Appendix 9-A
Deck Cargo Plan, Typical Example
DECK CARGO PLAN, TYPICAL EXAMPLE

DATE:

VOYAGE NUMBER:

VESSEL:

FROM:

TO:

SAFETY ZONE

FORWARD

AFT

Users of this plan should refer to accompanying notes.
Appendix 9-B
Transport of Tubular Cargoes

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Appendix 9-B

TRANSPORT OF TUBULAR CARGOES

Best Practice Transport of Tubulars
Appendix 9-B

TRANSPORT OF TUBULAR CARGOES

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1 GENERAL

1.1 PURPOSE

The purpose of this document is to describe the recommended practice for safe transportation and handling of tubular cargo on offshore service vessels. Important interface issues in relation to bases and installations are included.

According to governing regulations, it is the responsibility of the captain to make sure that the cargo is properly secured before the departure. This document does not in any way or manner exempt the captain from this responsibility, but is intended to serve as the recommended practice for handling of tubular cargo on vessels in connection with cargo handling at bases and offshore as well as during transport.

1.2 DEFINITIONS, IMAGES AND REFERENCES

Tubular cargo: Round objects which are shipped not in separate cargo carriers but using slings to bundle one or more such objects together in a bundle.

Figure 9 - B - 1

Marine risers
Appendix 9-B

TRANSPORT OF TUBULAR CARGOES

Figure 9 - B - 2  Conductor (Dimension 26” to 32”)

Figure 9 - B - 3  Casing (Dimensions range from 7” to 26”)

Figure 9 - B - 4  Drill pipe

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TRANSPORT OF TUBULAR CARGES

Figure 9 - B - 5  Slip joint
"Telescope" which absorbs vertical drilling riser movements on a floating rig

Figure 9 - B - 6  Drill collars
Collars used to increase the weight of the drill bit during drilling. Has the same outside diameter across the entire length

Figure 9 - B - 7  Tubing (Dimensions range from 2 7/8 to 7")
Appendix 9-B

TRANSPORT OF TUBULAR CARGOES

Figure 9 - B - 8  Tubulars for pipelaying vessel (transport pipeline)

Figure 9 - B - 9  ASFA (Automatic Sea Fastening Arrangement)

Pup joint:  Short casing / tubing joints used as “space out” for connecting pipelines sections of a pre-determined length.

Centralizer:  Device fitted on the outside of the casing / liner to align it in the centre of the bore hole during cementing.

2  CARGO REQUIREMENTS

1.  The slinging shall be in accordance with national requirements & branch standards, and proper secured with wire clamps or similar ex. Welcro bands.
2.  Units shorter than 6 metres should be transported in a cargo units
3.  Slinging of tubular cargo must ensure the bundles remain stable.
4.  Tubular cargo should preferably be bundled in “odd” numbers when practicable
TRANSPORT OF TUBULAR CARGOES

6. As regards 9 5/8" - 13 3/8" casings fitted with centraliser, consider having only 1 tubular in each bundle as it may be difficult to split them on the pipe deck.
7. The slinger must take into consideration the WLL of the slings and the weight of each tubular when slinging the bundles.
8. Certified lifting points fitted on the tubulars shall be used during loading of large and heavy dimensions if they cannot be strapped in a prudent manner or handled in certified cargo carriers.
9. Inspect for loose/damaged protectors during all phases before lifting the cargo.

3  PREPARATIONS BEFORE LOADING AT BASE

- The vessel must be informed of the tubular cargo well before loading; dimension, weight, length, quantity.
- Dedicate the most suitable deck area based on destination, which crane will be used and weather reports. And if relevant, how many layers may be loaded.
- Hull loads and reduced stability in case tubulars become filled with water must be taken into consideration upon assignment of area.
- Position hawsers: Three hawsers are recommended across the deck for each joint, one approx. in the middle, and one 1-2 m from each of the ends.
- Position chains: Two chains are recommended below the first layer for each joint, about 1/3 and 1/4 of the distance from each end. It may not be necessary to use the chain during the loading. But if the offloading operation must be interrupted before all cargo has been unloaded, the chains may be used to secure the remaining cargo.
- Prepare pipe supports. The vessels will normally have pipe supports approx. 1/3 in from the cargo rail on each side.
- Prepare Automatic Sea Fastening Arrangement if necessary on vessels equipped with this.
- Pay special attention during loading on steel decks on anchor handling vessels. The vessel crew must position a sufficient amount of friction material (hawsers) before the loading starts. Chains must also be used.
- A sufficiently safety zone must be established fore and aft of the dedicated cargo area. The area must be minimum 1 m.

4  LOADING AT BASE

1. A representative from the vessel, preferably an officer responsible for loading, must monitor and supervise during the loading operation.
2. It is important to ensure bundles are stowed as close together as possible to avoid the risk of shifting cargo during the voyage.
3. When loading large dimensions with one tubular in each bundle, evaluate whether to fit wedges below each tubular joint to avoid the risk of shifting cargo during transportation or offloading.
4. If wedges are used, these should be nailed to a wood deck if possible to reduce the risk of shifting.
5. Large dimensions must never be loaded on top of smaller dimensions.
6. When stacking cargo, take into consideration the strength of the deck, as well as the working height for seamen. Two metres is normally the maximum stacking height.
7. Vessels must always be loaded in a manner that make it possible easy securing of remaining cargo on board in case of interrupted offloading offshore.
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TRANSPORT OF TUBULAR CARGOES

9. If possible, tanks and other frame/skid-type cargo units shall not be positioned just fore or aft of tubular cargo due to the risk of snagging.
10. Slings on bundles must be extended and laid across the tubulars to avoid becoming wedged between the bundles.
11. Determine the appropriate placement in relation to openings and escape routes in cargo rails, etc.
12. Cargo units shall not be used as the only barrier to secure tubular cargo on vessel decks.

5 TRANSPORT

1. The risk of shifting cargo is normally highest during the voyage/sailing to from an installation.
2. In the event of marginal weather conditions, the risk of shifting tubular cargo must be taken into account when selecting the time of departure, route and speed.

6 PREPARATIONS FOR OFFSHORE LOADING / OFFLOADING OPERATIONS

Conduct an internal Pre-Job Talk on the vessel to assess/clarify the following as a minimum:

1. Communications
2. Positioning of the vessel
3. Distribution of work/roles between the seamen on deck when two pendants/hooks are used
4. Operation-specific issues such as the weather, type of tubulars, location, any securing arrangements

Conduct a Pre-Job Talk between the vessel and the crane operator to clarify the following as a minimum:

5. Communications
6. How many bundles for each lift (recommended 2 bundles)
7. Any use of tag lines during offloading to the installation
8. Positioning of the vessel as regards vessel movements, reach and line of sight from the crane
9. Operation-specific issues, including risk of snagging

7 OFFLOADING AT INSTALLATION

1. Pay special attention during removal of any lashings used during the voyage out to the field.
2. It is important to use correct footwear (protective footwear covering the ankles) if anyone has to walk on top of tubular cargo.
3. Focus on correct dogging. Recommended 2 eyes in each hook depending on lifting equipment.
4. The deck crew, hook and cargo on the vessel deck must be within line of sight of the crane operator.
5. Good radio discipline is important – “Talk where the hook is”.
6. Avoid the use of tag lines if possible. If tag lines must be used, fasten and prepare these before dogging of the individual lifts.
7. The risk of snagging on the vessel deck and cargo rails, as well as in potential blind zones, must be taken into account during positioning of the vessel.
8 LOADING TO VESSEL AT INSTALLATION

In addition to issues addressed under Section 7; Offloading at installation, the following issues are important during loading onto vessels at the installation:

1. Vessels must be informed of the type, quantity and weight to be returned well before loading starts.
2. The vessel crew must prepare the necessary hawsers as well as chains and pipe supports.
3. All tubular cargo to be returned to a vessel should be washed first to avoid slippery tubulars on the vessel deck.
4. It is important to use correct footwear (protective footwear covering the ankles) if anyone has to walk on top of tubular cargo.
5. Tubulars shorter than 6 metres should be shipped in baskets.
6. If possible, avoid tubular cargo where the crew of the vessel must unhook / hook lifting yokes.
7. Tag lines should not be used during loading of return cargo onto vessels.
8. The crew of the vessel must never touch lifts of tubulars or walk underneath such lifts before the lift has been landed properly.
9. Slings on bundles must be extended and laid across the tubulars to avoid becoming wedged between the bundles.
10. During loading of return cargo, pay special attention to rolling cargo. In connection with large dimensions and if the vessel is rolling, any vessel without ASFA or equivalent must use wedges to secure large dimension cargo before unhooking it. It may be useful to have the vessel list somewhat towards the side where the first lifts will be landed.

9 INTERRUPTED OFFLOADING / LOADING AT INSTALLATION

In the event of interrupted offloading or loading at the installation, the vessel must be able to and be given enough time to secure the remaining cargo in a proper manner.

10 OFFLOADING AT BASE

1. The deck crew must be careful during removal of sea lashings upon arrival at the base.
2. If other cargo is placed adjacent to tubular cargo upon arrival at the base, pay special attention during offloading of this cargo.

11 LOADING OF TUBULARS ONTO PIPELAYING VESSELS

Loading of tubulars for pipeline installation projects are normally handled by the pipelaying contractor chartering and employing the vessel, and not by the technical developer.

1. Lifting beams are normally used during offloading of this type of tubulars, and they are lifted by inserting each end of the tubulars to be lifted into the lifting equipment.
2. During loading of large quantities of tubulars onto pipelaying vessels, take into consideration that the seamen need a safe workplace as well as the maximum total cargo that the vessel can hold. In the event of large heights, start loading from the middle to avoid work towards the outer perimeter of the cargo deck (risk of falling overboard?)

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3. Hull loads and reduced stability resulting from weight of tubulars, including water inside and between them, must be included in the stability calculations.

4. The Monsvik method for loading of tubulars prevents very large open spaces between the pipeline bays. The distance down to the deck with 4 or 5 tubulars stacked on top of each other may be several metres. A fall may prove fatal.

Figure 9 - B - 10 Illustration of Monsvik method of loading tubulars
Appendix 9-C
Guidelines on Makeup and Use of Tag Lines
“TAG” LINES

1. DESCRIPTION

In certain circumstances light, soft lines may be used to assist in the handling of long and / or fragile items of cargo. These are often referred to as “tag” lines.

It must be recognised that whilst such aids may assist operations their use does introduce some additional risks, as described below.

1.2 RISKS

Additional risks associated with the use of tag lines include the following:-

1. Potential injuries from dropped objects as a result of personnel handling cargo having to work in closer proximity to suspended loads than would normally be the case.

2. Potential injuries resulting from personnel handling cargo being dragged across the handling area through a heavy load rotating in an uncontrolled manner and the tag line being fouled in limbs or clothing.

3. Potential injuries resulting from tag lines being secured to adjacent fixed structures parting and whipping back as a result of a heavy load rotating in an uncontrolled manner.

1.3 MITIGATION OF RISKS

1.3.1 Make-Up of Lines

1. Tag lines must be made up from single, continuous lengths of rope.

2. Apart from the knot attaching the line to the cargo, there must be no other joints or knots in the line.

3. Tag lines must be of sufficient length to allow personnel handling cargo to work in a safe position well clear of the immediate vicinity of the load. It this regard it is recommended that the length of the line should be not less than 1.5 times the maximum height above the handling area at which the arrangements will be used.

1.3.2 In Use

Whilst in use, precautions should be observed as follows:-

1. Tag lines are an aid to positioning the load when landing, and as such must only be used when weather conditions would permit the lifting of the item without the use of such arrangements. It must not be assumed that in conditions more severe than this the use of tag lines will allow the operation to be completed safely.

2. At all times personnel handling tag lines must work at a horizontal distance from the load equivalent to its height above the handling area, maintaining an angle between the line and the horizontal of not more than 45°.
GUIDELINES ON MAKEUP AND USE OF TAG LINES

3. All sections of the line, including slack must be kept in front of the body, between the handler and the load.

4. Where two or more persons are handling the same line, ALL must work on the same side of the line. Any slack must be kept in front of the group.

5. Tag lines must be held in such a manner that they can be quickly and totally released. They must not be looped around wrists, or other parts of the body.

6. Particular care must be taken when using tag lines whilst wearing gloves, to ensure that the line does not foul the glove.

7. Tag lines must not be secured or attached in any manner to adjacent structures or equipment. This includes the practice of making a “round turn” on stanchions or similar structures and surging the line to control the load.

8. Where pre-installed lines are used consideration should be given to providing personnel with boathooks or similar equipment to retrieve the lines without having to approach the dangerous area in the vicinity of the suspended load. An example of such circumstances would be when lines are attached to a load on the deck of a vessel, the load being then transferred to an offshore installation.