State of California

AIR RESOURCES BOARD

Executive Order G-70-49

Relating to the Certification of the
Union Oil Balance Phase II
Vapor Recovery System

Pursuant to the authority vested in the Air Resources Board (ARB) by Health and Safety Code Section 41954; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516;

IT IS ORDERED AND RESOLVED: That the Union Oil balance Phase II vapor collection and disposal system is hereby certified to be at least 95% effective in the self-serve and/or attendant use at gasoline service stations in conjunction with Phase I vapor recovery systems which have been certified by the Air Resources Board. The system is described in Exhibits 1 and 2, attached hereto.

IT IS FURTHER ORDERED AND RESOLVED: That compliance with the applicable certification requirements and rules and regulations of the Division of Measurement Standards, the State Fire Marshal's Office, and the Division of Industrial Safety of the Department of Industrial Relations is made a condition of this certification.

IT IS FURTHER ORDERED AND RESOLVED: That the system certified hereby shall perform in actual use with the same effectiveness as the certification test system. Compliance with the applicable performance criterion shall be a condition of this certification, and failure to meet this criterion shall constitute grounds for revocation, suspension, or modification of this certification.

IT IS FURTHER ORDERED AND RESOLVED: That any alteration to the equipment, parts, design, or operation of the system certified hereby, is prohibited, and deemed inconsistent with this certification, unless such alteration has been approved by the undersigned.

IT IS FURTHER ORDERED AND RESOLVED: That the Emco Wheaton A3003 nozzles shall be 100 percent performance checked at the factory including checks of proper functioning of all automatic shut-off mechanisms.

IT IS FURTHER ORDERED AND RESOLVED: That during installation of the Emco Wheaton A3003 nozzles they shall be performance tested for ability to dispense gasoline without difficulty in the presence of the station manager or other responsible individual. The station manager, owner or operator shall also be provided with instructions on the proper use of the nozzles, their repair and maintenance, and where nozzle replacements and nozzle components can be readily obtained. A copy of the nozzle warranty shall be made available to the station manager, owner or operator.

IT IS FURTHER ORDERED AND RESOLVED: That in order for vapor return hoses longer than specified in this certification to be used the system shall incorporate a liquid blockage detector which is acceptable to the undersigned.

Executed in Sacramento, California this 31st day of October, 1979.

Thomas C. Austin
Executive Officer

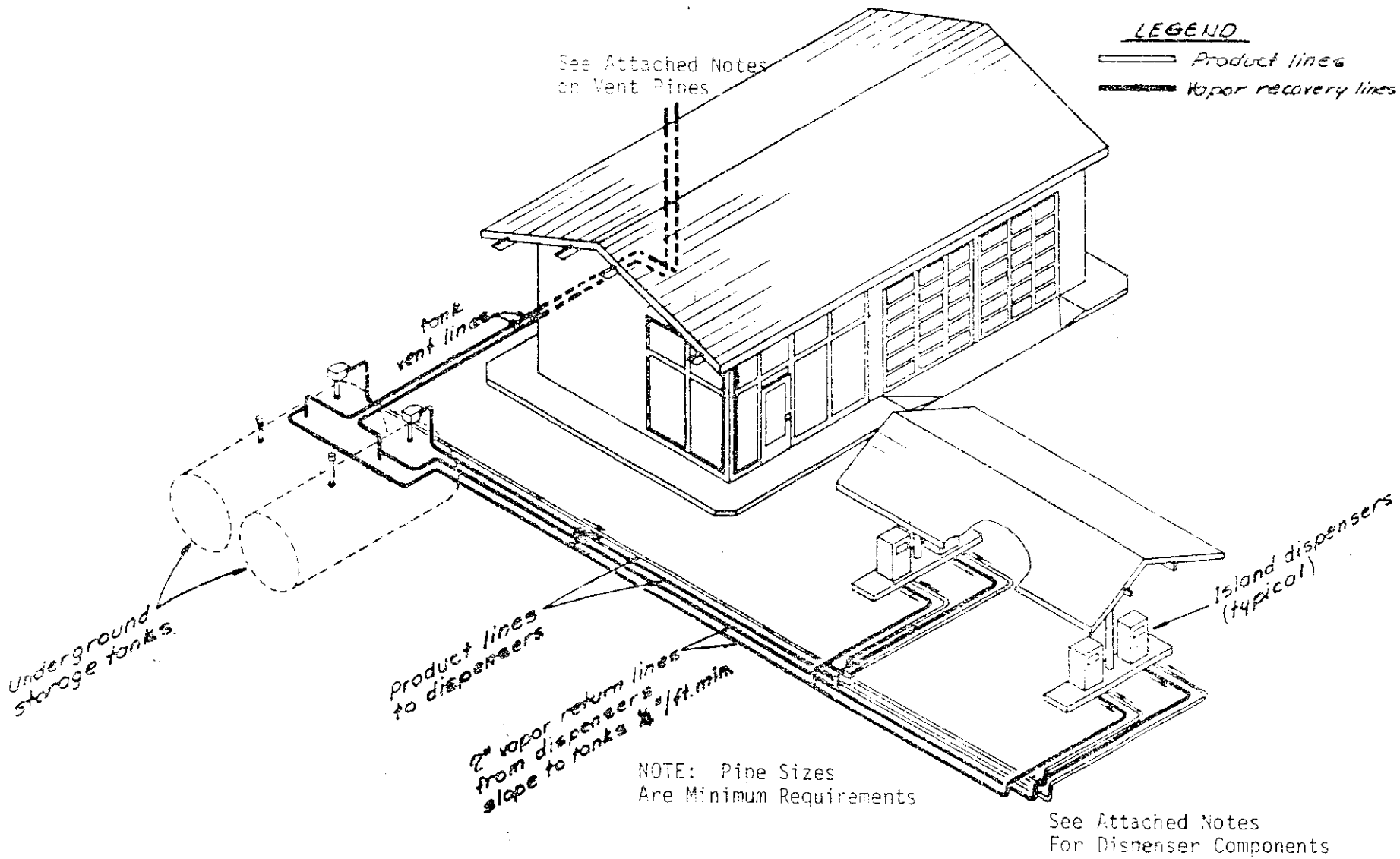

Exhibit 1
Executive Order G-70-49
Union Oil Balance Phase II
Vapor Recovery System

EXHIBIT 2

Executive Order G-70-49
Union Oil Phase II Balance
Vapor Recovery System
Component List

Item	Manufacturer and Model	State Fire Marshal Identification Number	Substitute Equipment: Manufacturer and Model	Substitute Equipment: State Fire Marshal Identification Number
1. Nozzle	Emco Wheaton A3003 (Extended Spout, Large Diaphram) Vapor Recovery Nozzle (Unleaded)	GVRC 001:007:5		
	Emco Wheaton A3003 (Short Spout, Large Diaphram) Vapor Recovery Nozzle (leaded)			
2. Vapor Hose	3/4 in. ID by 8 ft.		5/8 in. ID by 8 ft.	
3. Riser	3/4 in. or larger dimeter Galvanized Pipe			
4. Swivels				
a. Nozzle	State Fire Marshal Approved 0.495 in. ID minimum			
b. Island	State Fire Marshal Approved. 0.495 in. ID minimum			
5. Flow Limiter	Emco Wheaton A-10	GVRC 001:007:1		
6. Recirculation Trap	Emco Wheaton A008-001	GVRC 001:007:4	OPW 78, 78-S, 78-E, or 78-ES	GVRC 001:008:13

Maximum Pressure Drop Through the System*
(Includes Nozzle, Vapor Hose, Swivels, Recirculation Trap, and Underground Piping)

Flow (CFH)	Δ("H_2O)
20	less than 0.15
60	less than 0.45
100	less than 0.95

*Pressure drop test to be conducted with drybreak to underground tank open.

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Notes to Accompany Exhibits 1 and 2

1. Vent pipes shall be adequately supported throughout their length and when they are supporting weights in addition to their own, additional supports may be required - anchor to building or other structure.

2. Tank vent pipes two inches or less in nominal inside diameter shall not be obstructed by any device unless the tank and its associated piping & other equipment is protected to limit back pressure development to less than the maximum working pressure of the tank, piping and other equipment by the installation of an approved pressure/vacuum vent, rupture disc or other venting devices installed in the tank vent pipes.

3. Tank vent pipes shall terminate into the open atmosphere and shall be not less than 12 feet above the adjacent ground level. The outlet shall vent upward or horizontally and be located to eliminate the possiblity of vapors accumulating or traveling to a source of ignition or entering adjacent buildings.

4. All vapor return and vent piping shall be provided with swing joints at the base of the riser to each dispensing unit, at each tank connection, and at the base of the vent riser where it fastens to a building or other structure. When a swing joint is used in a riser containing a shear section the riser must be rigidly supported.

5. Each vapor hose shall be located such that the center line of the hose fitting, at the recirculation trap (if externally mounted) or at the dispenser cabinet swivel mounting (if trap is internally mounted), is not more than 3-1/2 inches above the top surface of the island and is as close as possible to the top surface of the island.

6. For dispenser islands greater than 5 feet in width, each vapor hose length shall not be longer than the sum of one-half the dispenser island width, in feet, plus 6 feet.

7. State Fire Marshal approved swivels (and offsets if necessary) for this system shall be selected and installed on hoses to prevent hose kinking.

8. Product hoses one foot or more longer than the vapor hose shall be installed at each dispenser to provide for full extension of the vapor return hose.

9. If any OPW 78 series recirculation trap is internally mounted in any dispenser, the top of the recirculation trap shall not be higher than the top surface of the dispenser island and a vapor recovery piping shear section which meets State Fire Marshal requirements shall be installed.

10. Dual dispensers shall have a separate recirculation trap for each nozzle.