

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commandant  
United States Coast Guard

2703 Martin Luther King Jr. Ave, S.E.  
STOP 7509  
Washington, DC 20593-7509  
Staff Symbol: CG-ENG  
Phone: (202) 372-1412  
Fax: (202) 372-8380

16715  
CG-ENG Policy Letter  
No. 01-15

23 FEB 2015

From: J. W. Mauger, CAPT  
COMDT (CG-ENG)

To: Distribution

Subj: INTERIM GUIDANCE FOR REGULATED FACILITIES FOR THE REVIEW AND  
APPROVAL OF MOBILE VAPOR CONTROL SYSTEMS

Ref: (a) Title 33 of the Code of Federal Regulations (33 CFR) Part 154 – Facilities  
Transferring Oil or Hazardous Materials in Bulk  
(b) Final Rule: Marine Vapor Control Systems, published in the Federal Register,  
16JUL2013  
(c) Certifying Entity Guidelines for Conducting a Review, Certification and Initial  
Inspection of Waterside Facility Vapor Control Systems, Change (1), dated 4  
October 1991

Purpose. This policy letter provides interim guidance to Coast Guard Captains of the Port (COTPs) to assist in the assessment of equivalency requests from regulated facilities to use mobile or portable vapor control systems (VCSs) in lieu of fixed VCSs. All requirements as set forth in Title 33 of the Code of Federal Regulations (33 CFR) Part 154 – Facilities Transferring Oil or Hazardous Materials in Bulk (reference (a)) and the updated regulations published in the Federal Register (reference (b)) apply to mobile VCSs and portable elements of a VCS. For the purposes of this letter, the term “mobile” generally refers to a marine vapor control system being mounted on a truck or trailer chassis while in use and “portable” generally refers to a marine vapor control system being mounted on skids while in use. Mobile or portable facility VCSs can include, but are not limited to: a skid mounted dock safety unit (DSU), a truck mounted vapor combustion unit, also referred to as a vapor destruction unit (VDU) or vapor collection unit (VCU), vapor recovery unit, or vapor balancing system.

1. Directives Affected. None.
2. Applicability. This policy letter applies to:
  - a. Each land-based portable or mobile element of a marine vapor control system that connects to or from a vessel.

23 FEB 2015

- b. Each land-based portable or mobile element of a marine vapor control system that connects to a facility used or capable of being used to conduct cleaning operations on a tank barge.
- c. Each land-based portable or mobile element of a marine vapor control system that is used in salvage or emergency operations.
- d. This policy letter does not apply to multi-breasted barge tandem loading operations under vapor control.

3. Action.

- a. COTPs should use this guidance when evaluating requests to operate mobile or portable vapor control systems and associated equipment at a facility. All vapor control systems and associated equipment, portable or fixed, must be designed, installed, and operated in accordance with 33 CFR 154 subpart P. Alternative compliance requests must demonstrate that the alternative provides an equivalent level of safety and protection per 33 CFR part 154.107(a)(1-3).
- b. Commandant (CG-ENG-5) will continue to consider exemption requests on a case-by-case basis.

4. Background.

- a. In accordance with 33 CFR 154.107, COTPs have received requests from industry for approval of alternative procedures, methods, and equipment standards on mobile and portable VCS systems. Common issues and interpretations include the following:
  - i. Portions of industry have interpreted the omission of the terms “mobile” and “portable” from 33 CFR 154 as meaning that mobile VCSs do not have to comply with the regulations in 33 CFR 154. However, all regulations within 33 CFR part 154 apply to mobile or portable VCSs, and any elements of a mobile or portable VCS. Any mobile VCS that cannot meet all of the requirements in 33 CFR part 154 must apply for an alternative compliance request from their COTP or an exemption waiver from the Commandant.
  - ii. Requests have been submitted to use the vessel’s VCS equipment and piping during transfer operations instead of the regulated facility’s VCS setup. The intent is to connect their portable vapor destruction unit to the vessel’s VCS to collect vapors and to use their personnel to monitor the equipment and operations. This does not offer the same fire, explosion, and detonation protection installed at the facility and required by 33 CFR 154 subpart P. Arrangements which use vessel equipment to meet facility requirements are not permitted.

23 FEB 2015

- iii. Requests have been submitted to replace required equipment or design installation with personnel monitoring radio communications. Please refer to Paragraph 5.c.iv.
  - iv. Companies state that a Certifying Entity (CE) certification is not necessary because mobile VCSs are not specifically named in references (a)-(c). Please refer to Paragraph 5.c.i.
- b. Increased used of mobile and portable VCS resulted in numerous clarification requests from industry representatives. This motivated the Coast Guard to seek assistance from the advisory committees TSAC and CTAC. The finalized recommendations from industry, completed in April 2014, clarified standards for the safe design, installation, and operation of mobile and portable vapor control systems. This policy letter aims to incorporate these changes and guide COTPs in analyzing industry alternative requests.
5. Discussion.
- a. Definition: 33 CFR part 154.2001 defines a VCS as an arrangement of piping and equipment used to control vapor emissions collected from a vessel and includes the vapor collection system and vapor processing unit. See 33 CFR part 154.2001 for additional VCS definitions.  
  
Mobile and portable VCS refers to any land-based marine vapor control system (VCS) designed to be deployed to a facility. This includes:
    - i. mobile vapor destruction units,
    - ii. portable dock safety skids,
    - iii. vapor recovery units, and
    - iv. vapor balancing systems
  - b. VCS - installed vs. temporary: 33 CFR part 154.2000(a)(1) specifies that 33 CFR part 154 subpart P applies to each facility which controls vapors emitted to or from vessel cargo tanks regardless of transportable status. The regulation does not distinguish a mobile or portable system or element from a permanently installed and fixed VCS. Therefore, 33 CFR part 154 applies to all VCSs, including all elements of a VCS, mobile or fixed.
  - c. Alternatives: In accordance with, 33 CFR part 154.107 a COTP can approve alternative compliance requests that provide an equivalent level of safety and protection. The following conditions apply to proposed alternatives.

23 FEB 2015

- i. Certification by a Certifying Entity (CE): Any alternative, where equipment required by the regulations is replaced by equipment that differs from the regulations but has the same purpose, must be recertified by a Coast Guard approved CE (reference (c)). In the case where portable equipment is attached to an existing fixed VCS, a CE must certify that the portable equipment and its installation comply with the requirements of 33 CFR part 154 subpart P.
- ii. The Coast Guard recognizes that portable equipment (namely Vapor Destruction Units, or VDUs) may not meet all regulatory requirements within subpart P. Therefore, a CE certification is not possible for those systems. CG-ENG-5 strongly recommends that COTPs require the owner/operator to complete a failure analysis or comprehensive safety assessment of the portable equipment including: VDUs, mobile or portable VCS, and/or a combination of fixed and mobile and portable components. The system-specific qualitative failure analysis should be completed in accordance with the American Institute of Chemical Engineers publication, "Guidance for Hazard Evaluation Procedures." The results must be submitted to the COTP for review and discussion.
- iii. Site certification and equipment certification: The Coast Guard recognizes that mobile and portable VCSs can be moved from site to site and from facility to facility. Rather than requiring a CE to certify each mobile or portable unit at each site, a two-step solution may be implemented:
  - (i) The total VCS unit can be viewed as two pieces:
    - a. Mobile unit. The mobile unit is certified to operate within a specified range of tested and verified operating conditions. These conditions must be met for any site where a unit will operate. Only one unit would have to be certified for any series of identical units. Additionally, each unit would have to be tested to verify that it can meet the entire range of operating conditions while units constructed as the same model can all operate under the same certification. As part of the certification procedure, the CE should document and provide the testing procedures for subsequent identical units.
    - b. Site. Each site should be certified for a certain range of operating conditions. Each site needs an initial certification, with recertification necessary if significant changes are made.
  - (ii) When a site requires a mobile VCS unit, any mobile unit certified for the site's operating conditions can be used. Conversely, a mobile unit can deploy to any site whose operating conditions match its certification.

23 FEB 2015

- (iii) It is imperative that the range of certified operating conditions from the site fall within the certified operating conditions of the mobile unit.
  - (iv) The pre-startup checklist must be completed and reviewed by the facility, equipment and vessel operators before transfer operations can take place.
  - (v) The mobile and portable VCSs may have equipment that requires repeated, routine assembly and disassembly. At the certification of the mobile unit, the CE should determine the level of oversight that the assembly process will require depending upon the degree of assembly needed. Similar to 33 CFR 154.2023, the CE should determine if the assembly would qualify as a design or configuration alteration. This assessment will establish the degree of oversight required. For mobile or portable units with limited assembly, a checklist or verification by a qualified individual may be acceptable. For example, mobile unit/site combinations that merely require the same connections as fixed VCS sites would not need any extra oversight beyond that for a fixed VCS. A higher level of oversight would be required for a mobile unit/site combination that requires additional connections beyond what is typical of a standard fixed VCS site. The approved alternative connections of the mobile or portable unit to the site must be as safe as the fixed VCS facility connections.
- iv. Design installation and operations: Under 33 CFR 154.2100(a), every VCS is required to have three levels of protection: design and installation, protection system designs, and operational requirements. A mobile or portable system or element submitted for approval must have an equivalent level of safety and protection. An operational measure cannot replace a protection system design, i.e. remote indicators, overfill protection panels and alarms, and/or pressure sensing devices, cannot be replaced with personnel monitoring radio communications. Requests for alternative compliance approvals must be submitted to the local COTP.
- d. Exemptions: Any exemptions to 33 CFR part 154 must be forwarded to CG-ENG-5, in accordance with 33 CFR part 154.108.
- i. Vessel VCS vs. Facility VCS: As required by 33 U.S.C 1231, Coast Guard VCS regulations place the responsibility of protecting tank vessels from overfill hazards, overpressure and over vacuum hazards, and fire, explosion, and detonation hazards on the facility instead of on the vessel. As stated in 5.c.iv a substitution of operational methods for required equipment to affect the control of vapors is not authorized. Automatic alarms and shutdowns, pressure sensing devices, inerting, enriching, and diluting systems provide operators real-time indications to ensure that the tank vessel is protected from any issues on the facility side. Any alterations to design, construction or equipment on the facility side should be replaced with an equivalent method or measure.

23 FEB 2015

- ii. The piping and fitting requirements in 33 CFR 154.2100(b) may be difficult to meet for the interconnection between each portable or mobile component of the VCS. If vapor piping is used, it must comply with the regulations within 33 CFR 154.2100(b). Nonmetallic/metallic hose may be used for the connections between each component provided each section of nonmetallic/metallic hose meets the requirements in 33 CFR 154.500. When nonmetallic/metallic hoses are used in a mobile or portable VCS, the following safety guidelines must be followed:
  - (i) Vehicular traffic may not be allowed within 25 feet of any hose section.
  - (ii) Hoses must be properly supported and without damage.
  - (iii) All hoses must be color coded to identify them as vapor recovery components with proper red and yellow markings, in accordance with 33 CFR 156.170.
  - (iv) Traffic cones or other high visibility markers shall be used to identify the location of the hoses.
- e. Training: Training to set up, operate, and disassemble the mobile or portable VCSs must be in accordance with 33 CFR 154.2030 and 33 CFR 154.710.
  - i. Equipment owners who provide and keep trained operators with the portable units at facilities must ensure that all operators have completed company and equipment specific training, as well as the training requirements in 33 CFR 154.710 and .2030.
  - ii. Companies that have portable systems that they lease to a facility must provide a trainer versed in the regulations and the equipment to train and qualify the facility user. The training must cover all elements within 33 CFR 154.710 and .2030 for the equipment and must include three movements<sup>1</sup>/transfers between a vessel and the portable or mobile units. A certifying entity must observe the first loading movement. Once the user has been qualified and completed three successful movements, he/she can then train additional facility employees. The qualified users should be re-qualified once every three years by the equipment owner, with the scope of re-testing to encompass 33 CFR 154.710(c)-(d).
- f. Allotted period of use: There is no restriction on the duration of use of mobile VCSs provided the mobile VCS has undergone review and approval by a CE. The local COTP can inspect the mobile VCS at a frequency they deem adequate.

---

<sup>1</sup> A movement consists of the initial setup of equipment, communication between vessel and facility parties to complete the Declaration of Inspection, all requirements listed in 33 CFR 156.120, transfer of cargo, shutdown procedures, and disassembling of equipment.

23 FEB 2015

- g. Emergency situations: In the event of an emergency situation requiring the use of mobile or portable VCSs, owners/operators must contact the local COTP to address additional safety concerns. Because the units are pre-certified for use, the only requirements would be CE certification of the site (if it has not been previously conducted) and the completed pre-startup checklist. Special consideration needs to be given for emergency operating conditions (i.e. distance of hoses, seal pots operating on unstable surface, etc.) by the CE. In the event that ICP has been established, the operations section chief needs to approve the operational procedures and set-up.
  - h. Security Requirements: Facility operators adding a mobile VCS or a portable element to an existing fixed VCS system should review their Facility Security Assessment and propose any appropriate amendments to their Facility Security Plan to the COTP.
  - i. Enforcement: If a VCS is discovered to be in use with a mobile component that has not been reviewed by a CE, the COTP can exercise authority under 33 CFR part 154.700 to suspend or otherwise control facility operations until satisfied that the configuration does not compromise the facility or port's safety.
  - j. Policy promulgation: This policy letter is intended for interim guidance only. The Coast Guard fully recognizes the need to facilitate commerce, as well as the final authority of COTPs for approving alternative requests.
6. Disclaimer. While the guidance contained in this document may assist the industry, public, Coast Guard, and other Federal and State regulators in applying statutory and regulatory requirements, the guidance is not a substitute for applicable legal requirements nor is it a regulation itself. Thus, it is not intended to, nor does it impose legally binding requirements on, any party outside the Coast Guard.
7. Changes. This policy letter will be posted on the web at <http://www.uscg.mil/hq/cg5/cg521/>. Changes to this policy will be issued as necessary. Suggestions for improvements of this policy should be submitted in writing to this office.

#

Enclosure: (1) Mobile or Portable VCS Pre-Startup Checklist

Dist: COMDT (CG-FAC)  
COMDT (CG-OES)  
CG MSC, Tank Vessel and Offshore Division  
All Sectors/MSUs/MSDs (p) (r) (cc)

23 FEB 2015

**Enclosure (1) to CG-ENG Policy Letter 01-15  
Mobile or Portable VCS Pre-Startup Checklist**

Company Name	System/Location:	Procedure No. <b>PENDING</b>		
		Revision No:	Revision Date:	Page: <b>1 of 2</b>
<b>Mobile or Portable Vapor Control System (VCS) Pre-Startup Checklist</b>				

**Purpose:** For the purpose of this checklist, the term “mobile” generally refers to a marine vapor control system being mounted on a truck or trailer chassis while in use and “portable” generally refers to being mounted on skids while in use. All requirements in 33 CFR, Part 154 apply to mobile and portable VCS. For more information, see USCG Interim guidance for the safe operation of mobile vapor control systems.

**Applicability:** This checklist applies and must be completed by owner/operator of:

- i. Each land-based portable or mobile element of a marine vapor control system that connects to or from a vessel.
- ii. Each portable or mobile element of a marine vapor control system that connects to a facility used or capable of being used to conduct cleaning operations on a tank barge.
- iii. Each portable or mobile element of a marine vapor control system that is used in salvage or emergency operations.

Note: This does not apply to multi-breasted barge tandem loading operations under vapor control.

Additional requirements may also apply for salvage or emergency situations as directed by local Captain of the Port (COTP) and Certifying Entity (CE).



23 FEB 2015

<b>Mobile or Portable VCS Pre-Startup Checklist</b>		
<b>TIME:</b>	<b>VESSEL NAME / NUMBER:</b>	<b>TANK NUMBER:</b>
<b>DATE:</b>	<b>LOCATION:</b>	
Description	INITIAL	
1. Verify that location of Mobile or Portable Vapor Control System (PVCS) has been approved by USCG and Certifying Entity (CE).		
2. Verify the PVCS has been approved by USCG and CE for the site conditions.		
3. Verify that site and/or mobile (e.g. barge deck) conditions and location approval have been adhered to.		
4. Verify enrichment gas composition to ensure it is compatible with system components.		
5. Review VCS chemical approved lists (PVCS unit, vessel and fixed site, if applicable), certificate of inspection (COI), and last product transferred to ensure chemical compatibility.		
6. Verify that all equipment has been tested and inspected in accordance with 33 CFR, Part 154. This includes testing required by 33 CFR, Part 154.2150 for pressure sensors, alarms, automatic shutdown systems, analyzers, etc., required not more than 24 hours before each transfer.		
7. Verify that adequate containment is available (if necessary).		
8. Are insulating flanges being used? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Note: Verify that hoses/piping is electrically discontinuous.		
9. Verify that transfer is electrically continuous by conducting continuity test and ensure all equipment/components are adequately grounded and bonded.		
10. Verify that interface connection to liquid cargo valve has been tested (if present and being used).		
11. Verify that declaration of inspection (DOI) has been executed between facility and vessel personnel.		