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From: Commandant  
To: Distribution

Subj: ENHANCED SURVEYS ON TANK BARGES OVER 5,000 GT

Ref: (a) Navigation and Inspection Circular (NVIC) 2-97  
(b) 33 Code of Federal Regulations (CFR) part 157.430  
(c) IMO Resolution A.744 (18) Annex B

1. Reference (a) was developed to help marine inspectors enforce the regulations found in 33 CFR Subpart G – Interim Measures for Certain Tank Vessels Without Double Hulls Carrying Petroleum Oils. Within 33 CFR Subpart G, are found regulations for enhanced survey requirements on these vessels (reference (b)). This policy is intended to provide guidance to marine inspectors and vessel owners/operators on how to implement and conduct enhanced surveys on tank barges over 5,000 GT that are not double hulled.
2. Vessel owners/operators are required to initiate an enhanced survey at the next regularly scheduled drydock examination occurring on or after 27 November 1997. This program includes OVERSIGHT by the Coast Guard, an authorized classification society or a licensed professional engineer. The enhanced survey requires the use of either permanent staging, temporary staging, lifts or moveable platforms, boats/rafts or other equivalent means in order to conduct a close-up survey of all of the vessel's internal structural supports and plating.

3. Definitions:

**OVERALL SURVEY:** A survey intended to report on the overall condition of the hull structure and determine the extent of additional close-up surveys.

**CLOSE-UP SURVEY:** A survey where the details of structural components are within the close visual inspection range of the surveyor, i.e. preferably within reach of hand.

**REPRESENTATIVE TANKS:** Tanks which are expected to reflect the condition of other tanks of similar type and service and with similar corrosion prevention systems. When selecting representative tanks, type of service and repair history and identifiable critical and/or suspect areas should be considered.

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**SUSPECT AREAS:** Locations showing substantial corrosion and/or are considered by the surveyor to be prone to rapid wastage.

**INTERMEDIATE SURVEY:** An enhanced survey carried out either at the 2nd or 3rd annual survey or between these surveys.

**PERIODICAL SURVEY:** An enhanced survey conducted at intervals specified by the administration but not exceeding five years.

**ALTERNATIVE SURVEY:** Survey method designed by the vessel's owner/operator that is the equivalent to the enhanced surveys required by reference (b). An alternative survey method must be submitted to the OCMI at least 30 days prior to the survey.

**GOOD COATING CONDITION:** Condition with little or no spot rusting.

**FAIR COATING CONDITION:** Condition with local breakdown of coating at edges of stiffeners and weld connections and/or light rusting over 20% or more of areas under consideration, but less than as defined for POOR condition.

**POOR COATING CONDITION:** Condition with general breakdown of coating over 20% or more of areas or hard scale at 10% or more of areas under consideration.

**4. PRESURVEY:**

Upon notification of a single skin tank vessel arriving in port to conduct a scheduled drydock exam, the inspector shall determine whether the drydock exam falls at the 2nd/3rd year (intermediate survey) interval or at the 5 year (periodical survey) interval as this will determine the scope of the enhanced survey to be conducted. 33 CFR 157.430 provides guidance on when surveys are required.

The role of the Marine Inspector is to conduct oversight of the enhanced survey program. However, in all probability, the survey will be conducted at the same time as the Cargo Tank Internal Exam (CTI) so the marine inspector will be in the tanks and conducting an overall survey as part of the CTI and will be able to determine whether further close-up examination and gaugings are required. Prior to conducting the internal inspection, the inspector will determine whether an intermediate survey or periodical survey is required or an alternative survey provided by the owners/operators. If the enhanced survey was conducted without Coast Guard oversight the inspector will need to examine the required documentation and determine whether the survey was conducted properly. In such cases the enhanced survey will have to be certified by a class society surveyor, an authorized representative of the flag administration, or a professional engineer.

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For the close-up survey, one or more of the following means for access, acceptable to the surveyor, should be provided:

permanent staging and passages through structures

temporary staging and passages through structures  
lifts and moveable platforms

boats or rafts

other equivalent means

**5. ANNUAL SURVEY**

There is a requirement to conduct an annual enhanced survey. This survey is similar to an inspection for certification or a mid-period reinspection. Based on the results of the past periodical and intermediate enhanced surveys, an examination of ballast tanks may be needed. Where substantial corrosion is found, the extent of thickness measurements should be increased in accordance with Annex 4 of reference (c). Any marginal items noted must be entered in MISN for the next internal exam.

**6. INTERMEDIATE SURVEY**

The extent of the intermediate survey is based on the age of the vessel and falls into two categories: (1) vessels 5 years but not more than 10 years and (2) vessels more than 10 years of age. In addition to the requirements of the annual survey, an intermediate survey shall also include an examination of the cargo, crude oil washing, bunker, ballast, steam, VCS and vent piping as well as vent masts and headers. If there is any doubt as to the condition of the piping, the piping may be required to be pressure tested, gauged or both.

Vessels over 5 years and less than 10 years of age also require an overall survey of representative **ballast** tanks. Two or three ballast tanks should provide a good representative sample. If the inspection reveals no visible structural defects, the examination may be limited to verifying that the corrosion prevention system remains effective. Ballast tanks where coating is found to be in POOR condition and not renewed, where a coating has not been applied or where corrosion, or other defects are found should be examined at annual intervals. Thickness measurement should be taken as necessary.

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For vessels over 10 years old, all previously stated items should be inspected. In addition, an overall survey of at least two representative cargo tanks should be conducted. An overall survey of all tanks that are used for ballast shall be conducted. If no visible structural defects are detected, the survey may be limited to verifying that the corrosion prevention system remains effective.

A close-up survey is part of all intermediate surveys after the vessel has had two periodical surveys conducted. The extent of the close-up survey is established as follows:

**BALLAST TANKS:** Inspect all ballast tanks to the same extent as the second periodical survey.

**CARGO TANKS:** Inspect at least two cargo tanks that are also used as ballast tanks. The extent of the inspection should be based on the record of the previous periodical survey and repair history of the tanks. An inspection of at least one cargo tank is required after the third periodical survey.

The close-up survey may be extended and reduced as necessary in tanks where the coatings are found to be in GOOD condition. A written proposal to reduce the extent of the close-up survey may be submitted to the OCMI for consideration.

Thickness measurements should be carried out for areas found to be suspect at the previous periodical survey and where substantial corrosion is found. The extent of the thickness measurements should be increased in accordance with the requirements in Annex 4 reference (c). An MISN will be entered for marginal areas of thickness to be further examined at the next internal exam.

**7. PERIODICAL SURVEY**

The requirements of the annual survey should be carried out as well as an examination of the cargo, crude oil washing, bunker, ballast, steam and vent piping and VCS as well as vent masts and headers. If doubt as to the condition of the piping exists, the inspector may require it to be pressure tested, gauged or both. All cargo tanks, ballast tanks, pump-rooms, pipe tunnels, cofferdams and void spaces bounding cargo tanks, decks and outer hull should be examined and thickness measurements taken as deemed necessary. **Close-up surveys are required for periodical surveys.** Detailed requirements for conducting the close-up survey are found in reference (c), Annex 1. The surveyor shall consider the maintenance of the tanks being surveyed, the condition of the corrosion prevention system, past history of the tanks and whether tanks have structures with reduced scantlings in association with a corrosion prevention system approved by the administration. The inspector is not limited to just the areas specified in reference (b) or the areas targeted by the owner/operator's proposal.

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Conversely, for areas in tanks where the coatings are found to be in GOOD condition, the extent of the close-up survey may be reduced.

Thickness measurements are a required part of every periodical survey. Detailed requirements for conducting the thickness measurements can be found in Annex 2 of reference (c). Thickness measurements on transverse sections should be chosen where the largest reductions are suspected to occur or are revealed from deck plating measurements. In cases where two or three sections are to be measured, at least one should include a ballast tank within 0.5L amidships. Where tank coatings are in BAD condition and/or substantial corrosion is found, the extent of thickness measurements should be increased in accordance with the requirements of Annex 4 reference (c) or as specified in the planning document. Conversely, for areas in tanks where the coatings are found to be in GOOD condition, the extent of the thickness measurements may be reduced.

**NOTE:** In a ballast tank where a protective coating is found to be in POOR condition, or where a protective coating has not been applied, the tank in question should be examined at ANNUAL intervals to the same extent as a periodical survey.

Each periodical survey requires the vessel to be pressure tested. Detailed requirements for tank pressure testing can be found in Annex 3 reference (c). Cargo tank boundaries facing ballast tanks, void spaces, pipe tunnels, fuel oil tanks, pump-rooms or cofferdams will need to be tested. The integrity of the remaining cargo tanks may be verified by checkerboard testing. When conducting the test, the pressure should correspond to a water level to the top of the access hatches for cargo tanks or to the top of air pipes for ballast tanks.

8. The owner should maintain, on board the vessel, documentation of the enhanced surveys conducted. The documents required by reference (c) are to be kept on board for the life of the vessel. The document formats found in reference (c) should be used. If a company has an alternate documentation format, a table must be provided indicating the location of each item required by the format of reference (c). The survey report file should also be available in the owner's and the administration offices. Prior to the inspection, the inspector should review the documentation on board and use its contents as a basis for the survey.
9. Upon completion of an enhanced survey, the person(s) conducting the survey shall complete the following reports in a format similar to those prescribed in reference (c).
  - Reporting Principles (Annex 8)
  - Condition Evaluation Report (Annex 9)

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10. The inspector shall make an MISN entry in MSIS reflecting the completion of any enhanced survey. The entry shall include the type of survey conducted and what type of survey is required during the vessel's next inspection. Complete, thorough details of the survey must be captured on the narrative supplement in MSIS.

  
C. OELSCHLEGEL

By direction

Dist: All District (m) Offices  
All Marine Safety Offices