

ENGLISH

IN

DELIVERING & RECEIVING CARGO

Containers

Dry Bulk cargo

Liquid Bulk Cargo

I. Container cargo

1. Check items for Container ship safe cargo operations and maintaining cargo records

Maintaining cargo records

The P&I clubs stress the importance of keeping records in order to help defeat cargo claims. Claimants usually allege that any cargo damage noted has occurred during the loaded voyage, whereas in fact it is more likely to have occurred ashore.

Documentary evidence required by P&I club claims handlers includes:

- bilge, ballast and bunker sounding and pumping records;
- cargo ventilation, humidity and temperature records;
- records of unusual weather conditions, routeing details, warnings and weather reports;
- records of hatch, access, hold and watertight door checks;
- records of fire and safety equipment checks, including log entries of and records of training and safety exercises;
- records of cargo securing and lashing rounds and checks;
- records of cargo temperatures (heating or cooling) where appropriate;
- records of inert gas and venting operations;
- records of reefer defrosting and temperature control;
- records of temperatures in fuel oil tanks below sensitive cargoes.

Requirement for ship's certificates

It is a legal requirement that the vessel's certification and classification records are maintained in an updated condition. Failure to comply with certification requirement may result in a heavy fine, arrest or a penalty and loss of insurance due to the infringement of flag/port state requirements and/or insurance underwriter/P&I Club clauses.

Responsibility for maintaining clean and updated vessel's certification is shared between the Master and the relevant Management Office Staff. The Master is responsible onboard for maintaining updated class, statutory and trading certificates.

The Chief Engineer and Chief Officer are responsible for monitoring and maintaining updated files and inspection logs of continuous surveys for their own departments. The "Certificate Checklist" must be kept updated.

Container ship operation: Common reasons for stow collapse



Container stows often fail due to:

- Container stacks being too heavy and too high overall, exposing the lower containers to excessive transverse racking and compressive forces due to the tipping effect. Such an anomaly may occur if the ship is unable to calculate the forces acting on stow with precision. The Cargo/Container Securing Manual is limited in this respect as the examples of container weight distributions shown may not cover all permutations and eventualities. Software programs have the advantage of taking into account all known variables.
- Containers at the top of the stack being significantly heavier than those below.
- The wind force acting on the outboard stacks not being taken into account.
- Loose lashings allowing the stacks to tilt and arrest sharply as the slack is taken up. This causes the securing system to experience a sudden shock load which may exceed safe working limits by a considerable margin.
- Two 20 foot containers placed in a 40 foot slot, leaving insufficient space for lashing rods to be fitted to the inward facing ends. This arrangement should be avoided unless the containers are either lightly loaded or empty and the stack height is low, or if the Cargo / Container Securing Manual allows.
- Rogue twist locks (e.g. right-hand locking mechanism) finding their way aboard a vessel equipped entirely with twistlocks of a different type (e.g. left-hand



II. **Dry Bulk Cargo**

To prepare the vessel for cargo stowage and a safe planning, the loading and unloading sequences and other operational matters should be informed well in advance. The shore terminal should provide the ship with the following information :

- i) Prior to loading bulk cargo , the shipper should declare characteristics & density of the cargo, stowage factor, angle of repose, amounts and special properties.
- ii) Cargo availability and any special requirements for the sequencing of cargo operations.
- iii) Characteristics of the loading or unloading equipment including number of loaders and unloaders to be used, their ranges of movement, and the terminal's nominal and maximum loading and unloading rates, where applicable.
- iv) Minimum depth of water alongside the berth and in the fairway channels.
- v) Water density at the berth.
- vi) Air draught restrictions at the berth.
- vii) Maximum sailing draught and minimum draught for safe manoeuvring permitted by the port authority.
- viii) The amount of cargo remaining on the conveyor belt which will be loaded onboard the ship after a cargo stoppage signal has been given by the ship.
- ix) Terminal requirements/procedures for shifting ship.
- x) Local port restrictions, for example, bunkering and deballasting requirements etc.

Cargo trimming is a mandatory requirement for some cargoes, especially where there is a risk of the cargo shifting or where liquefaction could take place. It is recommended the cargo in all holds be trimmed in an attempt to minimise the risk of cargo shift.

III. Liquid Bulk Cargo

Loading and Discharging Procedures

1. Loading and discharging procedures

The following procedures are recommended to ensure that a proper record is made of the loading, carriage and discharge:

1. The ship should compile and retain a report on the condition of the vessel's tanks prior to loading, including a record of the ullages in slop tanks. Once the ship's officers are satisfied about the cleanliness of the tanks, cargo interests and/or representatives of the terminal should be invited to inspect the tanks and confirm their acceptability in writing prior to the commencement of loading.
2. A loading/discharge programme should be planned in advance and agreed with cargo interests and the terminal staff. This should cover the order in which tanks are to be loaded/discharged, tank/pump/pipe work allocation and loading/discharge rates in order to minimise the stress on the vessel and the risk of cross-contamination of different grades of cargo.
3. An efficient system of communication should be established between the vessel and the terminal and the start-up/shut-down procedures for cargo operations agreed. A close watch should be maintained on weather conditions in order that cargo operations can be shut down in good time, and, if necessary, so that the vessel can depart from the terminal prior to the onset of adverse weather. A comprehensive ship/shore checklist will ensure that these details are given the appropriate attention and will provide evidence if needed that this is the case. For further information check the Steamship/Videotel training programme 'The Ship/Shore Interface' on this section of this website under [Onboard Safety Training](#).
4. The sea valves and their seals should be checked in the presence of cargo/terminal representatives prior to loading and checked and sealed again after departure.
5. All operations undertaken during loading and discharge should be logged by the ship including details of all valve positions, changes in valve usage, pumping rates, manifold pressures and vessel's draught and trim.
6. Ullage and temperature measurement of all the vessel's cargo tanks should be carried out in the presence of the terminal and cargo representatives upon completion of loading and immediately prior to discharge. The results should be carefully recorded and countersigned by cargo interests.
7. A calculation of the loaded quantity should be made, based upon the vessel's ullage and temperature figures, and the result compared with the shore figure to ensure that any difference falls within the vessel's experience factor. If it does not, a Note of Protest should be issued by the Master and an acknowledgement obtained from the shippers and/or charterers. Bills of lading should wherever possible be endorsed to show that the volume and weight measurements are not provided, ascertained or warranted by the carrier. If there is an unusual discrepancy between the shipper's figure and that disclosed by the vessel's loading ullages, every effort should be made to have the latter inserted in the bill of lading. At the very least, a Note of Protest should be drawn up by the Master to be attached to the bill of lading or passed to the shipper and any named consignee or notify party. Often in these circumstances the shipper will be reluctant to agree any reservation regarding his loading figure. Contact the Club for legal advice in the event of any such dispute.
8. Samples should be taken from the top, middle and bottom of each of the vessel's cargo tanks in the presence of a representative of the terminal and cargo interests. Similar samples should be drawn prior to discharge. It is also useful whenever possible to obtain samples of cargo immediately prior to loading, including samples from a point as near to the ship's manifold as possible. All samples should be sealed, labelled and stored for possible future reference. This can obviously lead to a storage problem, particularly since the samples should be retained for at least 12 months. However, such evidence is essential for the defence of any contamination claims that might arise. Often samples are taken at the commencement of loading after a small quantity has been pumped, in order to check if any contamination is revealed. If contamination is present, the cause of this must be fully checked and

eliminated before the Master allows loading to continue. In case of doubt the Master or Member should contact either the Club Manager's London representatives, or the Club's local correspondents for assistance.

9. When loading crude oil cargoes, dips should be taken of all the vessel's cargo tanks upon completion of loading to check for the presence of free water. If any free water is found, a Note of Protest should be issued and an acknowledgement obtained from the shippers/charterers. As an additional precaution, further dips should be taken on the following day, by which time the majority any water in suspension in the cargo will have separated out.
10. Samples should be taken from the vessel's bunker tanks upon completion of loading and prior to discharge.
11. During the voyage daily checks should be made of the cargo tank ullages and temperatures, and the results should be recorded. Constant checks should also be made on the inert gas pressures, and any marked drop in pressure in individual tanks investigated. Records should also be kept of the loading or discharge of any ballast or of any internal cargo transfers.
12. On completion of discharge all tanks, including empty ballast tanks, should be dipped and, where possible, visually inspected in the presence of a representative of the terminal or cargo interests, to ensure that no cargo remains on board. The terminal or cargo interests' representative should be requested to sign a dry tank certificate and only after this has been signed should shore hoses be disconnected.

Using these procedures will establish a written record of the voyage which will be invaluable in reconstructing events when a claim is made.

2. Shortage Claims

Many shortage claims are based on incorrect calculations. With a standard operating procedure and full records it should be possible in cases involving routine voyages *to show that all the cargo loaded was discharged*, and that the carrier is not responsible for differences between the shore loading and discharge figures. Claims for shortage are often based on a comparison of shore tank figures, but in most countries the carrier's liability only *commences at the point where the cargo passes through the vessel's permanent manifold connections*, and *terminates when the cargo passes out through the manifold connections at the port of discharge*. A comparison between the ship's figures at loading and discharge, and not the terminals' figures, is necessary to determine *if any loss has occurred* onboard the vessel.

To *verify the quantities* actually received on board and discharged from the vessel the following documents are usually required:

- A dry tank certificate reporting on the condition of the vessel's tanks prior to loading.
- A record of the quantity of material already in the slop tanks.
- An ullage report prepared on completion of loading.
- A statement of the vessel's draught on departure from the loading port. This may be contained in the ullage report, as in the example above.
- A statement of the vessel's draught on arrival at the port of discharge, which again may be contained in the ullage report.
- An ullage report *prepared* prior to the start of discharge operations.
- A dry tank certificate *issued* on completion of discharge, *which should preferably have been signed by the consignees*.
- The original bill of lading and charter party.
- Evidence of the cargo value, such as the commercial invoice

With many liquid cargoes, unpumpable residues will remain on board. Whilst it is important that the quantity of such residues should be checked, clear evidence to the effect that the residues are indeed unpumpable is essential *if claims are to be avoided. Investigations may therefore be necessary* to prove that the vessel's valves, lines and pumps *are all in good order*. A dry tank certificate confirming that all pumpable cargo has been discharged and any quantity remaining on board (ROB) is unpumpable, will normally be conclusive evidence, particularly if signed by a representative of the consignees.

In many countries, courts will accept that *the carrier is not liable for shortages of up to 0.5% of the quantity laden*. It is generally acknowledged that ship owners should *have the benefit of* a percentage allowance, since the measurement of bulk liquids is not an exact science, and unavoidable loss will often occur during a voyage. To keep measurement inaccuracies to a minimum, standard procedures should be adopted by the ship's crew when measuring cargo and calibrating equipment.

If the routine documentation described above indicates a shortage which *exceeds* the usual allowance for the type of cargo and vessel in question, then additional investigations may be necessary, for example:

A survey of the vessel's tanks to verify there was no leakage of cargo during the voyage.

A check upon inter-tank transfers during the voyage. Accurate records should be maintained of all such transfers.

A review of weather conditions during the voyage. Prolonged rolling and pitching during heavy weather can increase the rate of evaporation of cargo, and may result in the release of cargo from full tanks.

A review of bunker records and a survey of cargo lines in order to rebut any allegation that cargo has been diverted from cargo tanks.

3. Contamination Claims

The most important evidence in the handling of contamination claims is that represented by cargo samples. Much of the documentation and evidence required for shortage claims is also necessary to *contest contamination claims*. In addition, the following *documentation should be obtained*:

The vessel's maintenance records, including details of previous cargoes, surveys and cleaning operations.

A record of all cargo operations carried out on board the vessel during the relevant voyage, including pumping operations and inter-tank transfers.

Ex. 1 - Container Cargo

Maintaining cargo records

The P&I clubs stress the importance of keeping _____ in order to help defeat cargo _____. Claimants usually allege that any cargo _____ noted has occurred during the loaded voyage, whereas in fact it is more likely to have occurred ashore.

Documentary _____ required by P&I club claims handlers includes:

- bilge, ballast and bunker _____ and pumping records;
- cargo ventilation, humidity and temperature _____;
- records of unusual weather conditions, routing details, _____ and weather reports;
- records of hatch, access, hold and watertight door _____;
- records of fire and safety equipment checks, including log _____ of _____ and records of training and safety exercises;
- records of cargo securing and lashing _____ and checks;
- records of cargo temperatures (heating or cooling) where appropriate;
- records of inert gas and venting _____;
- records of reefer defrosting and temperature _____;
- records of _____ in fuel oil tanks below sensitive cargoes.

warnings, sounding, temperatures, records, checks, operations, rounds, entries, control

Requirement for ship's certificates

It is a legal requirement that the vessel's certification and classification records are _____ in an updated condition. Failure to _____ with certification requirement may result in a heavy fine, arrest or a penalty and loss of insurance due to the _____ of flag/port state requirements and/or insurance underwriter/P&I Club clauses.

Responsibility for maintaining clean and updated vessel's certification is shared between the Master and the relevant _____ Office Staff. The Master is responsible onboard for maintaining updated class, statutory and trading _____.

The Chief Engineer and Chief Officer are responsible for monitoring and maintaining updated files and inspection logs of continuous surveys for their own departments. The "Certificate Checklist" must be kept updated.

Container stows often fail due to:

- Container stacks being too heavy and too high overall, exposing the lower containers to excessive transverse racking and compressive forces due to the _____ effect. Such an anomaly may occur if the ship is unable to calculate the forces acting on _____ with precision. The Cargo/Container Securing Manual is limited in this respect as the examples of container _____ distributions shown may not cover all permutations and eventualities. Software programs have the advantage of taking into account all known variables. (**weight account tipping stow**)
- Containers at the _____ of the stack being significantly heavier than those below.
- The wind force acting on the outboard _____ not being taken into account.
- Loose _____ allow the stacks to _____ and arrest sharply as the slack is taken up. This causes the securing system to experience a sudden _____ load which may exceed safe working limits by a considerable margin. (**tilt, lashings, shock**)
- Two 20 foot containers placed in a 40 foot _____, leaving insufficient space for _____ to be fitted to the inward facing ends. This arrangement should be avoided unless the containers are either lightly loaded or empty and the stack height is low, or if the Cargo / Container Securing _____ allows.
- Rogue _____ (e.g. right-hand locking mechanism) finding their way aboard a vessel equipped entirely with twistlocks of a different type (e.g. left-hand locking mechanism).

(empty, Manual, twist locks, slot, lashing rods)

<ol style="list-style-type: none"> 1. screening checks should be carried out whenever possible in order to ensure that rogue devices are not present. 2. High cube boxes stowed cumulatively, result in the highest container 3. the vessel should scrutinize pre-plan details for the presence of non-standard containers. 4. If the pre-plan shows that out of gauge boxes are to be loaded in unacceptable positions, 5. Stevedores should be given detailed instructions regarding the positioning of the lashings and equipment to be used and, 6. in damaged or worn condition. 7. Extreme 8. lead to the eventual collapse of the stack. 	<ol style="list-style-type: none"> A. as far as practicable all arrangements should be checked thoroughly by the crew before sailing. B. extending well above the top of the cell guides. C. If manual twist locks are used, D. more suitable stowage options should be discussed and agreed with the terminal as soon as possible. E. Portable and/or fixed securing equipment F. The movement of inadequately secured heavy cargo within a container during adverse weather, may result in damage to the container walls and/or framework and G. weather conditions. H. Wherever possible,
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Ex. II - Dry Bulk Cargo

To prepare the vessel for cargo stowage and a safe planning, the loading and unloading sequences and other operational matters should be informed well in advance. The shore _____ should provide the ship with the following information :

i) Prior to loading bulk cargo , the _____ should declare characteristics & density of the cargo, stowage factor, angle of repose, amounts and special properties.

ii) Cargo availability and any special requirements for the _____ of cargo operations.

iii) Characteristics of the loading or unloading equipment including number of loaders and _____ to be used, their ranges of movement, and the terminal's nominal and maximum loading and unloading _____, where applicable.

iv) Minimum depth of water _____ the berth and in the fairway channels.

v) Water density at the _____.

vi) Air _____ restrictions at the berth.

vii) Maximum sailing draught and minimum draught for safe manoeuvring permitted by the port _____.

viii) The amount of cargo remaining on the _____ belt which will be loaded onboard the ship after a cargo _____ signal has been given by the ship.

ix) Terminal requirements/procedures for _____ ship.

x) Local port _____, for example, bunkering and deballasting requirements etc.

Cargo _____ is a mandatory requirement for some cargoes, especially where there is a risk of the cargo shifting or where liquefaction could take place. It is recommended the cargo in all holds be trimmed in an attempt to minimise the risk of cargo _____.

authority, stoppage, sequencing, shipper, shift, draught , trimming, terminal, conveyor, berth , unloaders, rates, alongside, shifting, restrictions

State whether the following statements are TRUE or FALSE. If FALSE, provide the correct answer:

1. After loading bulk cargo , the shipper should declare characteristics & density of the cargo, stowage factor, angle of repose, amounts and special properties.	T	F
2. Cargo should be available and all special requirements must be provided for the sequencing of cargo operations.		
3. Characteristics of the loading or unloading equipment include the number of loaders and unloaders to be used, their ranges of movement, and the terminal's nominal and maximum loading and unloading rates, where applicable.		
4. Minimum depth of water alongside the berth and in the fairway channels is irrelevant for navigation.		
5. Water density at the berth is needed for stowage purposes.		
6. Air draught restrictions at the berth is required for the pasage in shallow waters.		
7. Maximum sailing draught and minimum draught for safe manoeuvring permitted by the port authority.		
8. The amount of cargo remaining on the conveyor belt which will be loaded onboard at another time the ship calls at the port.		
9. Terminal requirements regulate the procedure for shifting ship.		
10. Information of the local port restrictions, for example, bunkering and deballasting requirements etc. is provided by the stevedore.		
11. Cargo trimming is a mandatory requirement for some cargoes, especially where there is a risk of the cargo shifting or where liquefaction could take place.		
12. It is recommended the cargo in all holds be trimmed in an attempt to increase the risk of cargo shift.		

Ex. III - LIQUID BULK CARGO

Reading text 1

The following procedures are recommended to ensure that a proper record is made of the loading, carriage and discharge:

1. The ship should compile and retain a report on the condition of the vessel's tanks prior to loading, including a record of the ullages in slop tanks. Once the ship's officers are satisfied about the cleanliness of the tanks, cargo interests and/or representatives of the terminal should be invited to inspect the tanks and confirm their acceptability in writing prior to the commencement of loading.
2. A loading/discharge programme should be planned in advance and agreed with cargo interests and the terminal staff. This should cover the order in which tanks are to be loaded/discharged, tank/pump/pipe work allocation and loading/discharge rates in order to minimise the stress on the vessel and the risk of cross-contamination of different grades of cargo.
3. An efficient system of communication should be established between the vessel and the terminal and the start-up/shut-down procedures for cargo operations agreed. A close watch should be maintained on weather conditions in order that cargo operations can be shut down in good time, and, if necessary, so that the vessel can depart from the terminal prior to the onset of adverse weather. A comprehensive ship/shore checklist will ensure that these details are given the appropriate attention and will provide evidence if needed that this is the case.

Supply the missing words

1. The ship should c_____ and retain a report on the condition of the vessel's tanks prior to l_____, including a record of the u_____ in s_____ tanks. Once the ship's officers are satisfied about the c_____ of the tanks, cargo _____ and/or representatives of the terminal should be invited to i_____ the tanks and confirm their acceptability in w_____ prior to the c_____ of loading.
2. A loading/discharge programme should be planned in advance and a_____ with cargo interests and the terminal s_____. This should cover the order in which t_____ are to be loaded/discharged, tank/pump/pipe work a_____ and loading/discharge r_____ in order to minimise the s_____ on the vessel and the risk of cross-c_____ of different g_____ of cargo.
3. An efficient system of communication should be e_____ between the vessel and the terminal and the start-up/s_____ procedures for cargo operations agreed. A close watch should be m_____ on weather conditions in order that cargo o_____ can be shut down in good time, and, if necessary, so that the vessel can d_____ from the terminal prior to the o_____ of adverse weather. A comprehensive ship/shore c_____ will ensure that these details are given the appropriate attention and will provide e_____ if needed that this is the case.

Supply the missing terms

The following procedures are _____ to ensure that a proper record is made of the loading, _____ and discharge:

1. The ship should _____ and retain a report on the condition of the vessel's tanks _____ to loading, including a record of the _____ in slop tanks. Once the ship's officers are satisfied about the cleanliness of the tanks, cargo interests and/or representatives of the terminal should be invited to _____ the tanks and confirm their acceptability in writing prior to the _____ of loading.

2. A loading/discharge programme should be planned in advance and agreed with cargo _____ and the terminal _____. This should cover the order in which tanks are to be loaded/discharged, tank/pump/pipe work allocation and loading/discharge _____ in order to minimise the stress on the vessel and the risk of cross-contamination of different _____ of cargo.
3. An efficient system of communication should be established between the vessel and the terminal and the start-up/_____ procedures for cargo operations agreed. A close _____ should be maintained on weather conditions in order that cargo operations can be _____ in good time, and, if necessary, so that the vessel can _____ from the terminal prior to the _____ of adverse weather. A comprehensive ship/shore _____ will ensure that these details are given the appropriate _____ and will provide _____ if needed that this is the case.

Complete the sentences below

1. The ship should compile and retain a report on the condition of the vessel's tanks prior to loading, including Once , cargo interests and/or representatives of the terminal should be invited to inspect the tanks and confirm their acceptability in writing prior to
2. A loading/discharge programme should be planned in advance and agreed and This should cover the order in which tanks are to be loaded/discharged, tank/pump/pipe work allocation and in order to minimise the stress on the vessel and the risk of cross-contamination of
3. should be established between the vessel and the terminal and the start-up/shut-down procedures for cargo operations agreed. be maintained on weather conditions in order that cargo operations can be shut down in good time, and, if necessary, so that the vessel can depart from the terminal prior to A comprehensive ship/shore checklist will ensure that these details are and will provide evidence if needed that this is the case.

Shortage Claims

Many shortage _____ are based on incorrect calculations. With a standard operating procedure and full records it should be possible in cases involving routine _____ to show that all the cargo loaded was discharged, and that the carrier is not responsible for _____ between the shore loading and discharge figures. Claims for _____ are often based on a comparison of shore tank figures, but in most countries the carrier's _____ only commences at the point where the cargo passes through the vessel's permanent _____ connections, and _____ when the cargo passes out through the manifold connections at the port of discharge. A comparison between the ship's _____ at loading and discharge, and not the terminals' figures, is necessary to determine if any _____ has occurred onboard the vessel.

To verify the quantities actually received on board and discharged from the vessel the following documents are usually required:

a) A dry tank certificate reporting on	1. to the start of discharge operations.	
b) A record of the quantity of	2. An ullage report	
c) prepared on completion of loading.	3. A statement of the vessel's draught on departure from the loading port,	
d) which may be contained in the ullage report, as in the example above.	4. the condition of the vessel's tanks prior to loading.	
e) A statement of the vessel's draught on arrival at the port of discharge,	5. which again may be contained in the ullage report.	
f) An ullage report prepared prior	6. material already in the slop tanks.	
g) A dry tank certificate issued on completion of discharge,	7. Evidence of the cargo value,	
h) and charter party.	8. The original bill of lading	
i) such as the commercial invoice	9. which should preferably have been signed by the consignees.	

Sample Form A.

Date:

Messrs.

Dear Sirs,

LETTER OF PROTEST

M.V. Voy.

Port

This is to advise you that the following cargo was damaged by rough and/or improper handling by stevedores:

B/L No.:

Description of Cargo:

Stowage:

Damaged Condition:

We hereby hold you fully responsible for the damage to the subject cargo and we shall not be responsible for any and all consequences and/or liabilities of any kind whatsoever directly or indirectly arising from or relating to the said damage.

Kindly acknowledge receipt of this letter by signing at the space below.

Yours faithfully,

Master:

We hereby confirm receipt of this letter and accept the above.

Stevedore Company:

Sample Form B

Date:

Messrs.

Dear Sirs,

LETTER OF PROTEST

M.V. Voy. No. ...

Port

This is to advise you that the quantity of the cargo loaded on the vessel at this port is as follows:

Description of Cargo:

Destination of Cargo:

Stowage Tank:

Shore figures given by Shippers (A)... M/T

Ship's figures by ullaging / draft survey(B)

Discrepancy between both figures (A-B) : M/T

Whereas the said discrepancy being beyond vessel's control, the Owners, the Master, the Vessel and the Crew are not responsible for any dispute and all consequences and/or liabilities of any kind whatsoever directly or indirectly arising from or relating to the said discrepancy.

Kindly acknowledge receipt of this letter by signing at the space below.

Yours faithfully,

Master:

We hereby confirm receipt of this letter and accept the above.

Stevedore Company:

..M/T