



International Association of Drilling Contractors

Guidance for Packaging and Transportation of Cargo for U.S. Offshore Operations

Task Force Recommendations for Improving Offshore Safety

Advancing safety in the drilling industry is a cornerstone of IADC's mission. Recently, IADC has taken aim at reducing one of the most critical areas of accidents offshore—injuries to drilling rig personnel in the Gulf of Mexico who are transferred to workboats for handling cargo transfer.

In almost every operating area of the world, workboats carry designated crew assigned to this task. No rig personnel are re-located to the workboats. Instead, rig personnel handle the load only aboard the rig. However, it has long been a practice in the Gulf of Mexico for the operator to provide roustabouts on the rig crew who will be put on workboats to unload supplies.

Data from the IADC Accident Statistics Program show that accidents involving rig crew on workboats account for an annual average of 7% of all Lost Time Injuries in the U.S. Gulf of Mexico over the past 15 years.

A special IADC Task Group recently examined this problem and developed guidelines to enhance rig-workboat safety. Their work is reported in this document, "Guidance for Packaging and Transportation of Cargo for US Offshore Operations". These guidelines can be a significant step forward for safer operations in the U.S. Gulf of Mexico.

There are actions we can take now to reduce or eliminate these accidents, such as pre-slinging loads; pre-load inspection and marking of cargo; improved supervision of cargo packaging, stowage and handling by suppliers, dockside dispatchers and vessel captains.

We urge your company to consider these recommendations for practices and training in cargo handling. We also thank the Task Force and the companies they represent for the generous contribution of their time and talent in preparing this guidance.



A handwritten signature in black ink, reading "Marion Woolie".

**Marion Woolie, Global Marine Drilling Company
Vice President-IADC Offshore Division**

A handwritten signature in black ink, reading "Lee Hunt".

**Lee Hunt, President
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Guidance for Packaging and Transportation of Cargo for U.S. Offshore Operations

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1.0 Objective

This guidance document is intended to assist offshore operators and contractors in developing safe work practices for the tasks of packaging and transporting cargo to-and-from offshore facilities. This guidance addresses minimum requirements promulgated by both regulation and industry “best practices”. Each offshore operator and contractor is encouraged to consider these recommendations, and to proactively modify or supplement them with additional beneficial practices or procedures, which may be more appropriate for the equipment, and/or environmental conditions.

2.0 Scope

This document is intended for application by those who package, load/backload, and transport supplies and equipment by vessel in support of the U.S. offshore oil and gas industries. The elements of this guidance should be applied as appropriate with due consideration made for any additional special hazards identified by the employer as a result of a Job Safety Analysis (JSA). It is not the intent of this guidance to subjugate, alter or amend contractual limitations, indemnifications, rights, obligations or financial implications that occur in the operator/supply vessel/contractor relationship.

3.0 Responsibilities

It is the joint responsibility of the offshore operator and contractor to ensure this guidance is applied appropriately and consistently within their organizations. Management of offshore cargo safety should be an integral component of each employer’s existing Safety and Environmental Management Plan.

4.0 Definitions

The following terms, when used in this document, have the meanings indicated:

- *Contractor*

The organization that has the direct responsibility for the day-to-day operation of an offshore facility, vessel, or MODU.

- *Hazardous Material and Hazardous Waste*

Hazardous Material and Hazardous Waste have the same meaning as in the U.S. Department of Transportation’s Hazardous Materials Regulations at 49 CFR 171.

- *Job Safety Analysis (JSA)*

The application of one or more methodologies that aid in identification and evaluation of hazards associated with a work activity. Guidance on performing JSAs is given in the IADC Accident Prevention Reference Guide.

- *Operator*

The organization which contracts a facility, vessel, or MODU within the specified areas of the US Outer Continental Shelf.

- *Offshore Employer*

The individual, partnership, firm, or corporation having control or management of safe work operations.

- *Offshore Installation Manager (OIM)*

The individual having overall responsibility for activities on an offshore facility.

- *Offshore Supply Vessel (OSV)*

A vessel used for the transportation of stores, materials, equipment, or personnel to, and from, an offshore facility or MODU.

- *Pre-slinging*

Pre-slinging means attaching suitable securing devices and slings to cargoes at the point of origin so that, except for tag lines, the cargo is prepared for any hoisting that may be required between the point of origin and its final destination.

- *Qualified Person*

Qualified Person has the same meaning as in API Recommended Practice 2D (API RP 2D), Operation and Maintenance of Offshore Cranes.

- *Qualified Inspector*

Qualified Inspector has the same meaning as in API RP 2D.

- *Rigging*

The loadlines, connectors, safety slings, padeyes, and accessories that attach the cargo to the crane by use of a hook or block device.

- *Safety and Environmental Management Plan (SEMP)*

A systematic management process used to identify and control safety and environmental hazards in design, construction, start-up, operation, inspection, and maintenance. SEMP guidance is provided by API Recommended Practice 75 (API RP75), Development of a Safety and Environmental Management Plan for Outer Continental Shelf Operations.

5.0 Minimum Training Requirements

An on-site competency based training program and JSA on the application of cargo and equipment rigging procedures should be administered by a Qualified Person before any personnel are permitted to rig or sling loads. At a minimum the following elements should be included in this program:

- Safe loading, unloading, and backloading procedures.
- Crane actions, movements, and signals.
- Responsibilities and authorities of personnel involved in typical cargo handling operations at the site.
- Procedures for responding to injuries to personnel, dropped or leaking cargoes and other accidents.
- Personnel protective equipment requirements.
- Responding to unusual occurrences.
- Visual inspection of slings and sling identification.

In addition to the above minimum training elements, the Qualified Person should ascertain whether assigned personnel are able to carry out their allocated duties.

6.0 Guidelines on Cargo Handling

6.1 Cargo Manifesting and Identification

These cargo-handling guidelines are designed to maintain the condition of items and materials during their movement, while being conducted in a safe manner and complying with regulations. Correct manifesting ensures that the handling and shipping of materials are in compliance with regulations for public safety and environmental conservation. It is recommended that offshore shipping manifests should:

- Identify the rig or facility from which the material is being shipped.
- Identify the cargo's destination.

- Identify the date and means of transportation.
- Include an accurate and sufficient description to allow easy identification of the item.
- Be in compliance with applicable regulations, and should be accompanied by any other documents necessary for regulatory compliance.
- Identify the cargo's owner.
- Identify the cargo's weight.

6.2 Slings and Shackles

All slings, including those used for pre-slinging, should comply with API RP 2D. The rating of the shackles utilized shall be equal to or greater than the rating of the slings. Each shackle and sling should be individually load stamped and certified. Only shackles and sling hooks that are load rated by their manufacturer, with a rating appropriate for the load, should be used. A system of periodic inspection should be established to assure that any deformation or elongation in the shackles and sling hooks does not exceed the manufacturers' recommendations.

6.3 Pre-slinging

To promote safety of personnel and efficiency of cargo operations, all cargo should be pre-slung at the point of origin or prior to offshore transport. Rigging should be designed so that personnel can hook/unhook cargoes from the deck, dock, rig or platform level without having to climb onto cargoes. Use of proper length slings will largely eliminate any need for personnel to climb or use ladders to hook / unhook cargo. Slings should be protected from damage during transport.

6.3.1 Pre-slinging Tubulars

All tubulars (casing, drill pipe, tubing, etc.) should be pre-slung or placed in engineered tubular handling devices that are pre-slung prior to transport to or from offshore facilities. All subs, stabilizers, bits and mills less than four feet in length should have a serviceable lifting cap installed and should be transported in a container or basket provided by the vendor, contractor or operator. All lifting caps should be designed for their intended loads. All subs, stabilizers and mills greater than four feet in length should be pre-slung with certified slings and/or transported in a container or basket provided by the vendor, contractor or operator.

6.3.2 Other Cargoes to be Pre-slung

Cargoes should be pre-slung if they:

- Exceed two thousand pounds;
- Exceed six feet in height; or
- Would otherwise require a four point hook-up.

6.4 “Loose” Materials

Companies that are preparing “loose” material for transport (i.e. bottle racks, tool boxes, welding machines etc.) should ensure cargo is designed appropriately for hoisting, that the load-bearing points and rigging have been inspected, and that its weight is prominently marked.

If the material is not designed and equipped for hoisting, every attempt should be made to stow the cargo in a container or basket of adequate size and suitable working load. All containers should be equipped with certified rigging. The safe working load of each container should be prominently marked on the container.

6.5 Palletized Material

Pallet loading and securing practices that may be accepted for warehousing or road transport of materials may not be appropriate for handling of offshore cargos. The following precautions should be observed:

- Cargo should not be accepted for transport if it is on damaged pallets.
- The arrangements for securing the cargo to the pallet and against shifting should be examined for adequacy prior to transport.
- The center of gravity of the cargo should be above the center of the pallet; and top-heavy loads, particularly of materials prone to shifting (e.g., sacked goods), should not be accepted. A load is considered top-heavy if the height of its center of gravity is greater than 50% of the minimum dimension of the pallet, e.g., more than 24 inches on a 48 inch pallet.

Devices designed for lifting palletized loads should be used to lift loaded pallets.

6.6 Boat Loading/Unloading Recommended Practices

In order to provide a safe and efficient operation during the transfer of cargo to and from an Offshore Supply Vessel, the following practices are recommended.

6.6.1 Vessel Qualified Person

A Qualified Person who is a member of the Offshore Supply Vessel’s compliment should handle all cargo on the vessel that is being transferred to or received from an offshore facility.

6.6.2 Responsibility For Loading & Unloading

The Offshore Supply Vessel Master is responsible for the safety of the vessel and its crew and all cargo being transported to and from offshore facilities while onboard the vessel. The Vessel Master is responsible for all boat loading and unloading operations. Cargo should be placed on board the vessel in a manner that facilitates safe access and emer-

gency egress by cargo handlers, passengers, and vessel crew.

The Vessel Master should determine the need to secure any items against shifting in a seaway and the appropriate means to do so.

6.6.3 Inspections

Prior to transfer from the vessel and upon receipt by the vessel the vessel’s Qualified Person should visually inspect all cargo to determine if the following criteria are met:

- Containers used to transport cargo are fit for service.
- Cargo weights are clearly marked and indicated on the manifest.
- Other particulars of the cargo conform to the manifest.
- Slings on pre-slung cargo have been inspected for safe working condition and fit for purpose.
- Cargo in containers with slings attached is positioned to allow access for hook-up from the side of the container and not the top of the container or other cargo.

6.7 Receiving Loads and Backloading from Offshore Facilities (MODUs, Platforms, etc.)

In order to provide a safe and efficient operation during the transfer of cargo to and from an offshore facility, the following practices are recommended.

6.7.1 Facility Qualified Person

A Qualified Person who is a member of the facility’s compliment should handle all cargo on the facility that is being transferred to or received from an offshore supply vessel.

6.7.2 Responsibility For Loading & Unloading

The offshore facility’s Offshore Installation Manager (Master in the case of self-propelled MODUs) is responsible for the safety of the facility and its crew and all cargo being transported to and from offshore facilities while onboard the facility. Cargo should be placed on board the facility in a manner that facilitates safe access and emergency egress by cargo handlers and others.

The OIM should determine the need to secure any items and the appropriate means to do so.

6.7.3 Inspections

Prior to transfer from the facility and upon receipt by the facility a Qualified Person from the facility should visually inspect all cargo to determine if the following criteria are met:

- Containers used to transport cargo are fit for service.
- Cargo weights are clearly marked and indicated on the manifest.

- Other particulars of the cargo conform to the manifest.
- Slings on pre-slung cargo have been inspected for safe working condition and fit for purpose.
- Cargo in containers with slings attached is positioned to allow access for hook-up from the side of the container and not the top of the container or other cargo.

7.0 Other Considerations

7.1 Hazardous Materials

All persons offering Hazardous Materials for transportation, whether the shipment originates at an onshore location or an offshore facility, and all carriers of such materials, have responsibilities under the Hazardous Materials Regulations and should establish programs to assure that these responsibilities are met. Particular attention should be paid to:

- Appropriate description of the material, its proper shipping name and completion of the shipper's certification, if applicable.
- Selection of packaging appropriate for the material.
- Completion of the shipping papers and/or manifest.
- Marking and display of identification numbers.
- Provision of emergency response information, e.g., Material Safety Data Sheets.
- Provision of a 24-hour response telephone number.
- Hazardous Materials known to require special segregation or handling procedures should be clearly identified and prior notice of their intended shipment given.

Procedures should be established for handling Hazardous Material which:

- Does not conform to its shipping papers or manifest.
- Has improper packaging, or is leaking or otherwise defective.

7.2 Wastes

Procedures should be established for all offshore facilities for the categorization, packaging and marking of all wastes prior to their being offered for transportation to shore. Manifests and other applicable documentation should be prepared in accordance with the applicable regulations, including the Hazardous Materials Regulations where the wastes are categorized as Hazardous Materials or Hazardous Wastes. Wastes known to require special segregation or handling procedures should be clearly identified and prior notice of their intended shipment given.

7.3 Engineered Or Non-Routine Lifts

Non-routine lifting operations include engineered lifts (heavy lifts), lifting Hazardous Materials, or any lift considered non-routine to the procedures established for the facility, and/or which may include one or more of the following criteria:

- Lifts made directly over the top of operating production facilities.
- Lifts with a center of gravity that cannot be determined.
- Lifts requiring non-standard rigging components or configurations.
- Lifts in excess of 38,000 pounds.
- Lifts in excess of 16 feet in height or width.
- Lifts in excess of 60 feet in length.
- Lifts requiring multiple primary lifting devices.
- Lifts within areas with restricted space for maneuvering the load.

Written procedures should be established for engineered or non-routine lifts. Such operations should be planned and directed by a Qualified Person, be subjected to a JSA, and documented in a written lifting plan.

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This document contains recommendations from an IADC Task Group established to consider means of improving the safety and efficiency of cargo handling in U.S. Gulf of Mexico Operations. The recommendations made by this Task Group have neither been reviewed nor endorsed by the IADC Board of Directors.

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Suggested revisions to the guidance are invited and will be considered along with future changes to these recommendations. Suggestions should be submitted to the Director-Offshore Technical and Regulatory Affairs, International Association of Drilling Contractors, 15810 Park Ten Place, Suite 242, Houston, TX 77084-5139.

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