



## Best Practices Guide for the Transfer of Employees by Personnel Basket

### Introduction

This document is intended to assist companies in developing their processes and procedures for transferring personnel offshore. During 2006 a workgroup formed by the OMSA Safety Committee was assigned the task of determining best practices as related to offshore personnel transfers by personnel basket. The group collected documents from national and international sources and compiled a summary of best practices that formed the basis for this document.

### Purpose

For over a decade OMSA members have continually improved offshore vessel safety. An examination of safety statistics shows a continuing decline in accidents related to vessel operations. As the number, frequency and severity of other categories of accidents have declined those involving offshore personnel transfers, more specifically personnel basket transfer, have appeared more prominent. OMSA members report that injuries sustained during personnel basket transfer are a serious concern, are costing members significant resources and should be addressed.

The purpose of this Best Practices Guide (BPG) is to provide member companies a basis for preparing guidelines and procedures for offshore personnel transfers based upon common elements found in such documents world-wide. This Best Practices Guide has been prepared by vessel operators, from the perspective of vessel operators.

### Discussion

Personnel transfers offshore are typically conducted in a multi-employer environment. The transportation to the worksite is performed by a vessel (company one), the lift is typically made by a drilling rig or platform (company two) and the basket passenger is often a third-party contractor (company three). This model would suggest that to reduce basket transfer injuries, improvements in education and training will only be successful if they can be exported to all three workforces.

To be successful the different subcultures and motivators of the involved groups should be taken into account such as the home office, the shore base, the vessel, the offshore facility and the third-party worker.

Due to the multi-employer workforce some of the recommendations in this BPG are out of the direct control of the vessel personnel and/or vessel owners. In areas where the appropriate action is out of the direct control of the vessel operator it is recommended that it is included in contract language or boarding agreement.

This Best Practices Guide is not limited to or directed at any specific brand or model of personnel basket. It is intended to assist all offshore employers in the development of safe work practices relative to the task of transferring personnel to-and-from offshore facilities utilizing a personnel transfer basket.

This Best Practices Guide contains common elements found in regulatory and industry documents found world-wide. Each offshore employer is encouraged to follow these recommendations, and to proactively modify or supplement them with additional beneficial practices or procedures, which may be more appropriate for the employer's equipment, or environmental conditions.

## **Scope**

This Best Practices Guide is intended for application by vessel operators who will transfer their own and client employees by personnel basket. The elements of this Best Practices Guide should be applied as appropriate with due consideration made for any additional special hazards identified as a result of a thorough Job Safety/Job Hazard Analysis (JSA/JHA).

## **Responsibilities**

It is the responsibility of the vessel operator to ensure this Best Practices Guide is distributed appropriately within their organization.

Management of offshore personnel transfer safety should be an integral component of an existing Safety Management Program.

## **Equipment**

### **Crane -**

The regulatory standards for design, construction, installation, maintenance and operator training of offshore cranes installed on U.S. production facilities, Mobile Offshore Drilling Units and OSVs (liftboats) reference API RP 2D.

### **Personnel Transfer Basket -**

A personnel transport device composed of a passenger area and designed for the aerial transport of personnel by an offshore crane from a vessel to offshore facility. The passenger area may be designed for either seated or standing personnel transport. The sidewalls may be either flexible or fixed.

### **Rigging -**

The loadlines, master links, safety slings, and hardware that attach the personnel basket to the crane hook or block device.

## **Safety Systems:**

The following are considered to be key elements of an effective safety system for management of crane suspended offshore personnel transfers.

### **ELEMENT 1: Company Policy**

This is a Best Practices Guide only. Each company will be required to create and enforce its own policy on the transfer of personnel by personnel basket.

### **ELEMENT 2: The Job Safety/Hazard Analysis (JSA/JHA)**

One element commonly used to promote safety is the Job Safety Analysis or Job Hazard Analysis. A JSA/JHA is frequently used to analyze the elements of a lift and prepare a lifting plan. While a "lifting plan" is generally developed in preparation for unusual, out of the ordinary, large, bulky or heavy lifts, movement of personnel to/from a vessel also requires planning. A proper lifting plan cannot be prepared without first conducting a Job Safety Analysis. Prior to a personnel lift there should be planning, discussion and communication between the parties. *Whether the plan and the JSA are formalized or accomplished through discussion between the vessel operator and crane operator, a lift plan should be implemented before any personnel lift.*

\*See the attached example JSA

### **ELEMENT 3: Personnel**

#### **Qualified Persons**

Persons designated by the employer who have the experience and training to safely operate the vessel, crane, rigging, and associated lifting devices at the work location. Qualified persons include the crane operator, riggers, vessel operator and vessel deck personnel.

## **Qualified Inspector**

A person designated by the employer who by reason of appropriate experience and training is responsible for the inspection, maintenance, and troubleshooting of cranes, rigging, and lifting devices. This person will normally be employed by the company providing the crane services.

## **Crane operator**

Prior to allowing personnel to be transferred by personnel basket, vessel personnel should inquire/ask of the crane operator:

- Acknowledge the identity of the vessel person in charge of the transfer;
- Acknowledge the vessel operator's overriding authority to suspend any operation due to safety concerns;
- Has been trained and certified to the API RP 2D standard;
- Is experienced in the type of crane used;
- Is familiar with the vessel's policy/procedure for personnel transfers;
- Is familiar with the vessel's Stop Work Authority policies;
- Has ascertained that they can safely conduct the scheduled lift(s) in the current environmental conditions;
  
- Radios are the preferred method of communication between the crane operator and vessel:
  - 1) The crane operator should be issued a radio on a common frequency to that used by vessel personnel and the vessels personnel should confirm communications with the vessel person in charge of the transfer, and
  - 2) Vessel personnel should inquire/ask if the crane operator recognizes the hand signals for crane operations in the event that a radio is not available, or radio communications are lost, and
  - 3) Vessel personnel should check that the crane operator has a clear view of the basket landing area and signalman on deck.

If the vessel crew is unsure of the crane operator's responses the information should be reviewed as part of the pre-lift JSA.

## **Vessel Operator (master/mate)**

Prior to allowing personnel to be transferred by personnel basket ensure:

- Is familiar with the vessel's policy/procedure for personnel transfers.
- Is familiar with the vessel's Stop Work Authority policies;
- Has ascertained the weather conditions and affect on the transfer process expected throughout the entire transfer process;

- Has experience in evaluating the vessel's station keeping abilities taking into account current and expected environmental conditions. More specifically, to determine whether or not the vessel can maintain position so that the crane operator can safely land the basket within the designated landing area;
  - Is familiar with performing a pre-transfer JSA and communicating that information to the crane operator and deck personnel;
  - Is familiar with and capable of inspecting personnel baskets to ensure the equipment is in safe working order;
  - Is capable of supervising crew members who will be on deck supervising the transfer;
  - Is trained in managing the personnel to be transferred to ensure a safe and orderly transfer process;
  - Is prepared to use Stop Work authority if they are uncomfortable with the crane operator.
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- Radios are the preferred method of communication between the crane operator and vessel:
    - 1) The vessel master or person in charge should use a radio on a common frequency to that used by the crane operator and has confirmed communications with the vessel person in charge of the transfer, and
    - 2) Should recognize the hand signals for crane operations in the event that a radio is not available, or radio communications are lost, and
    - 3) Should have a clear view of the basket landing area and signalman on deck.

### **Deck personnel**

Deck personnel may be referred to by a number of names banksman, signalman, slinger, rigger, deckhand or AB.

Signalman - The person designated to provide lifting instructions to the crane operator. The signalman may/may not be the vessel person in charge of the lifting operation. The preferred method of signaling is via radio. Traditional hand signals may be used. A designated signalman (banksman) should provide clear instructions to the Crane Operator. The Crane Operator should have a clear line of sight to the signalman, the basket and landing area at all times during the transfer. If obstructions block the Crane Operator's view, it may be necessary to re-arrange cargo or reposition the boat so that the Crane Operator's view is not obstructed.

Prior to allowing transfer by basket ensure that the vessel person in charge:

- Radios are the preferred method of communication between the crane operator and vessel:

- 1) The vessel person in charge should use a radio on a common frequency to that used by the vessel operator, crane operator and has confirmed communications with the vessel operator and crane operator, and
  - 2) Should recognize the hand signals for crane operations in the event that a radio is not available, or radio communications are lost, and
  - 3) Should have a clear view of the basket landing area and crane operator.
- Is familiar with necessary radio communications with the crane operator and vessel operator;
  - Is familiar with the vessel's policy/procedure for personnel transfers;
  - Is familiar with the vessel's Stop Work Authority policies;
  - Has ascertained the weather conditions and effect on the transfer process;
  - Has experience in evaluating the vessel's station keeping abilities taking into account the current and expected environmental conditions. More specifically, to determine whether or not the vessel operator can maintain position so that the crane operator can safely land the basket within the designated landing area;
  - Is familiar with performing a pre-transfer JSA;
  - Is familiar with inspecting personnel baskets to ensure the equipment is in safe working order;
  - Is experienced in managing the personnel to be transferred and providing basic instructions to ensure a safe and orderly transfer process;
  - Is prepared to use Stop Work authority if they are uncomfortable with the crane operator;
  - In some cases the rate of rise and fall of the vessel is faster than the crane lifting speed. In these instances the basket may be "bumped" by the vessel as it is being lifted (up or down). In these instances the vessel personnel should be prepared to use Stop Work authority.
  - Informs the basket passengers of the lift, and procedures associated with it, and that passengers acknowledge the deck person is in charge of the operation.

➤ Optional - Rigger Certification for deck personnel

## **Passengers/Riders**

Prior to allowing personnel to transfer by basket the vessel crew should ascertain each passenger's experience, and confidence in basket transfers. Personnel preparing to ride a basket should be questioned as to their experience, competence and confidence in riding a personnel basket. Personnel who exhibit signs of illness, motion sickness or vertigo should be questioned as to their capability to safely complete a transfer by personnel basket. Persons who exhibit uneasiness should be discouraged from using this form of transportation.

An on-site competency based orientation & JSA on the safe use of personnel basket devices should be administered by a qualified person before employees or visitors unfamiliar with the device are loaded or lifted. At a minimum the following elements should be included in this orientation curriculum:

- Show each passenger a personnel transfer video on offshore personnel transfers or other training program;

Also conduct crew instruction or an aircraft-style, pre-departure safety orientation on:

- Safe loading & unloading procedures.
- Crane actions and movements.
- Body positions, pinch points, and personal stability.
- Personnel baggage loading procedures.
- Personnel protective equipment requirements.
- Specific instructions to riders should include:
  - Do not jump from the basket.
  - Hold tight but not so tight you loose circulation.
  - Be confident.
  - Watch for the basket landing, stand back, do not approach the basket until ordered so by the crewmember in charge.
  - Keep knees bent, be prepared for a hard landing.
  - Be prepared for an awkward basket landing.
  - Place luggage in a separate cargo basket (exception – a basket equipped with a designated cargo area).
  - Always use proper lifting techniques for luggage.
  - Only the crewmember in charge is permitted to communicate/signal the crane operator.

#### **ELEMENT 4: Personnel Basket Rigging Configuration**

Personnel Carriers should be attached to the crane hook assembly as per the manufacturer's instructions. In addition, the carrier should have the following:

All personnel baskets should be equipped with a double safety loadline assembly composed of a main support line constructed of a galvanized steel wire rope sling and a secondary stabilizing rigging line (that includes a double cable assembly) rated for the expected load.

A semi-rigid, snag resistant tag line consisting of a polydacron or similar rope coated with a slip resistant polyester resin specifically manufactured for this purpose, should be affixed to all personnel baskets. Tag lines should have a minimum length of 10' (3.05 m). Tag line should be attached to either the center deck lashing point, or the outside bottom platform ring in such a manner that

minimizes tag line damage when basket is resting on a surface personnel transfer device tag lines should be identified by a high visibility color or reflective external coating.

A shock absorbing safety sling or lanyard (sometimes called a “stinger”) designed to provide emergency fall containment, should be affixed between the crane hoisting line and the basket upper master link. This will add a measure of safety in the event the lifting ring becomes detached from the crane hook. The safety lanyard should be composed of a galvanized steel wire rope sling, with a minimum breaking strength of six times the expected load. These lines can also be constructed of high strength synthetic rope encased in a protective nylon sheath. A stinger is not required if the crane hook is properly fitted with locking safety latch.

### **ELEMENT 5: Personnel Basket Inspection Procedures**

All inspections should be performed by a qualified person and should always incorporate an operator's pre-use inspection complying with API RP 2D. Periodic inspections of Personnel Carriers should also follow company policies/procedures developed in consideration of manufacturer's inspection procedures which should include the following minimum components:

- Visually inspect safety load line, swages and connections for obvious damage or defect when attaching to crane. Inspect crane hook positive locking device for function and physical condition;
- Check sidewall rigging, top & bottom platforms, and cushion ring for obvious damage, defect or wear;
- Ensure snag resistant tag line is affixed;
- Inspect top and bottom lifting ring for obvious damage, defect or excessive wear, cracks, or corrosion;
- Visually inspect safety load line when attaching to crane for obvious damage or defect. Inspect crane hook positive locking device for function and physical condition;
- Check sidewall rigging line splices (top & bottom) for wear, UV degradation (blistering, discoloration, or cracking), and unraveling. All synthetic rope splices should have a 3 tuck minimum;
- Visually inspect stabilizer and safety load line unit for visual damage including external protective cover;
- Inspect bottom platform ring for deterioration, cracks, or angular distortion;
- Check cover on bottom platform ring for tears or cuts. Damage of bottom platform cover may require additional examination by a qualified inspector;
- Check top and bottom flotation batts for deterioration or damaged closed cell foam. Damage of flotation may require additional examination by a qualified inspector;



- Visually inspect bottom and top pneumatic cushion hoses (if so equipped) for deterioration or damage;
- Inspect crane hook positive locking device for proper function and physical condition;
- Inspect emergency fall containment line (stinger) and attachment shackle, if installed.

Discovery of obvious damage, excessive wear or defect may require additional examination by a qualified inspector.

## **ELEMENT 6: Environmental Conditions**

Personnel baskets should not be utilized in weather, wind, or sea conditions that the vessel operator, supervisor on deck or crane operator considers to be unsafe.

From the perspective of the crane operator the key to ascertaining environmental conditions is – “Can the crane operator safely place and retrieve the personnel basket in the designated landing area.” The environmental conditions that will require the cessation of operations will be different for each vessel and each vessel operator/crane operator team.

From the perspective of the vessel operator the key to ascertaining the environmental standard applied in this guide is – “Do the prevailing environmental conditions prevent the vessel operator from maintaining the vessel position such that the crane operator can safely land the basket, such that an open space of sufficient size is available for deck personnel to guide the basket and passengers to embark and disembark.”

From the perspective of the personnel being transferred the key environmental standard is ascertaining – “Do the prevailing environmental conditions prevent persons from safely boarding or debarking the basket in such a time frame that the vessel operator can maintain the vessel position such that the crane operator can safely land or lift the basket?”

It is important that the relative lifting speed of the crane vs. sea state be factored into environmental considerations. The crane should be able to lift fast enough that the basket will not be struck by the vessel on the way up or down.

Environmental considerations include:

- Wind
- Wave
- Current
- Vertical movement of the vessel

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- Horizontal movement of the vessel
- Fore and aft movement of the vessel
- Relative position of obstructions

### **ELEMENT 7: Vessel Station Keeping**

Station keeping is the relative motion of the vessel to the basket landing area. Based on the ability of the crane to swing, can the crane operator be reasonably expected to land or retrieve the basket in the center of the landing area.

The standard applied in this BPG is – “Can the vessel operator maintain the vessel position such that the crane operator can safely land the basket such that an open space of sufficient size is available for deck personnel to guide the basket and passengers to embark and disembark.”

Station keeping considerations include:

- Location and size of the basket landing area
- Vessel size
- Engine configuration
- Engine Response
- DP

### **ELEMENT 8: Vessel Considerations**

A landing zone should be designated in a safe area as determined by the vessel operator. If any changes are made to the landing area ensure all parties are aware and informed. Personnel baskets should not be landed on the boat deck unless there is a clear area for the basket to be landed. Baskets should not be landed on top of cargo.

The designated landing area should be of sufficient size to allow the crane operator to place the basket on deck with sufficient free space on all sides in the prevailing environmental conditions to allow deck personnel to guide the basket and passengers to embark and disembark..

### **ELEMENT 9: Stop Work Authority**

Stop-work authority is an industry-wide standard. So, if stop-work authority is industry-wide why isn't it used? All members of the multi-employer workforce involved in basket transfers will need to strive to make stop-work authority a part of the safety culture to overcome any subtle and/or overt pressures that may unduly influence the decision making of responsible personnel.

Crucial to the success of any policy is how well will employers support stop-work decisions by their crews, do the vessel operators and/or facility operators support the stop-work decisions of their crews?

Support is necessary as typically the deckhand, the most junior person on a vessel is the one tasked with making these decisions. The deckhand may be unwilling to make such a decision. Stop-work decisions should be made from the viewpoint of the person on the deck taking into account their comfort level with the conditions on scene and then supported by all levels above them.

### **ELEMENT 10: Communications**

Radio communications between the crane operator, vessel operator and deck personnel is the preferred method. Radio communication should be established on an agreed radio frequency and maintained during the transfer operation. While radio communications is the preferred method hand signals may be used where radios are not available.

The crane operator and deck personnel should always remain in the line of sight of each other.

Prior to commencing any transfer a positive identification of the person in charge on the vessel and in the crane should be established.

Standard Hand Signals should be understood and used by crane and vessel personnel, but only in the case of a loss of radio communications.

### **ELEMENT 11: Minimum Components of a Lifting Plan**

Any vessel or facility making personnel transfers with a personnel basket should have a written procedure for this task including:

- A pre-use inspection should be conducted prior to any personnel basket transfer;
- Cranes assigned to personnel lifting duties should be suitable for this purpose per API RP 2D, 46 CFR 107, 46 CFR 109, 30 CFR 108;
- Crane operators assigned to personnel lifting duties should be certified and competent to perform this task per 46 CFR 107, 46 CFR 109, API RP 2D, 30 CFR 108;
- A snag resistant tag line should be affixed to all personnel baskets;
- Crane hooks used for personnel transfers must have a positive locking latch;
- Only approved personnel baskets should be used for lifting personnel;
- Personnel baskets should not be used as a workbasket or cargo net.

- Personnel baskets should be legibly marked with the maximum number of passengers;
- Luggage should be transferred separately from personnel in a cargo basket. Luggage should not be transferred in the center of the personnel net. This practice can cause the debarkation process to be slowed and the rider be delayed in getting to a safe area. Another issue is the potential for back injury due to the awkwardness of leaning over to get bags. These reasons become especially true in rougher seas;
- Before any attempt is made to lift personnel with a basket, clear instructions should be given to all persons involved;
- No person suffering from acute seasickness or vertigo should be transported by personnel basket;
- Any individual has the right to refuse transfer by a personnel basket;
- All personnel riding on a personnel basket should wear an approved life vest or life preserver. An approved Type I illuminated PFD should be required for all transfers conducted at night;
- All personnel riding on a personnel basket should stand or sit on the basket as per the manufacturer's instructions;
- A primary landing zone should be designated in a safe area as determined by a Job Safety Analysis (JSA). If any changes are made during ongoing operations all involved personnel should be notified;
- When transferring personnel, the personnel basket should be lifted only high enough to clear obstructions before being swung over open water.
- The basket should always be gently lowered to the deck;
- A loaded personnel basket should not be raised or lowered directly over a vessel;
- The crane operator may refuse to lift any person who does not comply with the operator's instructions;
- An experienced escort should be provided for persons who are not confident performing a personnel basket transfer;
- Injured, ill, or unconfident persons may ride in a sitting position, on the inside of the personnel basket, with a qualified person as an escort;
- Transfers should only take place when there is sufficient clear space at both the point of embarkation and the point of landing of the basket. As part of the risk assessment, consideration should be given to the likely route of the basket to minimize the risk of the personnel striking work equipment, structures, or other objects during the transfer. A permanent basket transfer landing area could be considered.

## **Documents Used in Producing this Guide:**

OMSA

“Third Party Boarding Agreement”

Minerals Management Service

30 CFR part 108

United States Coast Guard

46 CFR 107, 109, 126

33 CFR 142

American Petroleum Institute (API)

“API RP-2D Recommended Practice for Operation & Maintenance of Offshore Cranes”

International Association Of Drilling Contractors

Health, Safety and Environment Reference Guide

IMCA SEL 08/01 “Transfer Of Personnel by Basket on the UK Continental Shelf”

Moxie Media Corporation

“Personnel Basket Safety Video Training Series”

Billy Pugh Company, Inc.

“Procedures for Maintenance & Inspection of Personnel Baskets”

Kennedy Wire Rope & Sling Company

“Procedures for Inspection & Maintenance of Wire Rope Slings and Rigging”

Department of The Interior, Minerals Management Service

“Safety Alert No.190-1/22/00 & Safety Alert No. 193-2/28/01”

IADC Safety Alert 05-41

## **Sample Forms (To be developed)**

Pre-transfer Declaration of Inspection  
(vessel responsibilities)  
(crane operator responsibilities)

Transferee acknowledgement of instruction  
(viewed and understands the video)  
(acknowledges the deck person in charge)  
(is physically capable of the transfer)

## **Sources of Training**

### **Moxie Media Corporation**

[www.moxiemedia.com](http://www.moxiemedia.com)

Personnel Basket Safety Video Training Series

### **Acadian Integrated Solutions**

<http://www.acadianintegratedsolutions.com/>

Rigger Training

Personnel Transfer Training