

TANKER TEST AND INSPECTION REPORT

For compliance with 49 CFR 180.407(h)(4), 180.417(b) & (c), and 40 CFR 60.505(b)

| TANK IDENTIFICATION NO. | | INSPECTION TEST DATE | | REPORT NUMBER | |
|---|--|--|-------------------------------------|--|--|
| OWNER | | | CARRIER (if other than owner) | | |
| PRINCIPAL PLACE OF BUSINESS ADDRESS | | | PRINCIPAL PLACE OF BUSINESS ADDRESS | | |
| CITY, STATE, ZIP CODE | | TELEPHONE | | CITY, STATE, ZIP CODE | |
| OWNER'S TANK SERIAL NO. | | MFG. DATE | | CARRIER'S EQUIPMENT NO. | |
| CARGO TANK MOTOR VEHICLE MFG. | | CARGO TANK MOTOR VEHICLE CERT. DATE | | TANK MANUFACTURER | |
| MAX. WEIGHT OF LADING LBS. | | LINING MATERIALS | | DOT SPECIFICATION NO. | |
| HEATING SYSTEM | | DESIGN PRESSURE (PSIG) _____ | | DESIGN TEMPERATURE 'F _____ | |
| SHELL | | MATERIAL | | DESIGN TEMPERATURE 'F _____ TO 'F _____ | |
| HEAD | | MATERIAL | | MAXIMUM ALLOWABLE WORKING PRESSURE PSIG _____ | |
| EXPOSED SURFACE AREA IN SQ. FT. | | MAX. DESIGN DENSITY OF LADING (LBS. PER GAL.) | | WATER CAPACITY IN LBS. _____ | |
| TYPE OF TEST(S) | | | | | |
| <input type="checkbox"/> EXTERNAL VISUAL (V) <input type="checkbox"/> LEAKAGE TEST (K) <input type="checkbox"/> PRESSURE RETEST (P) <input type="checkbox"/> INTERNAL VISUAL (I) <input type="checkbox"/> HYDROSTATIC <input type="checkbox"/> PNEUMATIC <input type="checkbox"/> HYDROSTATIC <input type="checkbox"/> LINING INSPECTION (L) <input type="checkbox"/> DELIVERY HOSE/PIPING <input type="checkbox"/> PNEUMATIC <input type="checkbox"/> THICKNESS TEST (T) <input type="checkbox"/> K-EPA27 | | | | | |
| TANK <input type="checkbox"/> LINED <input type="checkbox"/> INSULATED <input type="checkbox"/> SPECIAL SERVICE <input type="checkbox"/> MATERIAL CORROSIVE TO TANK _____ <input type="checkbox"/> DEDICATED SERVICE _____ <input type="checkbox"/> OTHER _____ | | | | | |

| ITEMS INSPECTED OR TESTED | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------|--|---------|-----|---|---|---|--|--|--|---|--|--|--|--|--|------|------|--|---------|--|-----------------|-------|-----|-------|-----|---------|--|--|--|--|--|---------|--|--|--|--|--|--------|--|--|--|--|--|--------|--|--|--|--|--|-----------|--|--|--|--|--|-----------|--|--|--|--|
| YES | NO | ITEM | YES | NO | ITEM | TYPE | | | | | K-EPA27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Tank Shell | | | Frangible (Rupture) Disk | PRESSURE RELIEF DEVICES Device Number: 1 2 3 4 5 Tested: _____ Removed: _____ Inspected: _____ Replaced: _____ Reinstalled: _____ Repaired: _____ Pressure - set to discharge: _____ Pressure - when open: _____ Pressure - when resealed: _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Tank Heads | | | Major Appurtenances | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Head-to-Shell Seam | | | - upper coupler assembly | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Valves | | | - suspension system attachments | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Gaskets | | | - connecting structures | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Manhole Covers | | | Lining Material | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Manhole Gaskets | | | Pressure Bearing Portions of Heating System | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Devices for Tightening Manhole Gaskets on Full Opening Rear Head | | | Flues for Heating System | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Self-closing Stop-valves | | | Corroded or Abraded Areas | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Excess Flow Valves | | | Distortions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Remote Closure Devices | | | Dents | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Reclosing Pressure Relief Valves | | | Welds | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Nuts and Bolts | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DELIVERY HOSE/PIPING HOSE I.D. NO. _____ DATE OF ORIG. HOSE ASSEMBLY TEST _____ CONDITION OF HOSE ASSEMBLY & PIPING SYSTEM _____ | | | | | | | THICKNESS (INCHES) HEAD _____ MFG. _____ MIN. TESTED _____ SHELL TOP _____ SHELL SIDE _____ SHELL BOTTOM _____ | | | | | Gasoline Delivery Tank Pressure Test - EPA Reference Method 27 <table border="1"> <thead> <tr> <th rowspan="2">TEST</th> <th colspan="2">TIME</th> <th colspan="2">MEASURE</th> <th rowspan="2">AVERAGE RESULTS</th> </tr> <tr> <th>START</th> <th>END</th> <th>START</th> <th>END</th> </tr> </thead> <tbody> <tr> <td>PRES. 1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PRES. 2</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>VAC. 1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>VAC. 2</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>VR VENT 1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>VR VENT 2</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | TEST | TIME | | MEASURE | | AVERAGE RESULTS | START | END | START | END | PRES. 1 | | | | | | PRES. 2 | | | | | | VAC. 1 | | | | | | VAC. 2 | | | | | | VR VENT 1 | | | | | | VR VENT 2 | | | | |
| TEST | TIME | | MEASURE | | AVERAGE RESULTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | START | END | START | END | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PRES. 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PRES. 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VAC. 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VAC. 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VR VENT 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VR VENT 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| UPPER COUPLER ASSEMBLY <input type="checkbox"/> EXAMINED IN PLACE <input type="checkbox"/> REMOVED FOR EXAMINATION | | | | | | LEAKAGE TEST FLUID USED _____ PRESSURE _____ HOLDING TIME _____ | | | | | PRESSURE TEST _____ _____ _____ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

(CHECK ONE) NO DEFECT OR DAMAGE DISCOVERED DEFECTS OR DAMAGE DISCOVERED

LOCATION OF DEFECTS OR DAMAGE: weld heat-affected zone liquid phase vapor phase head-to-shell seam delivery hose/piping appurtenances

Explain: _____

NATURE AND SEVERITY: _____

METHOD OF REPAIRS: _____ IS REPAIR CERTIFICATION REQUIRED? YES NO DESIGN CERTIFYING ENGINEER REGISTRATION NO. _____

| | | | | |
|--|--|--|---|-------------|
| THIS UNIT HAS HAULED | <input type="checkbox"/> ANHYDROUS AMMONIA (<input type="checkbox"/> CERTIFIED AS 0.2% WATER BY WEIGHT) <input type="checkbox"/> LIQUEFIED PETROLEUM GAS | <input type="checkbox"/> ANY OTHER MATERIAL THAT MAY CAUSE STRESS CORROSION CRACKING | STRESS RELIEVED AFTER FABRICATION | REPAIR DATE |
| DOT REGISTRATION NUMBER OF THE TESTING FACILITY/PERSON | TEST DATE | STRESS RELIEVED AFTER REPAIR | ASME OR NATIONAL BOARD NO. OF REPAIR FACILITY | |
| TESTED BY (Person's Name) | | REPAIRED BY | | |
| ADDRESS | | ADDRESS | | |
| CITY, STATE, ZIP | | CITY, STATE, ZIP | | |

CARGO TANK: MEETS FAILS TO MEET THE REQUIREMENTS OF THE DOT SPECIFICATIONS IDENTIFIED ON THIS REPORT
 DISPOSITION OF CARGO TANK: WITHDRAWN FROM SERVICE RETURNED TO SERVICE MARKINGS APPLIED: YES NO

| | | | | |
|---------------------------------|-------------------------|------|--------------------|------|
| SIGNATURE OF INSPECTOR / TESTER | DOT REGISTRATION NUMBER | DATE | SIGNATURE OF OWNER | DATE |
|---------------------------------|-------------------------|------|--------------------|------|

COMPLIANCE DATES – INSPECTIONS AND TEST UNDER §180.407(c)

| Test or Inspection (cargo tank specification, configuration, and service) | Date by which first test must be completed (see note 1) | Interval period after first test |
|---|---|----------------------------------|
| External Visual Inspection: All cargo tanks designed to be loaded by vacuum with full opening rear heads. | September 1, 1991. | 6 months. |
| All other cargo tanks. | September 1, 1991. | 1 year. |
| Internal Visual Inspection: All insulated cargo tanks, except MC 330, MC 331, MC 338 (See Note 4). | September 1, 1991. | 1 year. |
| All cargo tanks transporting lading corrosive to the tank | September 1, 1991. | 1 year. |
| MC 331 cargo tanks less than 3,500 gallons water capacity in dedicated propane service constructed of nonquenched and tempered NQT SA-612 steel (see Note 5) | September 1, 2016. | 10 years. |
| All other cargo tanks except MC 338 | September 1, 1995. | 5 years. |
| Lining Inspection: All lined cargo tanks transporting lading corrosive to the tank. | September 1, 1991. | 1 year. |
| Leakage Test: MC 330 and MC 331 cargo tanks in chlorine service | September 1, 1991. | 2 years. |
| All other cargo tanks except MC 338 | September 1, 1991. | 1 year. |
| Pressure Test: (Hydrostatic or pneumatic) (See Notes 2 and 3): All cargo tanks which are insulated with no manhole or insulated and lined, except MC 338. | September 1, 1991. | 1 year. |
| All cargo tanks designed to be loaded by vacuum with full opening rear heads. | September 1, 1992. | 2 years. |
| MC 330 and MC 331 cargo tanks in chlorine service | September 1, 1992. | 2 years. |
| MC 331 cargo tanks less than 3,500 gallons water capacity in dedicated propane service constructed of nonquenched and tempered NQT steel (see Note 5) | September 1, 2017. | 10 years. |
| All other cargo tanks. | September 1, 1995. | 5 years. |
| Thickness Test: All unlined cargo tanks transporting material corrosive to the tank, except MC 338. | September 1, 1992. | 2 years. |

Note 1: If a cargo tank is subject to an applicable inspection or test requirement under the regulations in effect on December 30, 1990, and the due date (as specified by a requirement in effect on December 30, 1990) for completing the required inspection or test occurs before the compliance date listed in table I, the earlier date applies.

Note 2: Pressure testing is not required for MC 330 or MC 331 cargo tanks in dedicated sodium metal service.

Note 3: Pressure testing is not required for uninsulated lined cargo tanks, with a design pressure MAWP 15 psig or less, which receive an external visual inspection and lining inspection at least once each year.

Note 4: Insulated cargo tanks equipped with manholes or inspection openings may perform either an internal visual inspection in conjunction with the external visual inspection or a hydrostatic or pneumatic pressure-test of the cargo tank.

Note 5: A 10-year inspection interval period also applies to cargo tanks constructed of NQT SA-202, NQT SA-455, or NQT SA-612 steels provided the materials have full-size equivalent (FSE) Charpy vee notch (CVN) energy test data that demonstrated 75% shear-area ductility at 32 °F with an average of 3 or more samples >15 ft-lb FSE with no sample <10 ft-lb FSE.

§180.407(h)(4)

(4) After July 1, 2000, Registered Inspectors of specification MC 330 and MC 331 cargo tanks, and nonspecification cargo tanks authorized under §173.315(k) of this subchapter must visually inspect the delivery hose assembly and piping system while the assembly is under leakage test pressure utilizing the rejection criteria listed in §180.416(g). Delivery hose assemblies not permanently attached to the cargo tank motor vehicle may be inspected separately from the cargo tank motor vehicle. In addition to a written record of the inspection prepared in accordance with §180.417(b), the Registered Inspector conducting the test must note the hose identification number, the date of the test, and the condition of the hose assembly and piping system tested.

§180.415 Test and inspection markings.

(a) Each cargo tank successfully completing the test and inspection requirements contained in §180.407 must be marked as specified in this section.

(b) Each cargo tank must be durably and legibly marked, in English, with the date (month and year) and the type of test or inspection performed, subject to the following provisions:

- (1) The date must be readily identifiable with the applicable test or inspection.
- (2) The markings must be in letters and numbers at least 32 mm (1.25 inches) high, near the specification plate or anywhere on the front head.
- (3) The type of test or inspection may be abbreviated as follows:
 - (i) V for external visual inspection and test;
 - (ii) I for internal visual inspection;
 - (iii) P for pressure test;
 - (iv) L for lining inspection;
 - (v) T for thickness test; and
 - (vi) K for leakage test for a cargo tank tested under §180.407, except §180.407(h)(2); and
 - (vii) K-EPA27 for a cargo tank tested under §180.407(h)(2) after October 1, 2004.

Examples to paragraph (b). The markings "10-99 P, V, L" represent that in October 1999, a cargo tank passed the prescribed pressure test, external visual inspection and test, and the lining inspection. The markings "2-00 K-EPA27" represent that in February 2000 a cargo tank passed the leakage test under §180.407(h)(2). The markings "2-00 K, K-EPA27" represent that in February 2000 a cargo tank passed the leakage test under both §180.407(h)(1) and under EPA Method 27 under §180.407(h)(2).

(c) For a cargo tank motor vehicle composed of multiple cargo tanks constructed to the same specification, which are tested and inspected at the same time, one set of test and inspection markings may be used to satisfy the requirements of this section. For a cargo tank motor vehicle composed of multiple cargo tanks constructed to different specifications, which are tested and inspected at different intervals, the test and inspection markings must appear in the order of the cargo tank's corresponding location, from front to rear.

§180.416 Discharge system inspection and maintenance program for cargo tanks transporting liquefied compressed gases.

(a) **Applicability.** This section is applicable to an operator using specification MC 330, MC 331, and nonspecification cargo tanks authorized under §173.315(k) of this subchapter for transportation of liquefied compressed gases other than carbon dioxide. Paragraphs (b), (c), (d)(1), (d)(5), (e), (f), and (g)(1) of this section, applicable to delivery hose assemblies, apply only to hose assemblies installed or carried on the cargo tank.

(b) **Hose identification.** By July 1, 2000, the operator must assure that each delivery hose assembly is permanently marked with a unique identification number and maximum working pressure.

(c) **Post-delivery hose check.** After each unloading, the operator must visually check that portion of the delivery hose assembly deployed during the unloading.

(d) **Monthly inspections and tests.** (1) The operator must visually inspect each delivery hose assembly at least once each calendar month the delivery hose assembly is in service.

(2) The operator must visually inspect the piping system at least once each calendar month the cargo tank is in service. The inspection must include fusible elements and all components of the piping system, including bolts, connections, and seals.

(3) At least once each calendar month a cargo tank is in service, the operator must actuate all emergency discharge control devices designed to close the internal self-closing stop valve to assure that all linkages operate as designed. Appendix A to this part outlines acceptable procedures that may be used for this test.

(4) The operator of a cargo tank must check the internal self-closing stop valve in the liquid discharge opening for leakage through the valve at least once each calendar month the cargo tank is in service. On cargo tanks equipped with a meter, the meter creep test as outlined in Appendix B to this part or a test providing equivalent accuracy is acceptable. For cargo tanks that are not equipped with a meter, Appendix B to this part outlines one acceptable method that may be used to check internal self-closing stop valves for closure.

(5) The operator must note each inspection in a record. That record must include the inspection date, the name of the person performing the inspection, the hose assembly identification number, the manufacturer of the hose assembly, the date the hose was assembled and tested, and an indication that the delivery hose assembly and piping system passed or failed the tests and inspections. The operator must retain a copy of each test and inspection record at its principal place of business or where the vehicle is housed or maintained until the next test of the same type is successfully completed.

(e) **Annual hose leakage test.** The owner of a delivery hose assembly that is not permanently attached to a cargo tank motor vehicle must ensure that the hose assembly is annually tested in accordance with §180.407(h)(4).

(f) **New or repaired delivery hose assemblies.** Each operator of a cargo tank must ensure each new and repaired delivery hose assembly is tested at a minimum of 120 percent of the hose maximum working pressure.

(1) The operator must visually examine the delivery hose assembly while it is under pressure.

(2) Upon successful completion of the pressure test and inspection, the operator must assure that the delivery hose assembly is permanently marked with the month and year of the test.

(3) After July 1, 2000, the operator must complete a record documenting the test and inspection, including the date, the signature of the inspector, the hose owner, the hose identification number, the date of original delivery hose assembly and test, notes of any defects observed and repairs made, and an indication that the delivery hose assembly passed or failed the tests and inspections. A copy of each test and inspection record must be retained by the operator at its principal place of business or where the vehicle is housed or maintained until the next test of the same type is successfully completed.

(g) **Rejection criteria.** (1) No operator may use a delivery hose assembly determined to have any condition identified below for unloading liquefied compressed gases. An operator may remove and replace damaged sections or correct defects discovered. Repaired hose assemblies may be placed back in service if retested successfully in accordance with paragraph (f) of this section.

(i) Damage to the hose cover that exposes the reinforcement.

(ii) Wire braid reinforcement that has been kinked or flattened so as to permanently deform the wire braid.

(iii) Soft spots when not under pressure, bulging under pressure, or loose outer covering.

(iv) Damaged, slipping, or excessively worn hose couplings.

(v) Loose or missing bolts or fastenings on bolted hose coupling assemblies.

(2) No operator may use a cargo tank with a piping system found to have any condition identified in this paragraph (g)(2) for unloading liquefied compressed gases.

(i) Any external leak identifiable without the use of instruments.

(ii) Bolts that are loose, missing, or severely corroded.

(iii) Manual stop valves that will not actuate.

(iv) Rubber hose flexible connectors with any condition outlined in paragraph (g)(1) of this section.

(v) Stainless steel flexible connectors with damaged reinforcement braid.

(vi) Internal self-closing stop valves that fail to close or that permit leakage through the valve detectable without the use of instruments.

(vii) Pipes or joints that are severely corroded.