

Texas Commission on Environmental Quality Marine Loading Collection Efficiency Guidance

Introduction

The Texas Commission on Environmental Quality (TCEQ) is revising its previous guidance regarding marine loading collection efficiencies for ocean-going marine vessels based upon ship testing data provided since 2016 in accordance with the applicable New Source Review (NSR) 12 permit requirements. After review of the data submitted, TCEQ has concluded that higher collection efficiencies are achieved with the identification and repair of leaks at the beginning of the loading cycle.

Based upon this information, TCEQ will now allow an applicant to represent a collection efficiency of 99.9 percent in an NSR authorization contingent upon acceptance of the special permit conditions identified below. Additionally, an applicant may also represent a 99.9 percent collection efficiency for sources authorized under Permit by Rule (PBR) provided the regulated entity certifies the registration and agrees to the additional monitoring, inspection, and recordkeeping requirements identified in the special conditions. Very large crude carriers (VLCCs) or ultra-large crude carriers (ULCCs) will require a case-by-case review.

Applicants that have accepted more stringent testing frequencies may revise their permits consistent with the adjusted requirements. This change to testing requirements can be accomplished by permit alteration.

The collection efficiency represented by the applicant is an enforceable representation and the TCEQ Regional Office may require tests to demonstrate compliance. Any test that results in a measured collection efficiency lower than the represented value will be considered as a violation of the permit and will be subject to possible enforcement action. For Title V sources, non-compliant tests must be reported as permit deviations. Regulated entities that accept the revised permit conditions but choose to represent a lower collection efficiency (99.0 – 99.89%) may do so.

Lower emissions calculated by using a higher assumed collection efficiency are considered to be a change in the calculation method. They are not credible emissions reductions and may not be used in netting calculations.

Special Conditions (99.9%)

1. The following additional requirements apply to load of a volatile organic compound (VOC) which has a vapor pressure equal to or greater than 0.5 pounds per square inch absolute (psia) under actual storage conditions onto inerted marine vessels (ships).
 - A. Before loading, the owner or operator of the marine terminal shall verify that the marine vessel has passed an annual vapor tightness test as specified in 40 CFR §63.565(c) (September 19, 1995) or 40 CFR §61.304(f) (October 17, 2000) within the previous twelve months, and received a recent, completed Standard Tanker Chartering Questionnaire form (Q88) or equivalent
 - B. The pressure at the vapor collection connection of an inerted marine vessel must be maintained such that the pressure in a vessel's cargo tanks do not go below 0.2 pounds per square inch gauge (psig) or exceed 80% of the lowest setting of any of the vessel's pressure relief valves. The lowest vessel cargo tank or vent header pressure relief valve setting for the vessel being loaded shall be recorded. Pressure

shall be continuously monitored while the vessel is being loaded. Pressure shall be recorded at fifteen-minute intervals.

- C. VOC loading rates shall be recorded during loading. The loading rate must not exceed the maximum permitted loading rate.
- D. During loading, the owner or operator of the marine terminal or of the marine vessel shall conduct audio, olfactory, and visual checks for leaks within the first hour of loading and once every 8 hours thereafter for on-shore equipment and onboard the ship.
 - (1) If a liquid leak is detected during loading and cannot be repaired immediately (for example, by tightening a bolt or packing gland), then the loading operation shall cease until the leak is repaired.
 - (2) If a vapor leak is detected by sight, sound, smell, or hydrocarbon gas analyzer during the loading operation, then a "first attempt" shall be made to repair the leak. Loading operations need not be ceased if the first attempt to repair the leak is not successfully provided that the first attempt effort is documented by the owner or operator of the marine vessel and a copy of the repair log is made available to a representative of the marine terminal.
 - (3) If the attempt to repair the leak is not successful and loading continues, emissions from the loading operation for that ship shall be calculated assuming a collection efficiency of 99%.
 - (4) An optical gas imaging instrument as defined in 30 TAC 115.358 may be used in addition to the audio, olfactory, and visual checks to identify leaks. [If requested by the regulated entity and approved by TCEQ in the permit review, the Optical Gas Imaging (OGI) instrument may be used instead of the audio, olfactory, and visual checks. The applicant requesting the use of the OGI instrument must include a proposed protocol for the OGI. The protocol must include identification of the materials to be loaded, confirmation that the OGI instrument to be used will be sensitive to those materials, and calibration procedures to ensure that leaks will be detected.]

The date and time of each inspection shall be noted in the operator's log or equivalent. Records shall be maintained at the plant site of all repairs and replacements made due to leaks. These records shall be made available to representatives of the Texas Commission on Environmental Quality upon request.