Vapor Recovery Equipment Defects List

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G-70 All Systems/any E.O.		
equipment	Defects	verification procedure
(a) system	(1) any equipment defect which is identified in an Executive Order (E.O.) certifying a system pursuant to the Certification Procedures incorporated in Section 94011 of Title 17, California Code of Regulations	as set forth in the applicable E.O.
	(2) absence, improper installation, or disconnection of any component required to be used in the E.O.(s) that certified the system	direct observation
	(3) installation or use of any uncertified component	direct observation
	(4) dispensing rate greater than ten gallons per minute (10.0 gpm) or less than the greater of five (5.0) gpm or the limit stated in the E.O. measured at maximum fuel dispensing	when determined as part of any ARB approved test method or direct measurement for ~~60~~30 seconds minimum
	(5) phase I vapor poppet inoperative	direct observation
~~nozzles~~ (b) nozzles	(1) nozzle automatic liquid shutoff mechanisms which malfunction in any manner	EPO No. 26-F-1/direct observation

Each table in this list has a specific identification for each defect. Every identification has three parts: i) the executive order number for the table which the defect appears on, ii) a sequential letter for the equipment which the defect is associated with, and iii) a sequential number for the defect itself. As you can see above, the defect number (iii) is sequential for the particular equipment (ii) it is associated with. As the equipment column in the table changes, the defect number sequence begins again with one. The same is true for the equipment letter. At the start of a new table, the first identifying letter associated with the first will be an “a”, the second a “b”, and so on. The executive order number (i) is the alpha numeric characters beginning with “G-70” which proceed the literal description of the system.

For example: the identification for the defect above which is written “installation or use of any uncertified component” is “G-70(a)(3)” and the last defect on the next table is “G-70-7(d)(1).”

G-70-7 series Hasstech VCP-2 and VCP-2A		
equipment	Defects	verification procedure
(a) system	(1) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(2) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(3) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(4) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 ~~S~~CFH)	TP201.4 or equivalent
	~~defective vapor valve~~	~~GDF-01/GDF-03~~
(b) hoses	(1) any coaxial hose with a perforation exceeding one-eighth (0.13) inch diameter	direct measurement/ observation
	(2) any coaxial hose with slits or tears in excess of one-fourth (0.25) inch in length	direct measurement/ observation
(c) processing unit	(1) three consecutive unsuccessful attempts to ignite the incinerator which occur at least two hours after a bulk delivery *	direct measurement/ observation/system monitor observation
	(2) unit does not activate when the system pressure reaches or exceeds two (2.0) inches water column and occurs at least two hours after a bulk delivery *	direct measurement using storage tank pressure device
	(3) emissions which exceed Ringelmann one-half (½) or ten percent (10%) opacity and not attributable to a bulk delivery *	Method 9
	(4) vapor processing unit inoperative *	direct observation
(d) collection unit	(1) vacuum producing device inoperative *	direct observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-14 series Red Jacket	G-70-17 series Emco Wheaton	G-70-23 series Exxon
G-70-25 series Atlantic Richfield	G-70-33 series Hirt	G-70-36 series OPW
G-70-38 series Texaco	G-70-48 series Mobil	G-70-49 series Union
G-70-52 series Red Jacket, Hirt	G-70-53 series Chevron	G-70-78 series EZ-flow rebuilds
G-70-107 series Rainbow rebuilds	G-70-125 series Husky Model V	G-70-127 series OPW 111V
G-70-134 series EZ-flow rebuilds	G-70-170 series EZ-flow rebuilds	

equipment	Defects	verification procedure
(a) nozzles	(1) any nozzle boot torn in one or more of the following manners: a triangular-shaped or similar tear one-half (0.50) inch or more on any side, or hole one-half (0.50) inch or more in diameter, or slit one (1.0) inch or more in length	direct measurement/ observation
	(2) any faceplate or flexible cone damaged in the following manner: for balance nozzles and for nozzles for aspirator and eductor assist type systems, damage such that the capability to achieve a seal with a fill pipe interface is affected for one-fourth (0.25%) of the circumference of the faceplate (accumulated)	direct measurement/ observation
	(3) flexible cone damaged in the following manner: for booted type nozzles for vacuum assist-type systems, more than one-fourth (0.25%) of the flexible cone missing	direct measurement/ observation
	(4) insertion interlock mechanism which will allow dispensing when the bellow is uncompressed	direct observation/ GDF-09
(b) hoses	(1) any coaxial balance hose with 100 ml or more liquid in the vapor path	direct measurement
	(2) any hose with a visible opening	direct observation
(c) processing unit	(1) vapor processing unit inoperative *	direct observation
(d) vapor return lines	(1) pressure drop through the vapor path exceeds by a factor of two or more requirements specified in the Executive Order(s) that certified the system	TP201.4 or equivalent

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

The identification scheme for defects listed on this table is the same three part alphanumeric identification (see page 1) as the other tables. However, the correct executive order number will be the one for the specific system in question. For example: the identification for the defect above which is written "any hose with a visible opening" will begin "G-70-" and end with "(b)(2)." On the Atlantic Richfield system it will be "G-70-25(b)(2)", on the Texaco system it will be "G-70-38(b)(2)", and so on.

G-70-118 series Amoco V-1		
Equipment	Defects	verification procedure
(a) system	(1) defective vapor valve	GDF-01/GDF-032
	(2) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(3) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	(4) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(5) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 ~~S~~CFH)	TP201.4 or equivalent
(b) Husky V-1 nozzle	(1) efficiency compliance device (ECD) damaged such that at least one eighth (~~0.~~13%) of the diameter is missing	direct measurement/ observation
	(2) less than two unblocked vapor holes	direct observation
(c) OPW 11-VAA nozzle	(1) any ECD damaged such that a slit from the outer to inner edge exists	direct measurement/ observation
	(2) less than three unblocked vapor holes	direct observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-150 series Marconi (Gilbarco)Vapor Vac		
Equipment	Defects	verification procedure
(a) system	(1) pressure drop through the system exceeds one-half (0.50) inches water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 ~~S~~SCFH)	TP201.4 or equivalent
	(2) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
	~~defective vapor valve~~	~~GDF-01/GDF-03~~
	(3) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(4) both booted and unbooted nozzle types connected to the same vapor pump	direct observation
	(5) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
(b) Catlow ICVN nozzle	(1) less than three unblocked vapor holes	direct observation
	(2) defective vapor valve	GDF-01/GDF-02
	(3) efficiency compliance device slit from base to the rim	direct observation
(c) Emco Wheaton A4505 nozzle	(1) less than three unblocked vapor holes	direct observation
	(2) defective vapor valve	GDF-01/GDF-02
	(3) one-eighth (~~0.~~13%) of vapor guard circumference missing	direct measurement/ observation
(d) Emco Wheaton A4500 nozzle	(1) less than three unblocked vapor holes	direct observation
(e) Husky V34 6250 nozzle	(1) a one and one-half (1.5) inch or greater slit in vapor splash guard	direct measurement/ observation
	(2) any hole greater than three-eighths (0.38) inch in vapor splash guard	direct measurement/ observation
	(3) defective vapor valve	GDF-01/GDF-02
(f) Husky V3 6201 nozzle	(1) all vapor holes blocked	direct observation
(g) OPW 11VAI nozzle	(1) less than four unblocked vapor holes	direct observation
(h) OPW12VW nozzle	(1) all vapor holes blocked	direct observation
	(2) defective vapor valve	GDF-01/GDF-02
	(3) vapor escape guard with three-fourths (~~0.~~75%) of the circumference missing	direct measurement/ observation

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

G-70-165 series Healy Model 600		
Equipment	Defects	verification procedure
(a) nozzles	(1) any nozzle with a vapor guard missing, damaged such that a slit from the outer edge of the open end flange to the spout anchor clamp, or which has equivalent cumulative damage	direct observation
	(2) any nozzle which has fewer than four unblocked vapor collection holes	direct observation
	(3) defective vapor valve	GDF-01/GDF-032
	(4) any grade of a fueling point not capable of demonstrating an air to liquid ratio compliance with its performance standard	TP201.5 or equivalent
	(5) any fueling point associated with a vapor line disconnected and open to the atmosphere, including all fueling points at the facility if vapor lines are manifolded	direct observation
(b) system	(1) system not in compliance with the static pressure decay test criteria *	TP201.3 or equivalent
	(2) pressure drop through the system exceeds one-half (0.50) inch water column at sixty ~~standard~~ cubic ~~foot~~feet per hour (60 ~~S~~CFH)	TP201.4 or equivalent
(c) central vacuum unit	(1) dispensing when the central vacuum unit is disabled *	direct measurement/ observation/system monitor observation
	(2) vacuum level outside of the range specified in G-70-165 for more than fifteen (15) seconds (Approval Letter 97-20), measured while dispensing is occurring *	direct measurement/ observation/system monitor observation
	(3) product dispensed when the vapor return line valve is closed	direct measurement/ observation/TP201.5

* When the identified defect is detected in the listed equipment, the defect determination applies to all affected interrelated systems (which may include all systems at the motor vehicle fueling operation).

Defect Identification Methods Used in the Verification Procedure Column

1. TP201.5: Determination (by Volume Meter) of Air to Liquid (A/L) Volume Ratio of Vapor Recovery Systems of Dispensing Facilities, Adopted April 12, 1996

2. TP201.4: Determination of Dynamic Pressure Performance of Vapor Recovery Systems of Dispensing Facilities

3. TP201.3: Determination of Two-Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities

4. GDF-01: Bag Test for Multi-Nozzle Vacuum Assist Systems

~~5. GDF-03: Pressure Integrity Performance Verification for Vacuum Assist Systems [Squeeze Bulb Test]~~

~~6~~5. Method 9: 40 Code Federal Regulations Part 60 Appendix A: Reference Method 9/ EPA Section 3.12 Visible Determination of the Opacity of Emissions from Stationary Sources

~~7~~6. G-70-186-187 Exhibit 5: Fillneck Vapor Pressure Regulation Fueling Test

~~8~~7. EPO No. 26-F-1: Vapor Recovery Systems Field Compliance Testing

~~9~~8. Storage Tank Pressure Device: described and shown in TSD Appendix 6

9. GDF-02: Bag Test for Single-Nozzle Vacuum Assist Systems

10. GDF-09: Phase II Balance System Nozzle Insertion Interlock Operation Determination