

July 31, 2012

**UNITED STATES COAST GUARD AND UNITED STATES ENVIRONMENTAL PROTECTION AGENCY MARPOL ANNEX VI REGULATION 3 PERMIT TERMS AND CONDITIONS TO SUPPORT THE EXEMPTION FROM MARPOL ANNEX VI REGULATION 14.4 FOR M/V MIDNIGHT SUN AND M/V NORTH STAR**

**A. Background**

Totem Ocean Trailer Express (TOTE), a U.S. flag Jones Act Carrier, has requested the United States Government (USG) to issue a permit for a ship emission reduction and control technology research project pursuant to the Act to Prevent Pollution from Ships, 33 U.S.C. §§ 1905-1915 (the "APPS") and Regulation 3 of MARPOL Annex VI. This trial program applies to the U.S. flag, RO/RO cargo vessels MIDNIGHT SUN (ON 1128203, IMO 9232278) and NORTH STAR (ON 1139532, IMO 9232280) (the "Vessels"). This trial program consists of 1) developing and retrofitting advanced liquefied natural gas (LNG) conversion kits and fuel system modifications for each of six marine diesel engines ("the engines") installed on each of the Vessels that operate between Tacoma, WA, and Anchorage, Alaska; 2) assisting in the development of LNG refueling facilities and procedures for the Vessels in the Puget Sound region; and 3) assisting in the development of alternative power generation and use procedures for the Vessels in Anchorage, AK.

This Regulation 3 permit, issued pursuant to the APPS, consists of a temporary exemption through September 30, 2016, of the fuel sulfur content requirements that would otherwise apply to these Vessels during that period while operating in those portions of the North American Emission Control Area (ECA) described below, subject to the conditions of this permit. This temporary exemption will promote the development and use of low-polluting LNG engine technology by obviating the need for vessel and fuel system modifications that would be necessary to comply with the ECA fuel sulfur limits during the period between the effective dates of those fuel sulfur limits currently scheduled to go into effect on August 1, 2012 and September 30, 2016 when all of the retrofit engines are expected to be in operation. These include engine and fuel system modifications that could impede the LNG development project. Although this permit will result in a near term emission increase, the LNG-converted ships will achieve sulfur reductions more than 95 percent below that required by the 2015 fuel sulfur standards. In addition, with the use of shore power and equivalent power generation measures, TOTE will achieve emission reductions in the Port of Tacoma and Port of Anchorage greater than would be achieved by the fuel sulfur standards alone.

The technology development program that is the subject of this permit will also provide important information with respect to the development and application of advanced sulfur control technologies for other marine engines. Specifically, the development of these LNG conversion kits for the MAN engines and the fuel storage and delivery systems on the TOTE vessels is expected to promote the use of these systems on other engines and vessels. In addition, this program will create an incentive for a local power company to install an LNG refueling facility in the Puget Sound region, which is a critical first step in developing an LNG infrastructure for multiple users in this region. The development of such an infrastructure should provide further incentives for expanded use of LNG on ships as well as drayage trucks and other cargo handling equipment, and the information gained will also be helpful to other ports as they investigate the

advantages and challenges of establishing shoreside LNG facilities for marine vessels and other mobile applications. Finally, the continued development of shoreside power options would be available to other ships that use these ports.

The United States government (USG) is today issuing a permit for a Regulation 3 exemption consistent with the following definitions and specified terms, subject to compliance by TOTE to the terms of the permit. The USG anticipates that the experience of TOTE through this permit will be useful to develop and evaluate the potential of LNG engine conversion as an advanced sulfur control technology. The exemption contained in this permit will expire no later than September 30, 2016.

This permit only provides for an exemption with respect to the fuel sulfur content requirements set forth in Annex VI Regulation 14.4; it otherwise neither amends nor repeals any other requirement or authority of any applicable provision of Annex VI or of law. Compliance with this permit shall be treated as compliance with MARPOL Annex VI Regulation 14.4.

## B. Definitions

Except as specified below, terms used in this permit shall have meanings as defined in the following documents, in the following order (i.e. if not found in the first document, the controlling document is the second):

The Act to Prevent Pollution from Ships, 33 U.S.C. §§1901 et. seq.

The International Convention for the Prevention of Pollution from Ships (MARPOL), Annex VI

The Clean Air Act, 42 U.S.C. Chapter 85

Area of Operation means the North Pacific Area, defined as the area northward from the northern border of the State of California, within U.S. regions, extending out to the boundary of the North American Emission Control Area (ECA).

TOTE means Totem Ocean Trailer Express, Inc. an Alaska corporation with U.S. flag Jones Act vessels operating between Tacoma, WA and Anchorage, AK.

Responsible Official means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation.

Conversion Period means the period of time commencing January 1, 2014 and terminating upon entry into regular commercial operation of the last engine on the Vessels and entry into operation of the necessary shoreside LNG refueling facility, during which period TOTE will be phasing in the installation of LNG conversion kits on the engines of the Vessels during regular commercial operations. Due to operational and safety considerations, it is understood by TOTE and the USG that the actual conversion activities will likely be performed between the months of May and September of each year during the Conversion Period.

## C. General

### 1. Termination.

- a. USG may revoke or modify this permit if at any point TOTE is not compliant with MARPOL Annex VI, including but not limited to the Regulation 3 trial program requirements and conditions herein. The requirements of MARPOL Annex VI Regulation 14 shall apply as of the date of the noncompliance which forms the basis for the revocation.



6. **Temporary IAPP or COI Documentation.** A copy of this permit, certified by USG, shall be affixed to the International Air Pollution Prevention (IAPP) certificate or Certificate of Inspection (COI) for each of the Vessels included in the LNG trial program for the purpose of compliance with the Regulation 14 fuel sulfur limits applicable in the North American ECA.
7. **Permanent IAPP Documentation.** No later than September 30, 2016, the IAPP or COI for each of the Vessels included in the LNG trial program will be revised to specify that the compliance strategy for the ECA fuel sulfur controls consists of the following:
  - a. The use of LNG fuel in each of six engines on the Vessel while the Vessel is operating in the North American ECA.
  - b. The use of shore power or, in the event shore power is unavailable due to a power outage or other reason, the use of ship-generated power using LNG or distillate fuel with sulfur content not to exceed 15 ppm while the Vessels are at berth in Tacoma, WA.
  - c. The use of ship-generated power using LNG or distillate fuel with sulfur content not to exceed 15 ppm while the Vessels are at berth in any other port in the North American ECA.

**D. Conditions of Permit - LNG Engine Development Program**

1. TOTE, working with its engine manufacturer, shall replace the small diesel generators ("ADGs") and develop or cause to be developed LNG conversion kits for each of the large diesel generators ("MDGs") installed on the following vessels:
  - a. **M.V. Midnight Sun:**
    - 4 MDGs: MAN 9L58/64  
Serial numbers: 1 110 237, 1 110 238, 1 110 239, 1 110 240
    - 2 ADGs: MAN 9L35/44 DF  
Serial numbers: TBD
  - b. **M.V. North Star:**
    - 4 MDGs: MAN 9L58/64  
Serial numbers: 1 110 241, 1 110 242, 1 110 243, 1 110 244
    - 2 ADGs: MAN 9L35/44 DF  
Serial numbers: TBD
2. The schedule for the installation, testing, type approval and entry into regular commercial operation of the LNG conversion kits for the engines on the Vessels will be set forth in the Initial Report as required by paragraph G.1.a. of this permit, and be consistent with the final contract executed between TOTE and its engine manufacturer. TOTE intends to phase in the engine replacements and conversions, with installation by the following dates:
  - a. **M.V. Midnight Sun**
    - i. ADG 1: September 30, 2014
    - ii. ADG 2: September 30, 2014
    - iii. MDG 3: September 30, 2015
    - iv. MDG 4: September 30, 2015
    - v. MDG 5: September 30, 2016
    - vi. MDG 6: September 30, 2016
  - b. **M.V. North Star**
    - i. ADG 1: September 30, 2014
    - ii. ADG 2: September 30, 2014
    - iii. MDG 3: September 30, 2015
    - iv. MDG 4: September 30, 2015
    - v. MDG 5: September 30, 2016
    - vi. MDG 6: September 30, 2016

The testing, type approval, and entry into regular commercial operation of the replacement and converted engines will be achieved within 60 days of completion of the installation.

3. Prior to the termination of the Conversion Period, fuel with sulfur content not more than 2.20% m/m (22,000 ppm) may be used in the engines while the Vessels are operating in the Area of Operation. As each engine enters into regular commercial operation during the Conversion Period, LNG shall be used in the relevant engine while the Vessel is operating in the Area of Operation, unless LNG fuel is unavailable or technical or safety consideration preclude its use.

#### E. LNG Refueling Facility Development Program

TOTE, working with Port Authorities in the Puget Sound region, shall promote reliable LNG refueling facilities for the Vessels. The refueling facilities will provide adequate LNG fuel to ensure that the necessary fuel is available following the Conversion Period.

#### F. Conditions of Permit - Shore Power Program

1. TOTE shall continue to use shore power in place of ship-generated power while at berth in Tacoma, WA.
2. TOTE shall use ship-generated power using either LNG or distillate fuel with a sulfur level no greater than 15 ppm while at berth in Anchorage, AK beginning no later than January 1, 2015. Such ship-generated power will result in sulfur emissions not in excess of mandated requirements.
3. Except where such use would conflict with Coast Guard Winter Guidelines (ice rules) in Cook Inlet, Alaska, TOTE agrees to continue to use the ship-generated power described in paragraph F.2. while at berth in Anchorage, AK.

#### G. Recordkeeping and Reporting

1. TOTE shall provide the following reports:
  - a. Initial Report: TOTE shall provide an initial report, within 45 days of the date of this permit, with the following information:
    - i. The schedule for development, installation, testing, type approval and entry into regular commercial operation for each of the engines described above, with detailed milestones.
    - ii. The schedule for establishing the LNG refueling facilities described above, with detailed milestones.
    - iii. The schedule for establishing utilization of alternative methods of power generation while the Vessels are at berth in Anchorage, AK as described in paragraph F.2, with detailed milestones.
  - b. Interim Reports: TOTE shall provide an interim report within 45 days after the end of each calendar quarter of each year with the following information:
    - i. A summary of progress toward achieving the milestones described in the initial report.
    - ii. Identification of any missed milestones and expected corrective action, including a description of how the milestone will be achieved before the end of the next reporting period.
    - iii. A description of any constraints that are expected to affect achievement of the milestones during the next period.
    - iv. Additional information regarding achievement of the conversion project, LNG refueling access, and alternative methods of power generation while the Vessels are at berth in Anchorage, AK over the remainder of the year (such as repairs or improvements).


- c. Final Report: TOTE shall provide a final report, within 45 days after the termination date of the permit, documenting the pilot project including the conversion projects, refueling facilities, and alternative methods of power generation while the Vessels are at berth. This report shall aggregate the information provided in the interim reports.
- d. Certification: Each report shall state that, based on information and belief formed after reasonable inquiry, the statements, and information in the document are true, accurate, and complete. Each report shall be signed by a responsible official.
- e. Recordkeeping: TOTE shall keep copies of the notifications, reports, and other submissions required under this Trial Program for at least five years after the date any report, notification, or submission is required to be created or submitted.
- f. Addresses. TOTE shall submit the above reports to the United States Government at the following addresses:


- i. Coast Guard

- Office of Commercial Vessel Compliance
    - Domestic Compliance Division
    - 2100 Second Street, S.W. STOP 7581
    - Washington, DC 20593
    - Phone: (202) 372-1224
    - Fax: (202) 372-1917
    - E-mail: CG-CVC-1@uscg.mil

- ii. Environmental Protection Agency

- Office of Transportation & Air Quality
    - Compliance Division
    - Phone: (202) 343-9755
    - E-mail: marine-eca@epa.gov

  
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Joseph A. Servidio, RDML  
Assistant Commandant for Prevention Policy  
U.S. Coast Guard

  
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Margo Tsirigotis Oge  
Director, Office of Transportation and Air Quality  
U.S. Environmental Protection Agency