

- Perform a trial lift without personnel prior to the actual lift.
- Perform a pre use inspection of the crane prior to the lifting operation

Persons operating or using equipment for personnel lifting (excluding cranes) shall be:

- Properly trained
- Deemed competent for the task by the Site Manager to a standard recognized by the GoM Region Lifting Engineer.

Passengers being lifted shall be briefed by the Lift PIC. The Lift PIC shall confirm:

- Passengers are wearing type 1 lifejackets
- Personnel have been trained and or have experience of personnel lifting
- Passengers have been briefed on all aspects of the transfer
- Signaller is in place on platform and or vessel
- Roles and responsibilities are assigned and coordinated
- Radio communication established with the master of the supply vessel prior to commencing lifting operations
- Plan is in place for radio communication failure
- Visual contact is maintained throughout lifting operation
- Crane Operator has been trained and assessed as competent for this type of operation
- Environmental conditions have been established by SLC, crane operator and vessel master as being suitable for lifting / transferring personnel by this method
- Second Crane Operator and / or Mechanic is available and capable of operating the crane in the event of an emergency, unless self-rescue equipment is available, or the rescue plan addresses this risk
- Personnel carrier is visually inspected before use

16.2 Suitability of Cranes for Personnel Lifting and Personnel Transfers

- Lifting equipment with a free fall mode that cannot be effectively locked out shall not be used for lifting personnel.
- Competent person shall verify that the crane is certified and is marked "suitable for lifting personnel" before each operation.
- Hoisting systems shall have a device, other than the load hoist brake, which regulates the speed at which the load can be lowered.
- Before a Personnel Transfer operation takes place, the competent person shall define a communication method and verify that the operation conforms to Local OMS requirements.
- Floating cranes should have suitable station keeping ability (e.g., DP – Class 2 or multi point mooring system)

16.3 Suitability of Winches for Man-Riding

- Competent Person shall verify the winch is certified and marked "suitable for man-riding"
- Before a Man Riding operation takes place, the competent person shall define a communication method and verify that the operation conforms to Local OMS requirements

16.4 Personnel Transfer Capsules (PTC)

PTC shall:

- Not be used as a workbasket.
- Be specifically designed and certified to a standard that is acceptable to the GoM Region Lifting Engineer
- Be fitted with floatation and be Self-righting
- Conform to local legislation
- Be inspected and certified every six months
- PTCs shall be capable of carrying casualties plus an attendant in the event of an incident.
- Competent Person shall accompany a casualty.
- PTCs shall be detached from the crane prior to installing or removing a stretcher from within the capsule.
- Once landed, the crane shall lower the hook approximately 3m / 10ft to allow sufficient slack in the line to prevent snatching of the capsule due to unexpected heave or loss of vessel station.
- When landing PTC, it shall be guided to a suitable pre-designated marked area and positioned with the aid of taglines or push pull poles.

16.5 Personnel Work Baskets

A. Standard cargo baskets shall not be used personnel work baskets.

B. Personnel Work Baskets being utilized shall be:

- Suitably designed to a standard recognized by the GoM Region Lifting Engineer
- Constructed and certified for the purpose of lifting personnel
- Marked with a SWL
- Securely attached to the crane,(e.g., by safety pin, four part shackle, positive lock hook)
- Fitted with a redundant sling, preventing a single point of failure of below the hook rigging
- Fitted with internal handrails to prevent hands / fingers being trapped if the basket swings against an obstruction
- Fitted with a roof to protect personnel, if there is a risk of falling objects
- Fitted with slip resistant floor
- Fitted with internal anchor points for safety harnesses
- Fitted with inwardly opening doors that have a locking mechanism to prevent inadvertent opening
- Fitted with integral ladder for access / egress, if required

16.6 Rescue Plans

Rescue Plans are critical if personnel become unconscious while hanging in a harness as this can result in suspension trauma, which can be fatal in a very short time (20 – 30 minutes).

- Rescue plans shall detail a method of retrieving personnel safely, in the event of an accident or incident.
- Personnel who are required to carry out a rescue with a descent / ascent device shall be trained and competent in its use.

- Rescue operations can introduce additional hazards, which shall be detailed during the planning and risk assessment stage.

The following equipment should be considered as part of a rescue plan:

- Alternative power supply to hoist
- Emergency manual lowering device on hoist
- Secondary hoist
- Rescue basket (for use with alternative hoist)
- Full body type harness fitted with a 'D' ring / lanyard suitable for rescue purposes
- Availability of another lifting device
- Emergency descent / ascent device

In addition to the foregoing equipment, the rescue plan should provide for the engagement of the emergency response team to confirm capability of rescue

17 Monitoring and Audit

After completing the lifting operation, everyone involved in the lift should have the opportunity to discuss and make improvements to the lift plan. Any learning points noted on the plan should be reviewed by a competent person and, where appropriate, action taken. Learning points may include feedback on equipment effectiveness, lifting techniques, personnel, etc.

Periodically, but no less than weekly, facility leadership shall perform Safety Observation Conversations (SOC) and site inspections of lifting operations to ensure lifting operations comply with the BP GoM Management of Lifting Operations Policy. SOC's shall be documented in Tr@ction so that trends can be tracked.

All BP GoM facilities shall conduct a quarterly Crane and Rigging Safety Meeting which should be led by the facility Site Lifting Coordinator's to provide a forum whereby policies, best practices and lessons learned can be shared and discussed in order to improve the safety of crane and rigging operations. Personnel in attendance should include crane operators, riggers, HSE site leads, contract crane companies leadership (where applicable) and BP facility leadership (Facility SLC's and BP facility leadership will ensure that the correct policy interpretation is provided).

The objective of the quarterly crane and rigging safety meeting is to develop and implement solutions to reduce incidents and promote safe work practices, identify training needs, share best practices, share incidents and lessons learned and establish performance expectations. The quarterly meetings should be documented on existing facility safety meeting forms and maintained onboard and a copy sent to the GoM Regional Lifting Engineer. The report should reflect the issues discussed, resulting ideas and implementation plans. The GoM Regional Lifting Engineer will then communicate the issues and lessons learned as appropriate throughout GoM operations.

18 Key Documents

[GoM Lifting Device Inspection and Testing Requirements \(UPS-US-SW-GOM-HSE-DOC-00175-2\)](#)

[GoM Region Control of Work \(COW\)](#)

[Upstream Defined Practice \(3.2-0002\) – Management of lifting operations](#)

[Group Defined Practice \(GDP 3.1-0001\) - Assessment, Prioritization and Management of risk](#)

[Beam Clamp Allowable Loadings Matrix](#)

[GoM Lift Categorization Form](#)

[GoM Category 1 Lifting Plan](#)

[GoM Category 2 & 3 Lifting Plan](#)

A copy of this manual can be found online at the BP GoM HSSE website.

Appendix A – Installation/Site Familiarization Record Form

Installation/Site Familiarization Record Form		
Location:	Supervisor:	Employee initial in shaded areas
Employee:	Position:	
Part 1 - Installation Safety Induction		
Installation safety induction and orientation completed, all personnel shall comply with the facilities safety requirements.		
Part 2 - Lifting Plans and Risk Assessments		
Review and understand generic and site-specific lifting plans and risk assessments relative to crane operations, including their implementation and application.		
Part 3 - Crane Related Incidents		
Review facilities incidents for the previous 3 months, discussing lessons learned		
Part 4 - Introduction to Key Personnel		
Introduction to all relevant key personnel for crane hoisting and lifting operations		
Part 5 - Accident / Incident Reporting		
Emphasize that the BP accident / incident reporting procedures shall be fully complied with and ALL incidents reported to your supervisor immediately.		
Part 6 - Documentation		
Review and discuss all company documentation relevant to crane operations, including where records are stored.		
Part 7 - Crane Operation Familiarization and Instruction on the Crane(s) by a Competent Person		
Pre-start and pre-operational checks / inspections		
Crane controllers identified and each mode function tested		
Operating controls, techniques and characteristics demonstrated		
Safety devices identified and function checked		
Instrumentation function and layout		
Emergency safety equipment, e.g. fire ext., lifejackets etc.		
Installation specific problems relating to crane operations		
Part 8 - General Installation Orientation by a Competent Person		
A walk around orientation for all crane operators of the installation lay-down areas, position of drilling derrick (if applicable), blind lift areas, bulk transfer sites, obstructions within crane operating radius, rigging loft etc.		
I confirm I have received a complete familiarization of the facility cranes and understand the above to.		
Employee Signature		
Name of Person Conducting Familiarization Form (print)		
Signature of Person Conducting Familiarization Form		
OIM Signature		
Date		

Appendix B – Category 1 Lift Plan

Instructions for using this form:

This lifting Operations Plan shall be completed prior to all routine lifting operations. This plan must be filled out completely and approved prior to starting the lifting operation.

Section 1. General Lift Information:

FACILITY NAME:	DATE OF LIFT:
DESCRIPTION OF LIFTING OPERATION:	MARINE LIFT: <input type="checkbox"/> DECK LIFT: <input type="checkbox"/>
LIFTING OVER LIVE PROCESS EQUIPMENT: <input type="checkbox"/> Yes <input type="checkbox"/> No	COMMUNICATION METHOD TO BE USED:
ENVIRONMENTAL CONDITIONS:	
Wind speed & direction:	Sea state:
	Sky conditions:
Comments: Chain Hoist Lift	

Section 2. Pre-Lift Checks (list is not exhaustive):

- | | |
|--|--|
| <input type="checkbox"/> Swing Room Checked during "dry run"
<input type="checkbox"/> All Crane Safety Devices Operational
<input type="checkbox"/> Are rigging certifications available for slings
<input type="checkbox"/> Load Chart Available and Used
<input type="checkbox"/> Signalman Wearing High Visibility Vest
<input type="checkbox"/> Shipping Manifest Complete/Available
<input type="checkbox"/> Tag Line (if required by JSEA)
<input type="checkbox"/> Load Center of Gravity Verified
<input type="checkbox"/> Lift is Away from Critical Underwater Equipment
<input type="checkbox"/> Pad-eye/ shackle interface issues with non pre slung loads
<input type="checkbox"/> Verify integrity of lift points
<input type="checkbox"/> Confirm stops on trolley beams are adequate for the trolley being utilized | <input type="checkbox"/> Lifting Pad eyes Checked
<input type="checkbox"/> Visual Inspection of Lifting Equipment Completed
<input type="checkbox"/> Is Load Evenly Balanced
<input type="checkbox"/> Non-Essential Personnel Notified of Lift
<input type="checkbox"/> Personnel Basket Inspected (if required)
<input type="checkbox"/> Helicopter Activity Checked
<input type="checkbox"/> Adequate Personnel Escape Routes
<input type="checkbox"/> Will lift require stacking
<input type="checkbox"/> Consideration of deck strength / loading
<input type="checkbox"/> Load integrity / dropped objects inspections completed
<input type="checkbox"/> Perform a function test on installed trolleys (temporary or permanent) to ensure the end stops will stop the trolley fully
<input type="checkbox"/> Proper contact points and installation (for beam clamps) |
|--|--|

Is there a potential for SIMOPS (If so describe SIMOPS below): Personnel in area that is not part of the work crew.
 Explain mitigations to eliminate conflict of SIMOPS: Discuss in morning meeting with every one on board.

Section 3. Planned lifting sequence for the lifting operation (press enter for more lines):

ANY PERSON INVOLVED WITH THE JOB CAN CALL AN ALL STOP AT ANY TIME FOR ANY REASON

Section 4. Rigging Equipment List:

Chain Falls	
Come-a-Longs	
Shackles	
Beam Clamps Proper Contact Points? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trolleys End stops on beam clamp suitable and stops the trolley? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Nylon slings	

Crane Stingers	
Eye-Bolts	
Tag Lines	

Section 5. Personnel required for the lifting operation (Name of each, do not use nicknames):

<u>Print Name:</u>	<u>Signature:</u>	<u>Print Name:</u>	<u>Signature:</u>
Person In Charge (PIC):		Rigger (Facility):	
Chain hoist Operator:		Rigger (Facility):	
Chain hoist Operator:		Rigger (Facility):	
Signalman (Facility):		Rigger (Facility):	
Signalman (Facility):		Rigger (Facility):	

Section 6. Review & Approvals:

<u>Approver Role:</u>	<u>Printed Name:</u>	<u>Signature:</u>	<u>Date:</u>
Prepared by:			
Site Lifting Coordinator:			
OIM / Delegate Approval:			
Regional Lifting TA:			

Section 7. Lift Plan Amendments:

--

Appendix C – Category 2 and 3 Lift Plan

Instructions for using this form:

This lifting Operations Plan shall be completed prior to all category 2 & 3 lifting operations. This form shall be filled out completely and approved prior to starting the lifting operation.

For category 3 lifting operations, this form shall be filled out in its entirety and forwarded along with rigging drawings to jacob.reidenbach@bp.com for final approval. *(Please allow 24 hours for approval)*

Section 1. General Lift Information:

<p>FACILITY NAME:</p> <p>DESCRIPTION OF LIFT:</p> <p>WCC NUMBER:</p> <p>LIFTING OVER LIVE PROCESS EQUIPMENT: <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>LIFT CATEGORY: <input type="checkbox"/> CATEGORY 2 <input type="checkbox"/> CATEGORY 3</p> <p>ENVIRONMENTAL CONDITIONS: Wind speed & direction: / Sea state: Sky conditions:</p> <p>Comments:</p>	<p>DATE OF LIFT:</p> <p>MARINE LIFT: <input type="checkbox"/> DECK LIFT: <input type="checkbox"/></p> <p>RIGGING DRAWING NUMBER:</p> <p>COMMUNICATION METHOD TO BE USED:</p>
---	---

Section 2. Pre-Lift Checks (list is not exhaustive):

<ul style="list-style-type: none"> <input type="checkbox"/> Swing Room Checked during “dry run” <input type="checkbox"/> All Crane Safety Devices Operational <input type="checkbox"/> Are rigging certifications available for slings <input type="checkbox"/> Load Chart Available and Used <input type="checkbox"/> Signalman Wearing High Visibility Vest <input type="checkbox"/> Shipping Manifest Complete/Available <input type="checkbox"/> Tag Line (if required by JSEA) <input type="checkbox"/> Load Center of Gravity Verified <input type="checkbox"/> Lift is Away from Critical Underwater Equipment <input type="checkbox"/> Pad-eye/ shackle interface issues with non pre slung loads <input type="checkbox"/> Verify integrity of lift points <input type="checkbox"/> Confirm stops on trolley beams are adequate for the trolley being utilized 	<ul style="list-style-type: none"> <input type="checkbox"/> Lifting Pad eyes Checked <input type="checkbox"/> Visual Inspection of Lifting Equipment Completed <input type="checkbox"/> Is Load Evenly Balanced <input type="checkbox"/> Non-Essential Personnel Notified of Lift <input type="checkbox"/> Personnel Basket Inspected (if required) <input type="checkbox"/> Helicopter Activity Checked <input type="checkbox"/> Adequate Personnel Escape Routes <input type="checkbox"/> Will lift require stacking <input type="checkbox"/> Consideration of deck strength / loading <input type="checkbox"/> Load integrity / dropped objects inspections completed <input type="checkbox"/> Perform a function test on installed trolleys (temporary or permanent) to ensure the end stops will stop the trolley fully <input type="checkbox"/> Proper contact points and installation (for beam clamps)
--	--

Is there a potential for SIMOPS (If so describe SIMOPS below):
 Explain mitigations to eliminate conflict of SIMOPS:

Section 3. Planned lifting sequence for the lifting operation (press enter for more lines):

ANY PERSON INVOLVED WITH THE JOB CAN CALL AN ALL STOP AT ANY TIME FOR ANY REASON

Section 4. Personnel required for the lifting operation (Name of each, do not use nicknames):

<u>Print Name:</u>	<u>Signature:</u>	<u>Print Name:</u>	<u>Signature:</u>
Person In Charge (PIC):		Rigger (Boat):	
Crane Operator:		Rigger (Boat):	
Crane Operator:		Rigger (Facility):	
Signalman (Boat):		Rigger (Facility):	
Signalman (Facility):		Rigger (Extra):	

Section 5. Rigging Equipment List:

Chain Falls	
Come-a-Longs	
Shackles	
Beam Clamps Proper Contact Points? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Trolleys End stops on beam clamp suitable and stops the trolley? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Nylon slings	
Crane Stingers	
Eye-Bolts	
Tag Lines	

Section 6. Load Calculations & Rigging to be used:

Actual weight of lift: LBS. How was the weight confirmed (i.e. drawings, etc):	Dimensions of lift: x x Comments:		
Slings being used and weight of them: <i>(i.e 4 way 20 ft set of 1" wire rope slings rated at 10,000 in vertical)</i>	Certification Date:	Weight of load: Weight of lifting gear (shackles, slings, etc) Extra equipment being added: Describe extra equipment:	LBS LBS LBS
Number of shackles & size including weight of them:	TOTAL WEIGHT OF LOAD:		LBS
Sling Configuration (circle appropriate configuration and sling angle):			Sling Angle Tension per leg: LBS

Does the actual rigging scheme differ from the approved rigging diagrams?

Yes No If yes, explain why:

Required angle of boom for lift:	SWL of crane at lift angle:
Percentage of cranes rated capacity being utilized: Total weight of lift:	DIVIDED BY SWL of crane at radius: =
Percentage of sling set rated capacity being utilized: Total weight of lift:	DIVIDED BY SWL of slings: =
Percentage of shackles rated capacity being utilized: Total weight of lift:	DIVIDED BY SWL of shackles: =
Comments:	

Section 7. Crane inspection history:

Make & model of crane:	Serial no. of crane:	Hour meter reading:
Pre-Use: / /	Quarterly: / /	Annual: / /
Last Pull Test: / /	Last Load Test: / /	Comments:

Section 8. Review & Approvals:

Approver Role:

Prepared by Competent Person:

Site Lifting Coordinator:

OIM / Delegate Approval:

GoM Lifting Authority:

Printed Name:

Signature:

Date:

Section 9. Lift Plan Amendments:

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Appendix D – Designated Crane Operator Form



BP Exploration and Production Inc.
200 WestLake Park Boulevard
Houston, Texas 77079

P. O. Box 3092
Houston, Texas 77253-3092

(281) 366-2000

January 13, 2016

Subject: Personnel authorized for lifting operations

This letter is to document the following personnel as trained and competent crane operators and riggers who are authorized to undertake lifting operations on the Mad Dog Spar, Official Number CG669538. Designated individuals will adhere to all industry regulations and company policies concerning lifting operations. All have demonstrated their knowledge of crane and rigging operations and emergency conditions. Each person listed below holds the appropriate certifications, and may perform the duties of crane operators and riggers.

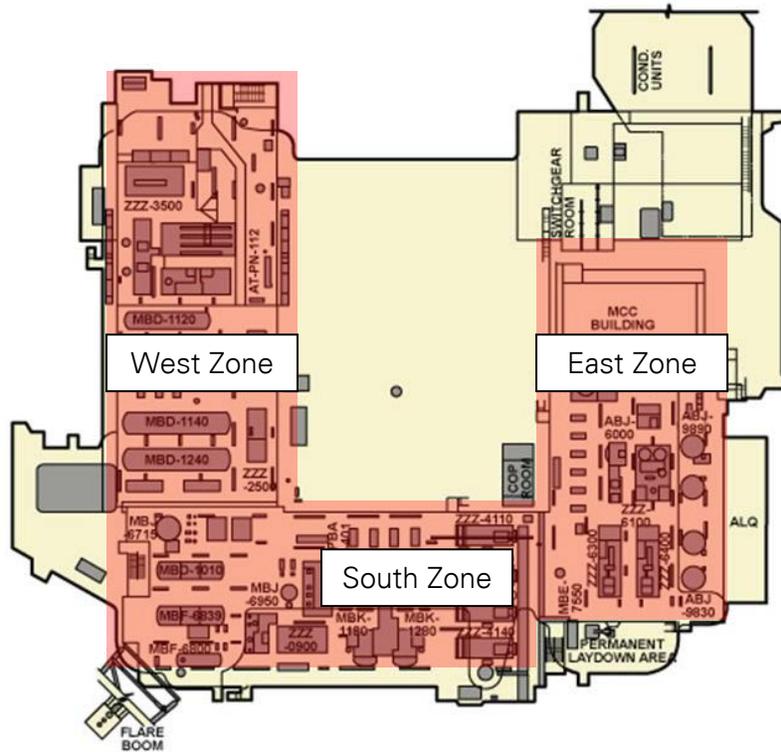
- Mad Dog Mike – Crane Operator
- Mad Dog Pete – Crane Operator
- Mad Dog Ken - Rigger
- Mad Dog Albert - Rigger

Mad Dog OIM

Mad Dog OIM

GoM Region Lifting Engineer

Appendix E - Example of Facility Specific No Lift Zone Plan



Platform Location	Live or Vulnerable Plant
West Zone	<ul style="list-style-type: none"> Compressors Pipeline Pumps Coolers 4th Stage Compressors, Heat
East Zone	<ul style="list-style-type: none"> Well Bay Separator Heater
South Zone	<ul style="list-style-type: none"> Umbilical's Pigging Pumps Glycol Contactor

***This is only an example and does not represent an actual No Lift Zoning Plan.**

Appendix F – Lift Categorization Form

	LIFTING CATEGORIZATION FLOW CHART OFFSHORE (In Air Lifts only)			
LIFT PLAN No: TITLE				
●	Start at the top of the chart; answer all the questions. The first question that is answered “YES” will identify the lift category in the right hand column			
	Tick YES if statement is true or correct Tick NO if incorrect or false	NO	YES	CATEGORY
●	Is the Pedestal crane whip line utilization above 90%?			3
●	Is the Pedestal crane main block utilization above 80%?			
●	Does the lift require additional technical input? (Lift being engineered by 3 rd party company)			
●	Does the lift have limited boom clearance? (i.e. less than 1 metre or 3.3 feet)			
●	Is the lift to be performed by an external team? (i.e. not a lifting team which normally perform lifts at the facility)			
●	Is the lift above or in close proximity to live plant, or in the event of an incident can the lift affect any offshore or subsea assets? (Crane utilization equal to or exceeding 70%)			
●	Will the load be, upended, rotated or overturned by 2 or more powered lifting devices?			
●	Is the fixed lifting system utilization above 95%? (Overhead crane, runway beam or davit etc)			
●	Is the load extremely valuable or irreplaceable? (a lift that has been assessed with an equal to or greater than a level F business impact of \$500K to \$5m, as per GDP 3.1-0001)			
●	Is the lift non-returnable or classed as demolition? (when a load once lifted cannot be returned to its location or a load that has to be cut out of it's location)			
●	Will the consequences of failure of equipment or procedure be significant for the asset? (Process safety risk)			
●	Can the load bearing pressure, exceed the Deck strength?			
●	Are the lift characteristics unusual for the assets? (i.e Heavier, more complex than normally performed)			
●	Is the load to be lifted or cross hauled or restrained using two or more non powered lifting appliance without 100% redundancy? (one of the appliances cannot hold the entire load)			
●	Is the load to be lifted or cross hauled or restrained using two or more non powered lifting appliance with 100% redundancy? (one of the appliances can hold the entire load)			
●	Does the load have a C of G above the lifting points or a high C of G or the potential to become unstable?			
●	Is the lift above or in close proximity to live plant, or in the event of an incident can the lift affect any offshore or subsea assets? (Crane utilisation below 70%)			
●	Is the lift blind or conducted within a confined space? (when the crane operator cannot directly see the load and personnel by line of sight or with the boom tip camera, this can be the case with crane loads or air tigger and chain fall loads)			
●	Does the load have an offset C of G without special slings to compensate or is it an awkward shape or have a large sail area?			

●	Is the load fragile or is its integrity uncertain? (The integrity of the load is unknown, weak, could be damaged using normal lifting practices or load is subject to restrictions)			
●	Are slings to be used at an angle of below 60 degrees from Horizontal? (for loads that are slung on the facility, does not include engineered pre-slung loads)			
●	Is the lift in an area with restricted head room for the lifting appliance?			
●	Does the load need to be slung (i.e. no certified lifting points) if so does the load have any hazards such as sharp edges, made of wood, etc.?			
●	Does the lift involve lifting of personnel?			
●	Will temporary installed powered winches or cranes be used?			
●	None of the above apply to this lift i.e. the load is pre slung or very easily slung, with no external factors that complicate the operation and is performed by a competent team which have recent experience of performing this type of operation.			1
Competent Person:		Authorized by Site Lifting Coordinator:		
Name:		Name:		
Signature: DATE:		Signature: DATE:		

May 2015, Rev 0

Appendix G – Beam Clamp Allowable Loadings Matrix



Gulf of Mexico

Revision	0
Date	6/25/2013

Maximum Safe Lift Loads for Simply Supported AISC Wide-Flange (W) Shape Beams (lb)

Member Size (Height x Width)	Span (feet)									
	6	8	10	12	14	16	18	20	22	24
W8" X 4"	243	97	23	None						
W8" X 5 1/4"	835	652	533	426	321	237	179	137	105	82
W8" X 6 1/2"	1957	1064	880	748	657	572	487	419	353	291
W8" X 8"	2299	2169	1275	1090	956	846	764	698	612	539
W10" X 4"	299	121	29	None						
W10" X 5 3/4"	1571	866	695	558	460	381	295	232	186	149
W10" X 8"	2345	2246	1401	1188	1043	933	804	699	612	540
W10" X 10"	3587	3307	3074	2129	1850	1652	1495	1366	1258	1156
W12" X 4"	391	172	56	None						
W12" X 6 1/2"	1913	1164	928	765	635	530	441	372	305	251
W12" X 8"	3289	3018	1793	1534	1347	1194	1034	903	796	706
W12" X 10"	3839	3547	3303	2382	2091	1851	1677	1535	1417	1253
W12" X 12"	3954	3721	3521	3347	2850	2534	2277	2084	1906	1771
W14" X 5"	902	683	538	432	301	202	148	109	81	60
W14" X 6 3/4"	1964	1307	1044	868	726	613	508	427	364	302
W14" X 8"	3513	3212	1927	1648	1448	1236	1070	937	828	737
W14" X 10"	4757	4375	4060	2837	2467	2204	1998	1830	1674	1485
W14" X 14 1/2"	4993	4764	4558	4373	4169	4021	3703	3391	3114	2874
W16" X 5 1/2"	1128	849	673	551	448	340	238	178	139	109
W16" X 7"	2430	1604	1285	1072	902	769	648	542	473	420
W16" X 10 1/4"	5075	4682	4355	3190	2795	2472	2239	2023	1802	1602
W16" X 6"	2300	1254	1010	829	692	571	473	409	338	279
W16" X 7 1/2"	4164	2487	2022	1690	1425	1230	1060	921	818	731
W18" X 11"	5205	4849	4548	3813	3322	2940	2661	2375	2118	1903
W21" X 6 1/2"	2750	1584	1279	1058	896	755	635	537	465	415
W21" X 8 1/4" (**)	2403	2243	1804	1507	1281	1112	970	835	720	622
W21" X 12 1/4"	6775	6361	6003	5688	4866	4322	3883	3555	3224	2913
W24" X 7"	3395	2097	1681	1408	1192	1022	871	745	640	566
W24" X 9"	4345	3979	2999	2510	2144	1876	1655	1452	1280	1119
W24" X 12 3/4"	5977	5660	5381	5130	4906	4420	3996	3532	3206	2901
W27" X 10"	4989	4586	4275	3381	2906	2534	2250	2013	1805	1601
W27" X 14"	9430	8921	8473	8078	7728	7031	6303	5733	5304	4843
W30" X 10 3/8"	4555	4230	3975	3560	3069	2684	2370	2123	1910	1719
W33" X 11 1/2"	6193	5813	5483	5195	4521	3983	3530	3156	2860	2602
W36" X 12"	6889	6483	6129	5815	5263	4625	4113	3720	3350	3057

Beam Section:

AISC W-shape Beams

Beam's depth, see pages 1-10 to 1-32

Beam's flange width, see pages 1-10 to 1-32

* Minimum weight AISC W-shape beam
 ** For W21" X 8 1/4" is 48 lb/foot per

Notes:

- 1) Only used for Cross-sections
- 2) Maximum angle between beam and vertical is 15° maximum wind and inertial loads
- 3) Allowance for stress in the W-shape beam's flanges
- 4) Maximum allowable lift operation is limited
- 5) The maximum safe lift operation is limited
- 6) Beam is only used for lift operation is limited
- 7) For beam with both ends away from the snip
- 8) If any of the conditions are not met, the beam must be submitted for review

Title of Document:	Maximum Safe Lift Loads for Simply Supported Beams	Document Number:	2012-72-NA-RP-0002
Authority:	Jason Caldwell	Revision:	0
Custodian/Owner:	Zhiling Li	Issue Date:	6/25/2013
Warning: Check DW Docs revision to ensure you are using the correct revision.			

Gulf of Mexico

Document Authorization Form

Navigate through the form with the Tab key to fill in data. Just click on the boxes you wish to check



Document Details			
Special Instructions			
Document Number	2456-T2-HS-PL-0001	Revision	1
Document Title	GoM Management of Lifting Operations		
Next Review Date	2017		
This form to be used for authorizing new, revised and obsolete documents, please indicate clearly which category applies:			
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