~ents are used to release any excess pressure or vacuum present in the vapor pocket between the seal and the rim area of a floating roof tank.

(34~~2~~) ROOF DRAIN is a drain on the roof of a floating roof tank that is used to remove rainwater from the floating roof. There are two types of R~~r~~oof D~~d~~rains. A closed R~~r~~oof D~~d~~rain removes the rainwater from the surface of the roof through a flexible hose through the stored liquid prior to exiting the tank. With a closed R~~r~~oof D~~d~~rain, the rainwater does not come in contact with the liquid stored in the tank. An open R~~r~~oof D~~d~~rain is any drain other than the closed R~~r~~oof D~~d~~rain. An open R~~r~~oof D~~d~~rain is typically used only during an emergency.

(3~~5~~3) ROOF LEG is a device that holds the floating roof at a predetermined distance from the tank bottom to allow for tank cleaning or repair. There are two types of R~~r~~oof L~~l~~egs, adjustable or fixed. Fixed legs are attached to the floating roof or hangers suspended from the roof, whereas adjustable legs pass through a well or sleeve, and penetrate the roof.

(3~~6~~4) ROOF OPENING is any opening through a floating roof of a storage tank for any roof fitting including but not limited to A~~a~~ccess H~~h~~atch, F~~f~~ixed R~~r~~oof S~~s~~upport C~~c~~olumn and W~~w~~ell, G~~g~~auge F~~f~~loat, G~~g~~auge H~~h~~atch, S~~s~~ample P~~p~~ort, G~~g~~uidepole, L~~l~~adder A~~a~~nd W~~w~~ell, R~~r~~im V~~v~~ent, R~~r~~oof D~~d~~rain, R~~r~~oof L~~l~~eg, and V~~v~~acuum B~~b~~reaker, and excluding rim seal system.

(3~~7~~5) SECONDARY SEAL is a seal mounted above the P~~p~~rimary S~~s~~eal of a R~~r~~im sSeal S~~s~~ystem that consists of two seals. Secondary S~~s~~eals can be S~~s~~hoe M~~m~~ounted or R~~r~~im-M~~m~~ounted.

(3~~8~~6) SHOE MOUNTED SECONDARY SEAL is a S~~s~~econdary S~~s~~eal mounted on the ~~primary~~ M~~m~~echanical S~~s~~hoe Primary Seal. Shoe M~~m~~ounted S~~s~~econdary S~~s~~eals are effective at reducing vapor losses from the gaps between the shoe and the tank shell.

(3~~9~~3~~7~~) SLOTTED GUIDEPOLE is a G~~g~~uidepole that has slots or holes through the wall of the G~~g~~uidepole. The slots or holes allow the stored liquid to flow into the pole at liquid levels above the lowest operating level.

(4~~0~~3~~8~~) STORAGE TANK is a stationary aboveground container that has capacity equal to or greater than 75,000 liters (19,815 gallons) and is used to store O~~o~~rganic L~~l~~iquids with a T~~t~~rue V~~v~~apor P~~p~~ressure greater than 5 mm Hg (0.1 psi) absolute under actual storage conditions.

(4~~1~~3~~9~~) TRUE VAPOR PRESSURE is the vapor pressure of a liquid at actual storage conditions.

(4~~2~~0) VACUUM BREAKER is a device used to equalize the pressure of the vapor space across the deck as the floating roof is either being landed on or floated off its legs. A V~~v~~acuum B~~b~~reaker consists of a well with a cover. Attached to the underside of the cover is a guided leg long enough to contact the tank bottom as the floating roof is being landed. When in contact with the tank bottom, the guided leg mechanically lifts the cover off the well.

(4~~3~~1) VAPOR TIGHT CONDITION is a condition that exists when the reading on a portable hydrocarbon analyzer is less than 500 parts per million (ppm), expressed as methane, above background, measured using EPA Reference Method 21.

(4~~4~~2) VISIBLE GAP is a gap of more than 1/8 inch between any gasket or seal and the opening that it is intended to seal. Visible G~~g~~ap for P~~p~~rimary Seals and

Ssecondary Sseals is a gap that does not meet the requirements specified in subdivision (d).~~VAPOR MOUNTED PRIMARY SEAL is a primary seal that does not come in contact with the liquid in the annular space between the tank shell and the floating roof.~~

(453) VISUALLY LEAK FREE CONDITION is a condition that exists when vapors are not visible or detectable with an Optical Gas Imaging Device when operated and maintained in accordance with manufacturer training, certification, user manuals, specifications, and recommendations. A Visually Leak Free Condition also exists when a Vapor Tight Condition can be demonstrated for the component in which VOC vapors are emitted and detected with an OGI device and when VOC vapors are emitted from a rim seal when the tank is static and the rim seal meets the requirements of this rule.

(464) VOLATILE ORGANIC COMPOUNDS (VOC) as defined in Rule 102.

~~(45) WASTE STREAM TANK is a storage tank containing at least 75% water by volume, and some liquid waste stream generated in a manner which contains petroleum liquid, emulsified oil, VOC or other hydrocarbons. For the purpose of this rule, waste stream tanks include waste water tanks and recovered oil (or slop oil) tanks.~~

(476) WIPER TYPE PRIMARY SEAL is a continuous annular blade of flexible material (e.g. rubber, urethane, or foam filled) fastened to a mounting bracket on the deck perimeter that spans the annular rim space and contacts the tank shell. A wiper seal system may consist of a single Pprimary Sseal, or dual (multiple) seals where one seal is mounted above the other.

(d) Requirements

(1) External Floating Roof Tanks

(A) Floating Roof Requirements

The owner or~~No later than July 1, 2003, the~~ operator of an Eexternal Ffloating Rroof Ttank containing Oorganic Lliquids ~~floating roof tank containing organic liquids having true vapor pressure of less than 3 psia~~ shall meet the following roof requirements:~~at any petroleum facility with annual VOC emissions exceeding 40,000 lbs (20 tons) for emission inventory year 2000 shall:~~

(i) Equip each Aaccess Hhatch and Ggauge Ffloat well with a cover that is gasketed and bolted. The cover shall be closed at all times, with no Vvisible Ggaps, except when the hatch or well must be opened for access.

(ii) Equip each Ggauge Hhatch/sample well with a cover that is gasketed. The cover shall be closed at all times, with no Vvisible Ggaps, except when the hatch or well must be opened for access.

(iii) Gasket or cover each adjustable Rroof Lleg with a VOC impervious sock at all times when the roof is floating.

(iv) Gasket each Rrim Vvent. Rim Vvents shall be closed at all times, with no Vvisible Ggaps, when the roof is floating; and shall be set to open only when the roof is being floated off the Rroof Lleg supports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

(v) Gasket each Vvacuum Bbreaker. Vacuum Bbreakers shall be closed at all times, with no Vvisible Ggaps, when the roof is floating; and shall be set to open only when the roof is being floated off or is being landed on the Rroof Lleg supports.

(vi) Equip each open floating Rroof Ddrain with a slotted membrane fabric cover or other device with an equivalent control efficiency that covers at least 90 percent of the area of the opening.

(vii) Equip each unslotted Gguidepole well with a gasketed sliding cover and a flexible fabric sleeve or wiper.

(viii) Equip each unslotted Gguidepole with a gasketed cover at the end of the pole. The cover shall be closed at all times, with no Vvisible Ggaps, except when gauging or sampling.

(ix) Equip each slotted Gguidepole with the following combination of components:

(A) A gasketed cover, a Ppole Wwiper, and a Ppole Ffloat with a wiper or seal; or

(B) A gasketed cover, a Ppole Wwiper, and a Ppole Ssleeve that shall be extended into the stored liquid; or

(C) A gasketed cover, a Ppole Wwiper, a Ppole Ssleeve that shall be extended into the stored liquid, and a Fflexible Eenclosure Ssystem.

(x) Maintain the Ppole Ffloat in a condition such that it floats within the Gguidepole at all times, except when it must be removed for sampling or when the tank is empty. The wiper or seal of the Ppole Ffloat shall be at or above the height of the Ppole Wwiper.

(xi) An ~~operator~~owner or operator that equips the slotted Gguidepole with a Fflexible Eenclosure Ssystem shall ensure that the Fflexible Eenclosure Ssystem:

(A) Completely encloses the slotted Gguidepole;

(B) Is free of holes, tears, slots, or rips; and

(C) Is double-clamped tightly at the top of the Gguidepole and secured to the tank roof with no Vvisible Ggaps.

(xii) Cover each slotted Gguidepole opening with a gasketed cover at all times, with no Vvisible Ggaps, except when the cover must be opened for access.

(xiii) Except for Vvacuum Bbreakers and Rrim Vvents, ensure that each opening in the external floating roof shall provide a projection below the liquid surface.

(xiv) Except for Vvacuum Bbreakers, Rrim Vvents, Rroof Ddrains, and leg sleeves, equip all other openings in the roof with a gasketed cover or seal which is closed at all times, with no Vvisible Ggaps, except when the cover or seal must be opened for access.

(B) In lieu of complying with the requirement of no Visible Gap in subparagraph (d)(1)(A), the ~~operator~~owner por operator of a floating roof tank containing Oorganic Lliquids shall maintain all Roof Openings in a Vapor Tight Condition at all times except during preventive maintenance or repair specified in subdivision (g) of this rule.

(C~~B~~) Rim Seal Requirements

The owner or~~No later than July 1, 2003, the~~ operator of an Eexternal Ffloating Rroof Ttank containing Oorganic Lliquids ~~containing organic liquids having true vapor pressure of less than 3 psia~~ shall equip the tank with a Primary Seal and a Secondary Seal that meet the following rim seal requirements:~~at any petroleum facility with annual VOC emissions exceeding 40,000 lbs (20 tons) for emission inventory year 2000 shall equip the tank with a rim seal system meeting the following requirements:~~

(i) The Pprimary Sseal shall be a Mmechanical Sshoe or Lliquid Mmounted.

(ii) The Ssecondary Sseal shall be Rrim Mmounted and shall not be attached to the Pprimary Sseal.

(iii) Gaps between the tank shell and the Pprimary Sseal shall not exceed 1.3 centimeters (1/2 inch) for a cumulative length of

10~~30~~ percent of the circumference of the tank, and 0.32 centimeter (1/8 inch) for 30~~60~~ percent of the circumference of the tank. No gap between the tank shell and the P~~p~~rimary S~~s~~eal shall exceed 3.8 centimeters (1-1/2 inches). No continuous gap between the tank shell and the P~~p~~rimary S~~s~~eal greater than 0.32 centimeter (1/8 inch) shall exceed 10 percent of the circumference of the tank.

(iv) Gaps between the tank shell and the S~~s~~econdary S~~s~~eal shall not exceed 0.32 centimeter (1/8 inch) for a cumulative length of 95 percent of the circumference of the tank. No gap between the tank shell and the S~~s~~econdary S~~s~~eal shall exceed 1.3 centimeters (1/2 inch).

(v) Mechanical S~~s~~hoe ~~primary~~ seals shall be installed so that one end of the shoe extends into the stored O~~o~~rganic L~~l~~iquid and the other end extends a minimum vertical distance of 61 centimeters (24 inches) above the stored O~~o~~rganic L~~l~~iquid surface.

(vi) The geometry of the shoe shall be such that the maximum gap between the shoe and the tank shell is no greater than double the gap allowed by the seal gap criteria specified in clause (d)(1)(C~~B~~)(iii) for a length of at least 46 centimeters (18 inches) in the vertical plane above the liquid surface.

(vii) The P~~p~~rimary S~~s~~eal envelope shall be made available for unobstructed inspection by the Executive Officer along its circumference. In the case of riveted tanks with R~~r~~esilient F~~f~~illed P~~p~~rimary S~~s~~eals, at least eight such locations shall be made available; for all other types of seals, at least four such locations shall be made available. If the Executive Officer deems it necessary, further unobstructed inspection of the P~~p~~rimary S~~s~~eal may be required to determine the seal's condition along its entire circumference.

(viii) The S~~s~~econdary S~~s~~eal shall be installed in a way that permits the Executive Officer to insert probes up to 3.8 centimeters (1-1/2 inches) in width to measure gaps in the P~~p~~rimary S~~s~~eal.

(ix) There shall be no holes, tears or openings in the S~~s~~econdary S~~s~~eal or in the P~~p~~rimary S~~s~~eal envelope surrounding the annular vapor space enclosed by the roof edge, seal fabric, and S~~s~~econdary S~~s~~eal.

(x) Except during the preventive maintenance, repair, or inspection periods specified in subdivision (f) and (g) of this rule that do not exceed 72 hours with prior notification to the Executive Officer, both the Pprimary Ssseal and the Ssecondary Ssseal shall cover the annular space between the external floating roof and the wall of the storage tank in a continuous fashion, with no Vvisible Ggaps.

(xi) The ~~operator~~owner or operator shall use a Rrim Ssseal Sssystem that is identified on the current list of seals approved by the Executive Officer. The ~~operator~~owner or operator requesting the use of an alternative Rrim Ssseal Sssystem shall submit a written application including emission test results and analysis demonstrating that the alternative Rrim Ssseal Sssystem is better in performance and has a rim seal loss emission factor that is less than or equal to the current design.

~~(C) No later than July 1, 2003, in lieu of complying with the requirement of no visible gap in subparagraph (d)(1)(A), the operator of an external floating roof tank shall maintain all roof openings in a vapor tight condition at all times except during preventive maintenance, repair, or inspection periods specified in subdivision (f) and (g) of this rule.~~

(D) The owner or operator of an External Floating Roof Tank shall maintain all Rim Seal Systems and Roof Openings shall maintain a Visually Leak Free Condition.

(E) Doming Requirements

The owner or operator of an External Floating Roof Tank that is used to store material with a True Vapor Pressure of 3 psia or greater shall install a Domed Roof on the external floating roof tanks and meet the requirements of paragraph (d)(2).

(G) An owner or operator shall measure and record the True Vapor Pressure of the Organic Liquid stored in any External Floating Roof Tank where a dome has not been installed pursuant paragraph (d)(1)(E), on a monthly basis to demonstrate that the True Vapor Pressure of the Organic Liquid stored is 3 psia or less. Measurements shall be taken in accordance with the specified test method in paragraph (i)(4). The True Vapor Pressure of shall be determined based on at least one representative sample or multiple samples collected from the top surface layer that is no deeper than six inches.

(2) Domed External Floating Roof Tanks

(A) Phase I: The operator at any petroleum facility with annual VOC emissions exceeding 40,000 lbs (20 tons) for emission inventory year 2000 shall install domed roofs on all external floating roof tanks with a diameter of less than 180 ft that contain organic liquids having true vapor pressure greater than or equal to 3 psia as reported in the Annual Emissions Report pursuant to Rule 301 - Permit Fees for the emission inventory year 2000 according to the following schedule:

(i) At least 1/3 of the tanks subject to this provision by January 1, 2004;

(ii) At least 2/3 of the tanks subject to this provision by January 1, 2006;

(iii) All tanks subject to this provision by January 1, 2008.

(iv) As an alternative to clauses (i) through (iii) above, an operator may submit a compliance plan demonstrating that 75% of the tanks subject to this provision have domes installed by December 31, 2006, and 100% of such tanks shall have domes installed by December 31, 2008. The Executive Officer shall approve any plan which convincingly demonstrates compliance and may impose conditions of approval necessary to assure compliance. The operator shall comply with all provisions and conditions of an approved plan.

(B) Phase II: For additional external floating roof tanks that are not identified under Phase I but contain organic liquids having true vapor pressure greater than or equal to 3 psia as reported in the Annual Emissions Report pursuant to Rule 301 - Permit Fees for any emission inventory year after 2000, the operator who is subject to Phase I shall comply with the requirements specified in subparagraph (d)(2)(A) no later than two years after becoming subject to the rule. In those cases where the two-year period falls within Phase I, the operator shall complete the installation of the domes on all Phase II tanks by no later than January 1, 2010, or December 31, 2010 if choosing to comply with the alternative in clause (d)(2)(A)(iv). The applicability and compliance verification of waste stream tanks and recovered oil tanks shall be based on a monthly average true vapor pressure greater than or equal to 3 psia. The monthly average true vapor pressure of waste stream shall be determined based on at least one representative sample or multiple samples collected from the top surface layer that is no deeper than 6 inches at a frequency committed to

~~in writing by the affected facility no later than January 1, 2003. The facility shall monitor and keep records of sampling results and monthly average true vapor pressures on site and make them available to the Executive Officer upon request.~~

~~(C) In lieu of complying with the requirements in subparagraph (d)(2)(B):~~

~~(i) The operator who is subject to Phase I shall accept permit conditions to limit the true vapor pressure of the organic liquids stored in a tank to lower than 3 psia by the end of Phase I.~~

~~(ii) The operator of a waste water tank where the installation of a domed roof may create a hazard due to the accumulation of pyrophoric material, as confirmed by the Executive Officer, who is subject to Phase II shall accept permit conditions to limit the true vapor pressure of the organic liquids stored in a tank to lower than 3 psia.~~

(A~~D~~) The owner or operator of a domed Eexternal Ffloating Rroof Ttank shall comply with the floating roof and rim seal requirements of subparagraphs (d)(1)(A) and (d)(1)(C), except for Slotted Guidepoles.~~equip and maintain all roof openings in accordance with the specifications listed in subparagraph (d)(1)(A) by the applicable compliance date in subparagraph (d)(2)(A) and (d)(2)(B). Each slotted guidepole shall be equipped with the following combination of components:~~

(B) Each Slotted Guidepole shall be equipped with the following combination of components:

(i) A gasketed cover, a Ppole Wwiper, a Ppole Ffloat with a wiper or seal; or

(ii) A gasketed cover, a Ppole Wwiper, and a Ppole Ssleeve that shall be extended into the stored liquid; or

(iii) A gasketed cover, a Ppole Wwiper, and a Fflexible Eenclosure Ssystem.

~~(E) The operator of a domed external floating roof tank shall equip the tank with a rim seal system consisting of a primary and a secondary seal meeting the specifications listed in subparagraph (d)(1)(B) by the applicable compliance date in subparagraphs (d)(2)(A) and (d)(2)(B).~~

(C) The owner or operator of a domed External Floating Roof shall maintain all Rim Seal Systems and Roof Openings shall maintain a Visually Leak Free Condition.

(D~~F~~) The owner or operator of a domed external floating roof shall ensure that the concentration of organic vapor in the vapor space above a domed external floating roof shall not exceed 30 percent of its lower explosive limit (LEL) ~~by the applicable compliance date in subparagraph (d)(2)(A) and (d)(2)(B)~~.

~~(G) The operator shall submit to the Executive Officer an annual status report including at a minimum all of the following:~~

~~(i) A list of all external floating roof tanks subject to the requirement in subparagraphs (d)(2)(A) and (d)(2)(B);~~

~~(ii) A general description of each tank including information such as tank identification, District permit number or District device identification, tank type, tank capacity, type of liquid stored, and if applicable, number of representative samples, frequency of sampling, averaging method used to determine the monthly average true vapor pressure of waste stream or recovered oil tanks, and the results.~~

~~(iii) A compliance status for each tank; and~~

~~(iv) An estimated compliance date for each external floating roof tank that is not yet in compliance with the requirement in subparagraph (d)(2)(A) and (d)(2)(B).~~

(3) Internal Floating Roof Tanks

~~When an internal floating roof tank is scheduled for emptying and degassing, but no later than January 1, 2007, the operator of an internal floating roof tank at any petroleum facility with annual VOC emissions exceeding 40,000 lbs (20 tons) for emission inventory year 2000 shall~~:

(A) The owner or operator of an Internal Floating Roof Tank shall meet the following roof requirements:

(i) Equip each Fixed Roof Support Column and Well with a sliding cover that is gasketed or with flexible fabric sleeves;

(ii) Equip each ladder well with a gasketed cover. The cover shall be closed at all times, with no Visible Gaps, except when the well must be opened for access;

(iii) Equip and maintain other Roof Openings according to the specifications listed in subparagraph (d)(1)(A).

(iv) Each Slotted Guidepole shall meet the requirements of subparagraph (d)(2)(B).

(B) The owner or operator of an Internal Floating Roof Tank shall equip the tank with a Rim Seal System consisting of a Primary Seal and a Secondary Seal meeting the specifications listed in subparagraph (d)(1)(C), with the exception of a Mechanical Shoe seal which shall have one end extend a minimum vertical distance of 15 centimeters (6 inches) above the liquid surface and the other end extend into the liquid a minimum of 10 centimeters (4 inches).

(C) The owner or operator of an Internal Floating Roof Tank shall maintain all Rim Seal Systems and Roof Openings shall maintain a Visually Leak Free Condition.

(D) The owner or operator of an Internal Floating Roof Tanks shall ensure that the concentration of organic vapor in the vapor space above the internal floating roof shall not exceed 50 percent of its lower explosive limit (LEL) for those installed prior to June 1, 1984 and 30 percent of its LEL for those installed after June 1, 1984.

~~(A) Equip each fixed roof support column and well with a sliding cover that is gasketed or with flexible fabric sleeves;~~

~~(B) Equip each ladder well with a gasketed cover. The cover shall be closed at all times, with no visible gaps, except when the well must be opened for access;~~

~~(C) Equip and maintain other roof openings according to the specifications listed in subparagraph (d)(1)(A) or (d)(1)(C). Each slotted guidepole shall be equipped with the following combination of components:~~

~~(i) A gasketed cover, a pole wiper, a pole float with a wiper or seal; or~~

~~(ii) A gasketed cover, a pole wiper, and a pole sleeve that shall be extended into the stored liquid; or~~

~~(iii) A gasketed cover, a pole wiper, and a flexible enclosure system.~~

~~(D) Equip the tank with a rim seal system consisting of either a primary seal, or a primary and a secondary seal meeting the specifications listed in subparagraph (d)(1)(B), with the exception of a mechanical shoe primary seal which shall have one end extend a minimum vertical distance of 15 centimeters (6 inches) above the liquid surface and the other end extend into the liquid a minimum of 10 centimeters (4 inches); and~~

~~(E) Ensure that the concentration of organic vapor in the vapor space above the internal floating roof shall not exceed 50 percent of its lower explosive~~

~~limit (LEL) for those installed prior to June 1, 1984 and 30 percent of its LEL for those installed after June 1, 1984.~~

(4) Fixed Roof Tanks

(A) ~~No later than January 1, 2007, t~~The owner or operator of a Ffixed Rroof Ttank ~~at any petroleum facility with annual VOC emissions exceeding 40,000 lbs (20 tons) for emission inventory year 2000 shall equip each fixed roof tank containing organic liquids with true vapor pressure greater than 0.1 psia~~ shall meet the following requirements: ~~with an emission control system meeting the following requirements:~~

(i) Vent tank emissions to a Fuel Gas System or an~~The tank emissions are vented to an~~ Eemission Ccontrol Ssystem with an overall control efficiency of at least 98~~5~~% by weight ~~or the tank emissions are vented to a fuel gas system~~.

(ii) Equip ~~A~~any tank gauging or sampling device on a tank ~~shall be equipped~~ with a vapor tight cover which shall be closed at all times, with no Vvisible Ggaps, except during gauging or sampling. The roof of such tank shall be properly maintained in a Vvapor Ttight Ccondition with no holes, tears or uncovered opening.

(iii) ~~All openings on the roof shall be properly installed and maintained~~ Install and maintain all Rroof Oopenings in a Vvapor Ttight Ccondition at all times.

(iv) ~~The operator shall~~ Eequip each Ffixed Rroof Ttank with pressure-vacuum vents that shall be set to the lesser of 10% below the maximum allowable working pressure of the roof or 0.5 psig.

(v) ~~The operator shall~~ Mmaintain Ppressure-Vvacuum Vvents in a Vvapor Ttight Ccondition at all times except when the operating pressure of the Ffixed Rroof Ttank exceeds the manufacturer's recommended setting.

(B) In lieu of complying with the requirement in subparagraph (d)(4)(A), the owner or operator may choose to convert the Ffixed Rroof Ttank to an Eexternal Ffloating Rroof Ttank, a domed External Floating Roof Tank, or an Iinternal Ffloating Rroof Ttank meeting the requirements specified in paragraphs (d)(1), (d)(2), or (d)(3).

(C) The owner or operator of a Fixed Roof Tank shall maintain all Roof Openings shall be maintained in a Visually Leak Free Condition.

(5) Compliance Schedules

The owner or operator of any ~~petroleum facility~~ storage tank that becomes subject to the rule and/or additional rule requirements on or after [Date of Adoption]~~with annual VOC emissions exceeding 40,000 lbs (20 tons) for any emission inventory year subsequent to 2000 reporting pursuant to Rule 301 – Permit Fees~~ shall:

(A) Comply with the requirements for Eexternal Ffloating Rroof Ttanks specified in paragraph (d)(1), except for the doming requirements of subparagraph (d)(1)(E), no later than one year after becoming subject to this rule.

(B) Effective January 1, 2026, comply with the requirements for doming External Floating Roof Tanks specified in subparagraph (d)(1)(E) when the tank is scheduled for emptying and degassing for an API 653 internal inspection. Any External Floating Roof Tank that later becomes subject to the doming requirements of subparagraph (d)(1)(E) after January 1, 2026, shall install a dome on the applicable tank no later than two years after becoming subject to the doming requirements of subparagraph (d)(1)(E).~~Comply with the requirements for domed external floating roof tanks specified in paragraph (d)(2) no later than six years after becoming subject to this rule . Any external floating roof tank that later becomes subject to this requirement based on any subsequent emission inventory year, shall comply with the requirements in paragraph (d)(2) no later than two years after becoming subject to this rule.~~

(C) Effective [Date of Adoption], submit the API 653 internal inspection schedule for any External Floating Roof Tank storing Organic Liquid with a True Vapor Pressure of 3 psia or greater no later than 6 months after [Date of Adoption].

(D~~C~~) Effective [Date of Adoption], comply with the requirements for Internal Floating Roof Tanks specified in paragraph (d)(3) when the tanks are scheduled for emptying and degassing, but no later than 10 years after becoming subject to the requirements of this rule. Any Internal Floating Roof Tanks that later becomes subject to the rule shall comply with the requirements of paragraph (d)(3) when the tanks are scheduled for emptying and degassing, but no later than 5 years after becoming subject to the rule.~~Comply with the requirements for internal floating roof tanks specified in paragraph (d)(3) when the tanks are scheduled for emptying and degassing, but no later than five years after becoming subject to this rule.~~

(E~~D~~) Comply with the requirements for F~~f~~ixed R~~r~~oof T~~t~~anks specified in paragraph (d)(4) no later than five years after becoming subject to this rule.

(6) ~~The operator of all tanks for which a permit to construct and operate has been issued by the Executive Officer on and after January 1, 2002 for new construction shall comply with the requirements of subdivision (d).~~

(e) Identification Requirements

(1) The owner or operator shall permanently identify all tanks subject to the requirements of this rule by a visible sign that includes the tank number, on the outside wall of the tank for inventory, inspection and record keeping purposes.

(2) The owner or operator shall notify the Executive Officer of any change(s) in tank identification.

(f) Inspection and Monitoring Requirements

(1) External Floating Roof Tank~~s~~ Inspections

To demonstrate compliance with paragraph (d)(1), the owner or operator shall have a C~~c~~ertified P~~p~~erson conduct the following in accordance with the procedures and guidelines specified in Attachment A:

(A) Conduct an EPA Method 21 inspection or measure gaps of all R~~r~~oof O~~o~~penings on a semiannual basis and each time the tank is emptied and degassed.

(B) Perform complete gap measurements of the R~~r~~im S~~s~~eal S~~s~~ystem on a semiannual basis and each time the tank is emptied and degassed.

(2) Domed External Floating Roof Tanks and Internal Floating Roof Tank~~s~~ Inspections

To demonstrate compliance with paragraph (d)(2) and (d)(3), the owner or operator shall have a C~~c~~ertified P~~p~~erson conduct the following in accordance with the procedures and guidelines specified in Attachment A:

(A) ~~Visually inspect the rim seal system and roof openings and u~~Use an explosimeter to measure the lower explosive limit (LEL) on a semiannual basis.

(B) Perform complete gap measurements of the R~~r~~im S~~s~~eal S~~s~~ystem each time the tank is emptied and degassed but no less than once every ten years.

(C) Perform complete gap measurements of all R~~r~~oof O~~o~~penings each time the tank is emptied and degassed but no less than once every ten years.

(3) Fixed Roof Tank Inspection~~s~~

(A) ~~No later than 180 days after the effective date of the requirements, the~~ The owner or operator of a F~~f~~acility who elects to install an E~~e~~mission C~~c~~ontrol S~~s~~ystem to comply with the requirements in clause (d)(4)(A)(i) shall conduct an initial performance testing to determine the overall efficiency of the E~~e~~mission C~~c~~ontrol S~~s~~ystem and submit a complete test report to the Executive Officer. The performance testing of the E~~e~~mission C~~c~~ontrol S~~s~~ystem shall be repeated when the system is modified or an operating parameter is changed in a manner that affects the capture or control efficiency. In such case, the performance test shall be conducted and the test report submitted to the Executive Officer within 180 days after the modification. Subsequent to the initial performance test, the owner or operator shall conduct annual performance tests, and shall monitor and record applicable operating parameters on a weekly basis to ensure that the E~~e~~mission C~~c~~ontrol S~~s~~ystem is achieving 98%~~95%~~ overall control efficiency.

(B) To demonstrate compliance with clause (d)(4)(A)(ii), (d)(4)(A)(iii) and (d)(4)(A)(v), the owner or operator shall have a C~~c~~ertified P~~p~~erson conduct EPA Method 21 measurements on a quarterly basis.

(C) To demonstrate compliance with clause (d)(4)(A)(iv), the owner or operator shall keep engineering data sheet for P~~p~~ressure-V~~v~~acuum V~~v~~ents installed after January 1, 2002.

(4) Optical Gas Imaging Instrument (OGI) Inspections

To demonstrate compliance with subparagraphs (d)(1)(D), (d)(2)(C), (d)(3)(C) and (d)(4)(C), an owner or operator of a tank shall conduct OGI inspections in accordance with the following requirements:

(A) The person conducting the inspection shall:

(i) Complete a manufacturer's certification or training program for the OGI device used to conduct the inspection prior to conducting inspections; and

(ii) Operate and maintain the OGI device in accordance with the manufacturer's specifications and recommendations.

(B) The inspector shall monitor all tanks at a Facility with an OGI device at least every 7 calendar days since the last OGI inspection occurred. For each inspection, the person(s) conducting the inspection shall:

(i) Individually monitor a minimum of 15 tanks at facilities with more than 15 tanks, and individually monitor all tanks at facilities with 15 or fewer tanks, according to the following:

(A) Monitor all rim seals and Roof Openings, including but not limited to, vents, Roof Legs, Sample Ports, Access Hatches, Guidepoles, and Emission Control System connections.

(B) For facilities with 15 or more tanks, no tank shall be monitored again and counted towards the minimum of 15 tanks until all tanks have had an equal number of OGI inspections.

(ii) Monitor all remaining tanks at the Facility that were not monitored pursuant to clause (f)(4)(B)(i) according to the following:

(A) Walk the grounds around the tanks to obtain a clear view of each tank; and

(B) Stand at an elevated position to obtain a clear view at the roof level height of each tank.

(C) Follow-Up Optical Gas Imaging Inspections

A person that meets the requirements of subparagraph (f)(4)(A) shall monitor with an OGI device all sources that were not maintained in a Visually Leak Free Condition and identified during a weekly inspection required by subparagraph (f)(4)(B) during the two weekly inspections immediately following the inspection where the source of a leak was identified. Tanks with components that are imaged after repairs shall not count towards the minimum number of tanks required to be monitored pursuant to clause (f)(4)(B)(ii).

(D) In lieu of using an OGI device for inspections required by (f)(4)(B) or (f)(4)(C), a Certified Person may conduct EPA Method 21 measurements for all rim seals systems and Roof Openings. If a Rim Seal System or Roof Opening is inaccessible and measurements cannot be taken using EPA Method 21, an owner or operator shall inspect the rim seal or Roof Opening using an OGI device in accordance with subparagraph (f)(4)(B).

(g) Maintenance Requirements

The owner or operator shall repair~~,~~ or replace any materials or components, including but not limited to, piping, valves, vents, seals, gaskets, or covers of R~~r~~oof O~~o~~penings or seals that ~~are found to have defects or visible gaps, or are not vapor tight and~~ do not meet all the requirements of this rule before filling or refilling an emptied and degassed storage tank, or within 72 hours after an inspection, including one conducted by the owner or

operator or the contracted third-party as specified in subdivision (f)~~, determines that the equipment is not operating in compliance~~.

(h) Record Keeping and Reporting Requirements

(1) ~~During the inspections specified subdivision (f), T~~the ~~operator~~owner or operator shall keep records of all inspections required in subdivision (f), including record of inspected tanks, inspection dates, inspection methods, and all findings, including but not limited to the readings measured according to EPA Reference Test Method 21 and leak identified with an OGI device. Records of leaks identified with an OGI device shall include a digital recording of the leak for a minimum of 5 seconds.

(2) The ~~operator~~owner or operator shall record all inspections conducted pursuant to paragraphs (f)(1) through (f)(3) of P~~p~~rimary Seals, S~~s~~econdary S~~s~~eals, a F~~f~~lexible E~~e~~nclosure S~~s~~ystem (if any), and R~~r~~oof O~~o~~penings on compliance inspection report forms approved by the Executive Officer as described in Attachment A.

(3) The ~~operator~~owner or operator shall submit all inspection reports for inspections conducted pursuant to paragraphs (f)(1) through (f)(3) and documents to the Executive Officer semiannually within five working days of completion of the inspections specified in paragraph (f)(1) and (f)(2); and on January 31 and July 31, respectively, upon the completion of two consecutive quarterly inspections conducted as specified in subparagraph (f)(3)(B).

(4) If the ~~operator~~owner or operator determines that a tank is in violation of the requirements of this rule during the inspections specified subdivision (f), the ~~operator~~owner or operator shall submit a written report to the Executive Officer within 120 hours of the determination of non-compliance, indicating corrective actions taken to achieve compliance.

(5) The ~~operator~~owner or operator who elects to install or modify an E~~e~~mission C~~c~~ontrol S~~s~~ystem to comply with the requirement in clause (d)(4)(A)(i) shall conduct an initial performance test as described in clause (f)(3)(A) and submit a complete test report to the Executive Officer no later than 180 days after the effective date of the requirement for new installation; or 180 days after the modification. Subsequent annual performance test and test report shall be submitted annually within 60 days after the end of each E~~e~~mission I~~i~~nventory Y~~y~~ear.

(6) The ~~operator~~owner or operator shall keep all monitoring, inspection, maintenance, ~~and~~ repair records, sampling results, and digital recordings at the F~~f~~acility for a period of five years and shall make the records available to the Executive Officer upon request.

(i) Test Methods and Procedures

The following test methods and procedures shall be used to determine compliance with this rule. Alternative test methods may be used if they are determined to be equivalent and approved in writing by the Executive Officer, the California Air Resources Board, and the U.S. Environmental Protection Agency.

(1) Measurements of gaseous Vvolatile Oorganic Ccompound leaks shall be conducted according to EPA Reference Method 21 using an appropriate analyzer calibrated with methane.

(2) Organic liquids that are stored at Aambient Ttemperatures with a Ttrue Vvapor Ppressure of greater than 5 mm Hg (0.1 psi) absolute under actual storage conditions shall be determined as those with a flash point of less than 100 °F as determined by ASTM Method D-93.

(3) Organic liquids that are stored at above Aambient Ttemperatures with a Ttrue Vvapor Ppressure greater than 5 mm Hg (0.1 psi) absolute under actual storage conditions shall be determined as those whose volume percent evaporated is greater than ten percent at an adjusted temperature T_{Adj} as determined by ASTM Method D-86 of:

$$T_{Adj} = 300\ ^oF + T_l - T_a$$

Where:

T_l = Liquid Storage Temperature (^oF)

T_a = Ambient Temperature (^oF) = 70 ^oF

(4) ~~Organic liquids with a~~ The Ttrue Vvapor Ppressure of Organic Liquid~~greater than or equal to 3 psia~~ shall be determined by ASTM Method D-323 for Reid Vvapor Ppressure and converted to Ttrue Vvapor Ppressure using applicable nomographs in EPA AP-42 or ~~District~~South Coast AQMD and EPA approved nomographs. The actual storage temperature used for determining Ttrue Vvapor Ppressure shall be 70 degrees Fahrenheit for organic liquids that are stored at Aambient Ttemperatures, and actual storage temperature for organic liquids that are stored at above Aambient Ttemperatures.

(5) Control efficiency of an Eemission Ccontrol Ssystem, on a mass emissions basis, and the VOC concentrations in the exhaust gases shall be determined by U.S. EPA Test Methods 25, 25A; ~~District~~South Coast AQMD Method 25.1 - Determination of Total Gaseous Non-Methane Organic Emissions as Carbon; or ~~District~~South Coast AQMD Method 25.3 – Determination of Low Concentration Non-Methane Non- Ethane

Organic Compound Emissions from Clean Fueled Combustion Sources, as applicable.

(6) When more than one test method or set of test methods are specified for any testing, the application of these methods to a specific set of test conditions is subject to approval by the Executive Officer. In addition, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of the rule.

(7) The sampling, analysis, and reporting shall be conducted by a laboratory that has been approved under the ~~District~~South Coast AQMD Laboratory Approval Program (LAP) for the cited ~~District~~South Coast AQMD reference test methods, where LAP approval is available. For ~~District~~South Coast AQMD reference test methods for which no LAP program is available, the LAP approval requirement shall become effective one year after the date that the LAP program becomes available for that ~~District~~South Coast AQMD reference test method.

(8) Tests to determine emission factors for an alternative control device for rim seal or deck opening shall accurately simulate conditions under which the device will operate, such as wind, temperature, and barometric pressure. Test methods that can be used to perform the testing required in this paragraph include, but are not limited to, the following methods, which shall be performed by a laboratory certified by American Petroleum Institute (API):

(A) API Manual of Petroleum Measurement Standards, Chapter 19, Section 3, Part A, Wind Tunnel Test Method for the Measurement of Deck-Fitting Loss Factors for External Floating-Roof Tanks;

(B) API Manual of Petroleum Measurement Standards, Chapter 19, Section 3, Part B, Air Concentration Test Method for the Measurement of Rim Seal Loss Factors for Floating-Roof Tanks.

(C) API Manual of Petroleum Measurement Standards, Chapter 19, Section 3, Part E; Weight Loss Test Method for the Measurement of Deck-Fitting Loss Factors for Internal Floating-Roof Tanks.

(j) Exemptions

(1) The provisions of this rule shall not apply to pressurized storage tanks designed to operate in excess of 15 pounds per square inch gauge (psig) without any emissions to the atmosphere except under emergency conditions.

(2) Domed Eexternal Ffloating Rroof Ttanks installed prior to January 1, 2002 shall be exempt from the requirements of subparagraph (d)(2)(BD) ~~and (d)(2)(E) for secondary seals~~.

~~(3) Any facility with a facility emission cap equal to or less than 40,000 pounds (20 tons) per year of VOC shall be exempt from the requirements of this rule.~~

(34) Portable Baker tanks containing Oorganic Lliquids having Ttrue Vvapor Ppressures from 0.1 psia to 0.5 psia equipped with carbon canisters to reduce the emissions from the storage tanks to less than 500 ppm outlet concentration shall be exempt from the performance testing requirements specified in clause (d)(4)(A)(i) and subparagraph (f)(3)(A) provided that the ~~operator~~owner or operator conducts EPA Reference Method 21 measurement weekly to ensure that the system achieves the emission standard of 500 ppm.

~~(5) External floating roof tanks having permit conditions that limit the true vapor pressure of the organic liquids stored in the tanks to lower than 3 psia shall be exempt from the requirements of paragraph (d)(2).~~

~~(6) External floating roof tanks subject to clause (d)(1)(A)(i) shall be exempt from this requirement until the next time the tank is emptied and degassed, provided that the operator~~owner or operator~~ has demonstrated to the satisfaction of the Executive Officer that in order to properly bolt, the covers for access hatches and gauge float wells must be welded. The operator~~owner or operator~~ shall use equivalent means, such as clamping, to secure the covers during the interim period.~~

~~(7) External floating roof tanks permitted to contain more than 97% by volume crude oil shall be exempt from the doming requirements of paragraph (d)(2)(A) and (d)(2)(B) but shall comply with other remaining applicable requirements of this rule.~~

(4) An owner or operator of a Fixed Roof Tank shall be exempt from OGI inspections required by subparagraph (f)(4)(B) for weeks that inspections are conducted pursuant to subparagraph (f)(3)(B). OGI inspections shall resume within 7 days of an inspection conducted pursuant to subparagraph (f)(3)(B).

(5) An owner or operator subject to the inspection requirements of subparagraph (f)(4) shall be exempt from the requirements of clause (f)(4)(B)(i) and subclause (f)(4)(B)(ii)(B) if the person responsible for conducting the inspection determines that it is unsafe to conduct the inspection that day, provided that the reason(s) and date(s) the inspection was not conducted is documented. The inspections shall resume on the first day that is determined to be safe.

ATTACHMENT A

INSPECTION PROCEDURES AND COMPLIANCE REPORT FORMS

Equipment Needed:

Organic Vapor Analyzer (OVA) calibrated with methane in accordance with EPA Test Method 21, explosimeter calibrated with methane (for internal floating roof tanks), liquid resistant measuring tape or device, tank probe (to measure gaps in tank seals - 1/8 inch, 1/2 inch, 1-1/2 inch), flashlight.

Inspection Procedures:

1. The findings of all tank self-inspections, whether completed or not, shall be recorded on the Rule 1178 Compliance Report forms prescribed by the Executive Officer and submitted to the ~~District~~South Coast AQMD's Refinery Section in accordance with the rule's requirements. If an inspection is stopped before completion, indicate the reason for this action in the Comments section of the compliance report form.
2. During the compliance inspection, the person(s) conducting the inspection must have a copy of the Permit to Operate or Permit to Construct pertinent to the tank being inspected. Any discrepancies between the permit equipment description and the existing tank or the permit conditions and the actual operating conditions of the tank as verified during inspection must be recorded in the Comments section of the compliance report form.
3. Inspect the ground level periphery of each tank for possible leaks in the tank shell. Complete the tank information section (D) on the report.
4. For external floating roof tanks:
   - o From the platform, conduct an overall visual inspection of the roof and check for obvious permit or rule violations. Record the information as shown under section F of the compliance report form.
   - o During visual inspection of the roof, check for unsealed roof legs, open hatches, open emergency roof drains or vacuum breakers and record the findings on the report accordingly. Indicate presence of any tears in the fabric of both seals.
   - o Conduct an inspection of the roof fittings for vapor tight condition and record any leaks above 500 ppm in the fugitive emissions tank report OR conduct an inspection of the roof fittings using the 1/8" probes.

- o Conduct an inspection of the entire secondary seal using the 1/8" and 1/2" probes. Record the gap data in section F(4) of the report.
- o Conduct an inspection of the entire primary seal using the 1/8", 1/2", and 1-1/2" probes. Inspect the primary seal by holding back the secondary seal. Record the gap data in section F(5) of the report.
- o Record all cumulative gaps between 1/8 inch and 1/2 inch; between 1/2 inch and 1-1/2 inch; and in excess of 1-1/2 inches, for both primary and secondary seals in section G of the report. Secondary seal gaps greater than 1/2 inch should be measured for length and width, and recorded in Comments under section (J) of the report.
- o For slotted guidepoles with a flexible enclosure system, conduct a visual inspection of the flexible enclosure system. Record any holes, tears, slots, or rips in the flexible enclosure system and any tightening or replacement of clamps at the top and the bottom of the flexible enclosure system pursuant to clause (d)(1)(A)(xi).

5. For internal floating roof and domed tanks:
   - o Using an explosimeter, measure the concentration of the vapor space above the floating roof in terms of lower explosive limit (LEL), and record the reading in section (E) of the report.
   - o Conduct a visual inspection of the roof openings and the secondary seal, if applicable, and record findings on the report.
   - o Conduct gap measurements of the rim seal system and roof openings each time the tank is emptied and degassed but no less than once every ten years.
   - o Conduct a visual inspection of the slotted guidepole flexible enclosure system.
6. For fixed roof tanks:
   - o Conduct an inspection of the pressure relief valves, piping, valves and fittings located on the roof for vapor tight condition and record any readings in excess of 500 ppm in the fugitive emissions tank report.
7. Complete all necessary calculations and record all required data accordingly on the report.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
RULE 1178 COMPLIANCE REPORT

PLEASE COMPLETE FORM LEGIBLY IN BLACK INK

SCAQMD ID No.: _____

Tank No. _____ SCAQMD Permit No. _____ Inspection Date _____ Time _____

Is This a Follow-up Inspection? No ☐ Yes ☐ If yes, Date of Previous Inspection _____

A. COMPANY INFORMATION:

Company Name _____

Location Address _____ City _____ Zip _____

Mailing Address _____ City _____ Zip _____

Contact Person _____ Title _____

Phone _____ E-mail _____

B. INSPECTION CONDUCTED BY:

Name _____ Title _____

Company Name _____ Phone _____

Mailing Address _____ City _____ Zip _____

C. TANK INFORMATION:

Capacity _____ (bbls) Installation Date _____ Tank Diameter _____ (ft) Tank Height _____ (ft)

Product Type _____ Product RVP _____

Type of Tank: Riveted ☐ Welded ☐ Other ☐ (describe) _____

Color of Shell _____ Color of Roof _____

Roof Type: Pontoon ☐ Double Deck ☐ Other(describe) _____

External floating roof ☐ Internal floating roof or domed tank ☐ Flexible enclosure system ☐

D. GROUND LEVEL INSPECTION:

1) Product Temperature _____ ° F 2) Product level _____ (ft)

3) List type and location of leaks found in tank shell.

_____

4) List any discrepancies between the existing equipment and the equipment description on the Permit.

_____

5) Is tank in compliance with Permit conditions? No ☐ Yes ☐ If no, explain _____

_____

_____

E. INTERNAL FLOATING ROOF OR DOMED TANK:

1) Check vapor space between floating roof and fixed roof with explosimeter. _____ % LEL

2) Conduct visual inspection of roofs, secondary seals, and slotted guidepole flexible enclosure system, if applicable.

3) Are all roof openings covered? No ☐ Yes ☐ If no, explain in Comments section (J) and proceed to part (H)(6).

F. EXTERNAL FLOATING ROOF TANK (or DOMED TANK AND INTERNAL FLOATING ROOF TANK when needed)

1) On the diagram (below) indicate the location of the ladder, roof drain(s), anti-rotation device(s), platform, gauge well, and vents or other appurtenances. *Note information in relation to North (to the top of the worksheet).*

2) Describe any uncovered openings found on the roof in the Comments section (J). (Refer to Rule 463(a)(1)(F)):

3) Identify any tears in the seal fabric. Describe and indicate on diagram (below):

4) Secondary Seal Inspection

a) Type of Secondary Seal: ___

b) Does 1/2" probe drop past seal? No ☐ Yes ☐ if yes, measure length(s) and show on diagram

c) Does 1/8" probe drop past seal? No ☐ Yes ☐ if yes, measure length(s) and show on diagram.

d) Record dimensions of gap for gaps > 1/8" _____ > 1/2" _____

NOTE: Record the actual width and cumulative length of gaps in feet and inches. (Do not include gaps > 1/2" in 1/8" measurements)

5) Primary Seal Inspection

a) Type of Primary Seal: ☐ Shoe; ☐ Tube; ☐ Other ___

b) (shoe seal) does 1-1/2" probe drop past seal? No ☐ Yes ☐; if yes, measure length(s) and show on diagram.

c) (shoe seal) does 1/2" probe drop past seal? No ☐; Yes ☐; if yes, measure length(s) and show on diagram.

d) (tube seal) does 1/2" probe drop past seal? No ☐ Yes ☐ if yes, measure length(s) and show on diagram.

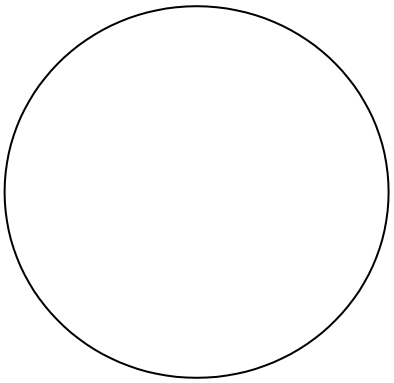
e) (all seal types) does 1/8" probe drop past seal? No ☐ Yes ☐ if yes, measure (length(s) and show on diagram.

f) Record dimensions of gaps for gaps >1/8" _ > 1/2" _____

>1-1/2" _____ *NOTE: Record the actual width and cumulative length of gaps in feet and inches. (Do not include gaps > 1/2" in 1/8" measurements, or gaps > 1-1/2" in 1/2" measurements)*

6) Deck Fitting Inspection
(circle one) does 1/8" probe drop past gasket seal or pass Method 21? No ☐ Yes ☐ if yes, identify

NOTE: Show defects using symbols. Show seal gaps and lengths.



LEGEND:
Equipment:
Antirotational device
Gauge well
⊤ Leg stand
Roof drain
* Emergency roof drain
∞ Vacuum breaker
σ Vent
Platform & ladder
Defects:
Leg top
╫ Leg pin
Open hatch
\/\ Torn seal
|-P-| Primary seal gap
|-S-| Secondary seal gap

Tank No. _____ SCAQMD Permit No. _____

7) Flexible Enclosure System Inspection

Does flexible enclosure system have any holes, tears, slots, or rips? If yes, identify location and approximate size:	No ☐	Yes ☐
Does the flexible enclosure system have double-clamps at the top that are fitted tightly to prevent fugitive emissions from being released to the outside?	No ☐	Yes ☐
Is the flexible enclosure system properly secured to the roof of the tank, with no visible gaps to prevent fugitive emissions from being released to the outside?	No ☐	Yes ☐

IF INTERNAL FLOATING ROOF OR DOMED TANK, PROCEED TO PART H(6) WHEN APPROPRIATE:

G. CALCULATIONS - complete all applicable portions of the following:

Record dimensions of indicated gaps [from F(4)(d), F(5)(b), and F(5)(f)]. Record in feet and inches.

Gaps in primary seal between 1/8 and 1/2 inch: _____

Gaps in primary seal between 1/2 and 1-1/2 inch: _____

Gaps in primary seal greater than 1-1/2 inches: _____

Gaps in secondary seal between 1/8 and 1/2 inch: _____

Gaps in secondary seal greater than 1/2 inch: _____

Multiply diameter (ft) of tank to determine appropriate gap limits:

5% circumference = diameter X 0.157 =	_____	~~60% circ. = diam. X 1.88 =~~	_____
10% circumference = diameter X 0.314 =	_____	90% circ. = diam. X 2.83 =	_____
30% circumference = diameter X 0.942 =	_____	95% circ. = diam. X 2.98 =	_____

H. DETERMINE COMPLIANCE STATUS OF TANK:

1)	Were any openings found on the roof?		No ☐	Yes ☐
2)	Were any tears in the seals found:		No ☐	Yes ☐
3)	Is the product level lower than the level at which the roof would be floating?		No ☐	Yes ☐
4)	Secondary Seal:			
		Did 1/2" probe drop between shell and seal?	No ☐	Yes ☐
		Did cumulative 1/8" - 1/2" gap exceed 95% circumference length?	No ☐	Yes ☐
5)	Primary Seal			
	Shoe	Did 1-1/2" probe drop between shell and seal?	No ☐	Yes ☐
		Did cumulative 1/2" - 1-1/2" gap exceed <u>10%</u>~~30%~~ circumference length, and		
		Did cumulative 1/8 - 1/2" gap exceed <u>30%</u>~~60%~~ circumference length?	No ☐	Yes ☐
		Did any <u>single continuous</u> 1/8" - 1-1/2" gap exceed 10% circ. length?	No ☐	Yes ☐
	Tube	Did 1/2" probe drop between shell and seal	No ☐	Yes ☐
		Did cumulative 1/8" - 1/2" gap exceed 95% circumference length?	No ☐	Yes ☐
6)	Internal floating roof (installed before 6/1/84) did LEL exceed 50%		No ☐	Yes ☐
		(installed after 6/1/84) or domed tank did LEL exceed 30%?	No ☐	Yes ☐
7)	Does tank have permit conditions?		No ☐	Yes ☐
		Does tank comply with these conditions?	No ☐	Yes ☐

I. IF INSPECTION WAS TERMINATED PRIOR TO COMPLETION FOR ANY REASON, PLEASE EXPLAIN:

_____

_____

South Coast Air Quality
Management District
21865 East Copley Drive
Diamond Bar, CA 91765
(909) 396-2000

J. COMMENTS:

Use this section to complete answers to above listed items and to describe repairs made to the tank; include date and time repairs were made.

_____

_____

_____

_____

K. ***I(We) certify the foregoing information to be correct and complete to the best of my(our) knowledge.***

Inspection completed by: _____ Date: _____
(Signature) (Certification ID #)

Compliance status by: _____ Date: _____
(Signature) (Certification ID #)

Company Representative: _____ Date: _____
(Signature) (Certification ID #)

SEND COMPLETED REPORT (both sheets) TO:

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 E. Copley Drive
Diamond Bar, CA. 91765 FAX: (909)396 -3341
Attn: Rule 1178 Supervising Inspector

FOR SCAQMD USE ONLY: Date received_____

Reviewed by:_____ Date reviewed_____
(Signature) (Certification ID #)

Tank Status: [ ] in compliance [ ] in violation, Rule(s)_____
Comments:_____

RULE 1178 FUGITIVE EMISSIONS TANK REPORT

Company Information							
Company Name							
Address							
Contact/Phone Number							
SCAQMD ID #				Report Date			
Tank ID	**Type**	**Fitting**	**Date**	**Leak Rate**	**Type of Repair**	**Date**	**Post Repair Leak Rate**