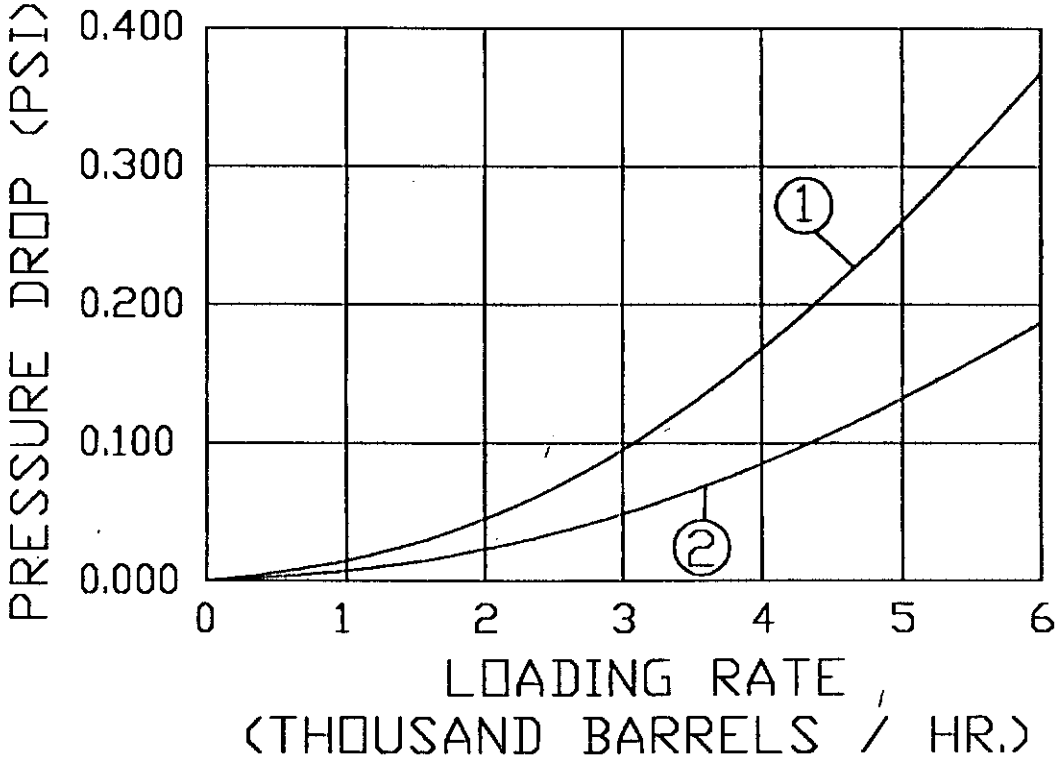
LEGEND

① FARTHEST TANK TO P/V VALVE

② FARTHEST TANK TO PRESENTATION FLANGE



NOTES:

PRESSURE DROP CURVES DRAWN FOR CARGO VAPOR SPECIFIC GRAVITY OF 6.0

50% CARGO VAPOR / AIR MIXTURE

GROWTH RATE ASSUMED TO BE 1.25

P/V VALVE SET AT 1.5 PSI

Marine Safety Center Vapor Control System (VCS) Plan Review Information Sheet (PRIS) for Previously Approved VCS's

Vessel Name	**CBC 110 thru 114, 118 & 119**	**Shipyard**	**Firstwave Newpark**
Official Number	**0**	**Hull Number**	**117 thru 121, 125 & 126**

1. This sheet consolidates critical VCS parameters for MSC Staff Engineers and CG Field Inspectors dealing with Vapor Control Systems. CG Inspectors should verify the vessel's VCS design is consistent with the information listed in boxes 2, 7, 8 & 9 prior to updating the vapor control endorsement on the vessel's Certificate of Inspection. For cases where the information in the VCS PRIS does not reflect the vessel's design the CG Inspector should contact the MSC's Cargo Authority branch.

2. Tank Maximum Design Working Pressure: 3.00 psig — **Raised Trunk** ☐ **Flush Deck** ☒

3. Authorized Maximum Cargo Transfer Rate: 5000 bbl/hr

4. Authorized Maximum Cargo Density: 0.263 lbm/ft^3

5. Cargo(es) with the highest vapor density and/or pressure drop:
Gasoline

6. VCS Categories Authorized in Updated List:

Category 1	X	Category 3	X	Category 5	☐	Category 7	☐
Category 2	X	Category 4	X	Category 6	☐		

7. Pressure Vacuum Valve:

Manufacturer	**Bergan - HV-4 (KLPH Series)**
Size	**4 Inch**
CG Approval	**Yes**

Settings in psig:

Pressure-side	1.5
Vacuum-side	0.5

8. VCS Pipe Sizes:

Approx. Inside Diameter	
Longitudinal Header (inches)	8
Transverse Header (Inches)	8

8. Tank Overfill Protection System (check appropriate box or boxes)

a. High Level/Tank Overfill Alarm	☐	Type	N/A		
b. Overfill Control Shutdown	☒	Type	Unknown		
c. Spill Valve	☐	Type	N/A	Meets ASTM F1271	**Setting in psig**
d. Rupture Disk	☐	Type	N/A		**N/A**

9. Closed Gauging: Verify the vessel has closed gauging that satisfies 46 CFR 39.20-3 and 151.15-10(c).

10. Instructions/Guidelines for the OCMI:

9a. The following is an example of a typical VCS COI endorsement:

"Only those cargoes named in the vessel's Cargo Authority Attachment, Serial #C2-0202169, dated 05 Jul 02, may be carried and then only in the tanks indicated. In accordance with 46 CFR Part 39, excluding part 39.40, this vessel's vapor control system has been inspected to the plans approved by Marine Safety Center letters Serial # C2-9904859 dated 11 Aug 99 and Serial #C2-0202169, dated 05 Jul 02, and found acceptable for collection of bulk liquid cargo vapors annotated with "Yes" in the CAA's VCS column."

9b. The Marine Safety Center approval letter/s must be available at the OCMI's request.

9c. Previous applicable VCS approval letters: C2-9904859 dtd 08/11/99

VCS Approval Letter: C2-0202169 — MSC Plan Reviewer: LT Patrick Hilbert