

26 April 2024

Good day

Dalrymple Bay Coal Terminal (DBCT) – Mooring Line & Vetting Requirements – Update Three

Further to the previous update on 03 May 2023, DBCT has now reached the implementation stage of the Phase Two Vetting Requirement Changes.

Since the last update, DBCT has had extensive positive engagement with industry relating to the specifics of the updated requirements. DBCT greatly appreciates this engagement and continues to use it to inform our approach to ensuring safe shipping operations whilst enhancing safety for all persons working on and around vessels at our terminal. As such there are a number of minor amendments to the vetting changes designed to ease the burden on vessel operators whilst maintaining the integrity of the safety-based benefits for all.

To facilitate these vetting changes, a revised Form *FM0104 Shipping Vetting Questionnaire Version 14* has been developed with additional questions contained to support the updated requirements. These changes will be incorporated in the online version of the form available on the DBCT P/L website from the implementation date on 30 April 2024.

As a reminder, the following changes for all vessels nominated have been in-force since May 2023:

Phase One

Vetting Requirement Changes

- Chafe protection required to be fitted on ships lines at fairleads/chocks and any potential chafe points on ships infrastructure. Chafe protection required to be of good quality, fit for purpose, tended appropriately and not fabricated onboard.
- Mooring lines fitted to a vessel should, where possible, be of the same type, Minimum Breaking Load (MBL) and construction, however reciprocal lines at least must be of the same type (eg, headlines and sternlines, fore and aft springs, or fore and aft breastlines)
- Lines required to be inspected for condition at least every 3 months – evidence of inspection records must be provided upon request.
- All mooring lines required to be a minimum of 200m in length.
- Vessel must have spare mooring lines in good condition – number of suitable spare lines required to be advised. Vessels are to have minimum 4 spare lines onboard.
- Confirmation that fairleads, chocks and bitts are well maintained and free from rust or abrasive surfaces prior to berthing. Roller fairleads required to be in good condition and free to rotate.
- Evidence that a pre-berthing discussion on mooring operations at the terminal has been conducted between ship's deck officers and deck crew prior to berthing. This is to include berthing, expected weather conditions, monitoring lines alongside and the sailing operation.

- The vessel will require to have sufficient crew to allow mooring lines to be continuously monitored 2 hours prior to and 2 hours after slack water. They are to be tended as required and monitored for any signs of abrasion or degradation and any evidence of damage is to be reported to terminal in a timely manner.
- As far as possible, all lines should be run from mooring winches. Lines are not to be made fast to winch drum-ends. Drum-ends are to be used for adjusting additional line tensions only.
- If necessary to run additional lines, these should be made fast to a set of mooring bits only and monitored/adjusted on a regular basis.
- Winch brakes should be set in accordance with the mooring matrix and OEM¹ requirements to render under high load.

DBCT is aware of challenges in the procurement and timely delivery of both ship mooring lines and of good quality chafe protection. If a vessel cannot conform with these aspects of the above requirements, then provided that supporting evidence is supplied in the way of a purchase or supply order, that the ship has conducted best endeavours to procure the necessary equipment, the terminal will conditionally accept the vessel on a single voyage basis.

Phase Two – for all vessels nominated to call at DBCT from 30 April 2024

Vetting Requirement Changes

- Vessel to have a Mooring System Management Plan (MSMP) and Line Management Plan (LMP) – mooring line manufacturers certificates will be required to be held onboard for each mooring line used.
- Confirmation of the Ship Design MBL.
- Confirmation that mooring lines LDBF is consistent with the Ship Design MBL
- Mooring lines preferred to be less than 5 years old (if lines are more than 5 years old then they will require that a sample of that rope has been tested annually ashore within the previous 12 months and is certified that it remains suitable for use **or** the Mooring Line manufacturer has certified the usage beyond 5 year from the certificate date and that the lines are subject to manufacturers' systematic inspection and maintenance program and evidence of such is available). Maximum permissible age of lines is 8 years provided they meet these requirements and remain in good condition.
- Mooring lines will require to be end-for-ended after 2.5 years (+/- 6months).
- Any mooring line failures experienced on the vessel within the last 12 months require to be reported and evidence available that they have been investigated.
- All winch brake render points are to be set as per the Mooring Equipment Guidelines 4th Edition (MEG.4) recommendations **or** [ARCSOPT Technical Guideline 04-23](#).
- Confirmation of the winch brake render set point.
- Confirmation that a satisfactory brake render test has been conducted within the last 12 months and evidence available as requested.
- HMPE lines will require to be fitted with 11m synthetic tails of a Polyester, Polypropylene, Polyamide or mixed blend material in accordance with OEM requirements. Tail Design Break Force (TDBF) to be no less than the mooring line MBL. Tails are to be replaced with new tails when the ropes are end-for-ended.

Note that a previous requirement scheduled to come into force with the phase two vetting requirements around nylon (polyamide) mooring lines being no longer acceptable has been amended.

The future restriction on these lines will only apply to nylon lines other than nylon double-braided construction lines. This exception has been made following discussions with a number of shipping companies' vessels regarding the use of high-quality nylon double-braided construction lines and will remain provided that the risks are managed effectively through enhanced mooring line maintenance and Line Management Plan requirements.

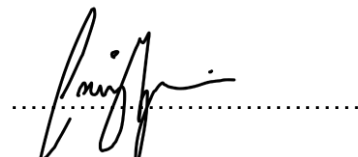
The above changes will be implemented as part of a suite of measures that DBCT P/L are developing to minimise the risk of parted lines including guidelines to vessels of best practices and those to be avoided during mooring operations.

Summary

- Phase one vetting requirement changes are now in force.
- High Modulus Polyethylene (HMPE) lines will not be a mandatory future requirement for vessels calling at DBCT P/L, however when fitted with suitable synthetic tails in accordance with OEM requirements they will continue to be accepted.
- Nylon lines will **not** be acceptable for mooring lines unless they are high quality nylon lines of double braided construction with stretch characteristics comparable to other synthetic lines and are accompanied with an effective line management plan and enhanced mooring line maintenance.
- Phase two ship vetting requirements will be implemented from 30th April 2024.

DBCT P/L remains committed to working with stakeholders to minimise impacts whilst ensuring that safe and efficient shipping is maintained as the cornerstone of terminal operations.

Yours Sincerely,



Craig Longmuir
Shipping Superintendent
DBCT P/L

Appendix – A

Vetting Requirements – Frequently Asked Questions

General

Question - The new standards will be operational after 6 months (April 2023) and 18 months (April 2024). What is the basis for these intervals?

Answer - *Two dates were chosen to allow sufficient time to implement changes. The first tranche of changes are less complex and should be easier to meet whilst ensuring that the implementation timeframe is not extended. The terminal recognises that the 2nd tranche of changes may require further impost to owners/operators and that is why an additional 12 months to implement - 18 months from notification should be sufficient.*

Phase One

Requirement - Chafe protection required to be fitted on ships lines at fairleads/chocks and any potential chafe points on ships infrastructure. Chafe protection requires to be of good quality, fit for purpose, tended appropriately and not fabricated onboard.

Question - What does good condition mean and why can't we use protectors made by the vessel's crew?

Answer - *Good condition means free from damage and abrasion. Good quality chafe protection should be suited for the line type and material as well as the leads/chocks used onboard the vessel. It should be of adequate length to allow for reasonable time to tend lines considering draft and tidal variations.*

We have seen examples of very poor chafe protection fabricated by ship's crew (old mooring ropes, inverted fire hoses, etc). As there are currently no existing standards for chafe protection then properly fabricated and manufactured chafe protection is seen as the best way to ensure it is of adequate quality. Further data will be collated on the success of this chafe protection in practice.

Requirement - Mooring lines fitted to a vessel should, were possible, be of the same type, Line Design Break Force (LDBF) and construction, however reciprocal lines at least must be of the same type (e.g., headlines and sternlines, fore and aft springs, or fore and aft breastlines)

Question – Is it my understanding that the same mooring line type must be used for head line and stern line?

Answer - Yes – intent is to ensure that the mooring system remains balanced. The head lines and the stern lines should be of the same type and strength, therefore have the same elasticity and strength.

Question – I have been unable to procure lines of the exact same LDBF, what options do I have?

Answer – When replacing lines, they should be of a similar LDBF (+/10%) to the existing mooring lines and meet the minimum requirements for a vessel of its size. They should be of the same material and construction type to ensure that they have similar elasticity properties. It may be possible to move lines between winch locations onboard to ensure that a vessel can comply with the reciprocal line requirements.

Requirement - Winch brakes should be set in accordance with the mooring matrix and OEM¹ requirements to render under high load.

Question – Can you please explain the background behind the introduction of this regulation?

Answer - Correctly set Brake rendering to prevent overloading of ships lines and other shipboard mooring equipment is an important safety consideration to reduce the risk of extremely high-tension line parting events. OCIMF recommendations are that the primary brake should be set to hold at 60 % of the ship design MBL on the first layer, OCIMF MEG.4 and [ARCISOPT Technical Guideline 04-23](#) provide further information and guidance on carrying out brake render testing.

Requirement - Lines required to be inspected for condition at least every 3 months – evidence of inspection records must be provided on request

Question – What items should be included in the inspection record?

Answer - Routine inspection should be carried out of the full length of the line on the in-service section of the line (typically the tension side of the mooring winch) this is a visual inspection externally and internally where possible (i.e.unjacketed lines) and in accordance with manufacturers recommendations. Jacketed lines will require a routine inspection as recommended by line manufacturer. The report should detail any areas of damage to the line, including signs of abrasion damage, crushing, kinking or heavy contamination from iron ore/coal-dust or oil/chemicals. Photographic evidence is recommended.

Phase Two

Requirement - Mooring lines preferred to be less than 5 years old (if lines are more than 5 years old then they will require that a sample of that rope has been tested annually ashore within the previous 12 months and is certified that it remains suitable for use **or** the Mooring Line manufacturer has certified the usage beyond 5 year from the certificate date and that the lines are subject to manufacturers' systematic inspection and maintenance program and evidence of such is available).

Question – When do spare mooring lines commence their service life to comply with the 5-year age requirement?

Answer - Mooring line age can be based on introduction of line into service, provided that the line:

- (i) has been inspected regularly and remains in good condition;
- (ii) has valid certificate;
- (iii) has been stored out of sun and in well ventilated area to prevent degradation;
- (iv) introduction date into service has been recorded in Line Management Plan;
- (v) a corresponding date of the line it replaced being retired from service

Question – My vessels mooring lines are older than 5 years old but my mooring line manufacturer has indicated that those lines have a lifespan of greater than 5 years

Answer – DBCT has reviewed the initial requirement around maximum lifespan of lines of 5 years and is satisfied that where a mooring line manufacturer has indicated that the expected lifespan of a mooring line is more than 5 years then they may remain in service provided that they remain in good condition and meet either of the requirements below:

- (i) a sample of that rope has is tested annually ashore and it is certified that it remains suitable for use as a mooring line, or
- (ii) that the Mooring Line manufacturer has certified the usage beyond 5 years from the certificate date and that the lines are subject to a thorough evaluation of condition in accordance with the manufacturers' systematic inspection and maintenance program (using the manufacturers guidelines or cordage institute guidelines fibre rope inspection and retirement criteria) after 5 years and annually after that. Service life cannot be extended beyond **8 years**.

Requirement – Mooring Line LDBF is consistent with the Ship Design MBL

Question – My vessel has been fitted with mooring lines which have a LDBF significantly greater than Ship Design MBL, are these acceptable?

Answer – Provided that the all other mooring requirements are met and confirmation that the Winch Brake Render test has been conducted in the last 12 months and the brake render set-point is clearly marked, then provided that the Mooring System Management Plan (MSMP) or Line Management Plan (LMP) stipulates that when at end of life these lines are to be replaced by mooring lines that will have a LDBF consistent with Ship Design MBL then they will continue to be acceptable.

Requirement -

All winch brake render points are to be set as per the Mooring Equipment Guidelines 4th Edition (MEG.4) recommendations or ARCSOPT Technical Guideline 04-23.

Question – Why has there been a change to the requirements regarding brake render set points?

Answer - The original Phase two requirement for brake render set-points to be set at 60% of the ship design MBL in accordance with MEG. 4 recommendations has been relaxed to align with new bulk carrier specific technical guidance (ARCSOPT Guidelines on Safe Mooring Practices for Non-Bulk Liquid Vessels Technical Guideline 04-23). This technical guideline recommends mooring winch brake render set point should be set **50% to 80% of the ship design MBL** (SDMBL). See [Publications – ARCSOPT](#) for further details.

Question – My vessel doesn't have a SDMBL how do I calculate the winch brake render set-point?

Answer – Where a vessel has not been assigned a SDMBL a class approved EN calculation should be used as an alternative. If a SDMBL or EN calculation is not available then the guidance contained within ARCSOPT Technical Guideline 04-23 should be used as per below;

For a vessel where the SDMBL or EN calculation is unavailable or unknown, the following is recommended:

a. The SDMBL can be assumed to be the same as the MBL of the original mooring lines which were placed on board as part of the vessel's compliance to class and subsequently flag state requirements.

b. The SDMBL can be calculated and assumed to be 125% of the maximum mooring winch brake holding capacity which can be found in the mooring winch certificate.

c. The SDMBL can be assumed to be the same as the minimum safe working loads (SWL) of the deck mooring fittings which are designated for mooring operations.

d. In cases where the MBL of the original mooring lines and / or 125% of the maximum brake holding capacity are greater than the safe working loads (SWL) of the mooring fittings, the SDMBL should be taken as the SWL of the mooring fittings.

Requirement - Vessel to have a Mooring System Management Plan (MSMP) and Line Management Plan (LMP) – mooring line manufacturers certificates will be required to be held onboard for each mooring line used.

Question – What items should be included in the Mooring System Management Plan & Line Management Plans?

Answer – A Mooring System Management Plan & Line Management Plans is recommended to be developed consistent with requirements in ARCSOPT Technical Guideline 04-23 as a minimum;

a. The SDMBL and the methodology used to determine the SDMBL (if applicable).

b. Mooring equipment and deck fittings in service on board the vessel and their safe working loads (SWL).

c. The optimum mooring configurations for the vessel.

- d. The Mooring winch brake test records in a clear concise format. The format must articulate and include the SDMBL, the type of mooring winch in service, the date of the test, the mooring winch maximum (design) brake holding capacity (BHC), the dimensions that were utilised for undertaking the calculations for determining hydraulic pressure settings, the brake rendering set value and reason for chosen set point value.*
- e. The mooring line and tail in service life cycle records.*
- f. The number, type and size of mooring lines and tails in service.*
- g. The number and type of mooring line and tails held as spares.*
- h. Certificates for all in-service and spare mooring lines and tails.*
- i. Guidelines for safe storage of all mooring lines*
- j. Mooring equipment, mooring line and deck fittings maintenance and inspection regime.*
- k. Mooring winch render test procedures including an understanding of the loads generated by the hydraulic jack and transmitted to the deck during the render load setting process.*
- l. Detailed and unambiguous guidance and training to be provided to ship's crew to conduct mooring rope inspection to verify each ropes continued suitability for use.*

Further information and guidance can be obtained within OCIMF MEG 4. With general guidance highlighting that a Mooring System Management Plan should contain the following;

Part A - General ship particulars

Part B - Mooring equipment design philosophy

Part C - Detailed list of mooring equipment

Part D - Inspection, maintenance, and retirement strategies/principles

Part E - Risk and change management, safety of personnel and human factors

Part F - Records and documentation

Part G - Mooring system Management Plan Register

Requirement – Any mooring line failures experienced on the vessel within the last 12 months require to be reported and evidence available that they have been investigated.

Question – My vessel had a parted line in a different port 6 months ago, why am I requested to advise DBCT and what do I need to report?

Answer – *When a vessel suffers a mooring related incident it is important that lessons associated with it can be collated and used to enhance understanding to minimise the chance of re-occurrence. Conducting a proper review of the incident also enhances shipboard understanding of the risks and their controls, it also highlights a mature safety-based approach and a sound onboard safety management system. Some key items to consider in the event of a parted lines incident are impacts of age, wear and storage of line, type and construction of line, any contaminants or abrasion damage which may impacted the integrity of that line, conditions of winches, rollers, deadmen, or fairleads that may have contributed to the failure, the environmental conditions at the time and how the line was deployed, in the event of other mooring equipment failure then the operational conditions, condition and age of equipment, and planned maintenance systems should also be considered. The investigation should provide a root cause analysis and make recommendations and actions where possible to enhance risk controls.*