Performance Based Risk Inspection (PBRI)
Lifting Safety

April 18, 2018

BSEE
Bureau of Safety and Environmental Enforcement

Performance Based Risk Inspection (PBRI) – Lifting Safety

PBRI Report

1.0 GENERAL

The purpose of the Performance Based Risk Inspection (PBRI) is to allow the Bureau of Safety and Environmental Enforcement (BSEE) the opportunity to focus on reducing the likelihood of adverse events and compliance issues across the Gulf of Mexico Region (GOMR).

In January 2018, the Office of Safety Management (OSM) met to review the latest compliance and incident data to identify any trends Gulf wide. OSM's review focused on data from 2016 through 2017. The analysis pointed to a potential risk associated with cranes and lifting safety. During the timeframe reviewed, 178 crane incidents were reported to BSEE by 30 unique operators. Further, the Agency issued 103 crane-related incidents of non-compliance (INCs) during the same timeframe. The operators with the most compliance or performance issues fed into the proposed facility list, and the top incident factors (procedures, communications, worker qualifications, etc.) fed into the inspection protocol.

The PBRI included 30 production platforms and 10 well operations in the GOMR which were operated by 14 unique operators. Each BSEE district conducted a minimum of eight inspections between March 13 and 14. One facility inspection was conducted March 19 in conjunction with its previously scheduled annual inspection. The PBRI was a joint exercise with the United States Coast Guard (USCG). The actual inspections accounted for 819 hours and review of 2,209 files.

2.0 PBRI OBJECTIVES AND SCOPE

The objectives and scope of the BSEE Lifting Safety PBRI was to conduct a targeted inspection that focused on recent and specific safety concerns in the GOMR. The PBRI looked past compliance and included protocol to focus on personnel competency, equipment mechanical integrity, and critical portions of an operator's safety and environmental management system (SEMs).

3.0 PBRI CRITERIA

3.1 Identification of Facilities

The BSEE Office of Offshore Regulatory Programs provided the GOMR a copy of the latest Argonne National Lab (ANL) Risk Model for every production facility in the GOMR on Jan. 25, 2018. OSM compiled a list of facilities and operators who had specific crane-related incidents or compliance issues from 2016 through 2017 in each District of the Gulf. Following our analysis, OSM compared their field verified data

District	Facility Name	Operator	Area	Block	Complex ID
1 - NO	EW 305 A	Talos Energy Offshore	EW	305	23199
1 - NO	SP 60 A	Fieldwood Energy Offshore	SP	60	20285
1 - NO	SP 93 B	Energy XXI GOM, LLC	SP	93	23151
1 - NO	VK 786 A - Petronius	Chevron USA Inc.	VK	786	70012
1 - NO	WD 29 A	Energy XXI GOM, LLC	WD	29	21273
1 - NO	WD 109 A	Cox Operating, LLC	WD	109	22564
1 - NO	Nabors MODS 201	W&T Energy	VK	823	47916
1 - NO	Thunderhorse PDQ	BP Exploration and Production	MC	778	48896
2 - HO	EW 826 A	Fieldwood Energy Offshore	EW	826	23800
2 - HO	GC 65 Bullwinkle	Fieldwood Energy Offshore	GC	65	23552
2 - HO	GC 680 Constitution	Anadarko Petroleum Corp	GC	680	1665
2 - HO	GC 787 Atlantis	BP Exploration and Production	GC	787	1223
2 - HO	SS 189 A	Fieldwood Energy Offshore	SS	189	23229
2 - HO	SS 219 A	Renaissance Offshore, LLC	SS	219	20622
2 - HO	Diamond Blacklion	Hess Corporation	GC	512	51525
2 - HO	H&P 107	W&T Offshore Inc	SS	349	94112
3 - LF	EI 175 D	Fieldwood Energy Offshore	EI	175	20324
3 - LF	GB 260 Baldpate	Hess Corporation	GB	260	33039
3 - LF	SM 69 B	ANKOR Energy LLC	SM	69	21462
3 - LF	SM 130 A	Energy Resource Tech (Talos)	SM	130	21799
3 - LF	SM 236 A	Cox Operating, LLC	SM	236	22674
3 - LF	SM 239 D	Energy XXI GOM, LLC	SM	239	23241
3 - LF	H&P 406	Shell Offshore Inc	GB	426	49477
3 - LF	Noble Paul Romano	Hess Corporation	GB	216	92126
4 - LJ	BA 105 A	Fieldwood Energy Offshore	BA	105	10572
4 - LJ	EB 160 A Cerveza	Fieldwood Energy Offshore	EB	160	10178
4 - LJ	EB 643 A Boomvang	Anadarko Petroleum Corp	EB	643	822
4 - LJ	HI A582 C	Cox Operating, LLC	HI	A582	10144
4 - LJ	HI A443 A	Northstar Offshore Group	HI	A443	10128
4 - LJ	HI A472 A	Energy XXI GOM, LLC	HI	A472	10223
4 - LJ	T.O. Deepwater Pontus	Shell Offshore Inc	AC	728	35000
4 - LJ	Non-Rig PA HI 531	McMoran Oil and Gas	HI	A 531	45104
5 - LC	VR 131 CF	Talos Energy Offshore	VR	131	20732
5 - LC	VR 164 A	Energy XXI GOM, LLC	VR	164	24030
5 - LC	VR 245 C-DRILL	Cox Operating, LLC	VR	245	21037
5 - LC	VR 261 A / A-AUX	Fieldwood Energy LLC	VR	261	22107
5 - LC	VR 265 A-DRL / A-PRD	Fieldwood Energy LLC	VR	265	20734
5 - LC	VR 369 A	Renaissance Offshore, LLC	VR	369	22249
5 - LC	Wireline - VR 331	Energy Resource Tech (Talos)	VR	331	21930
5 - LC	Spartan 208	Cox Operating, LLC	VR	245	90923

3.2 Identification of PBRI Team and Process

The District Field Operations Regional Supervisor sent a memo on Feb. 16, 2018, informing all districts of mandatory training for all personnel involved in the PBRI.

OSM facilitated three training sessions with regional, district, and USCG personnel assigned to conduct the PBRI. The training provided guidance on the inspection protocol and how to access GOM Region electronic files for facility specific documentation. This training was attended by over 80 people.

All PBRI inspectors were instructed to complete every Performance Based item on the inspection form and 50 percent of the crane PINCs applicable to the facility type. Each inspection was documented as an “Audit or Other Special Inspection.” All documentation and paperwork was forwarded by the districts to OSM by March 23 to conduct analysis. OSM performed 20 in-depth reviews of the PBRI facilities – 15 production facilities and five drilling units.

BSEE and USCG inspectors were also instructed to test the effectiveness of operators’ SEMS by witnessing the application of safety management principles/processes applied to ongoing operations, further evaluating the operators’ understanding of risk and critical risk management principles associated with lifting safety.

3.3 Protocol used in the PBRI

The protocol used in this PBRI included review of records, policies, procedures, forms, onsite interviews with relevant staff and contractor personnel, and Quality Assurance / Mechanical Integrity SEMS element materials as applicable.

Each completed form was scanned and uploaded to the appropriate electronic folder on the BSEE GOMR server to document the inspection.

4.0 PBRI FINDINGS

At the completion of the inspections, OSM engineers and SEMS specialists reviewed the results supplied by the districts and conducted additional reviews on SEMS specific items – e.g., crane inspection (preuse, monthly, quarterly, and/or annual) records, lifting Safe Work Practices, competency of riggers and crane operators, maintenance of lifting equipment (slings, rigging components, etc.), JSAs, etc. The findings are:

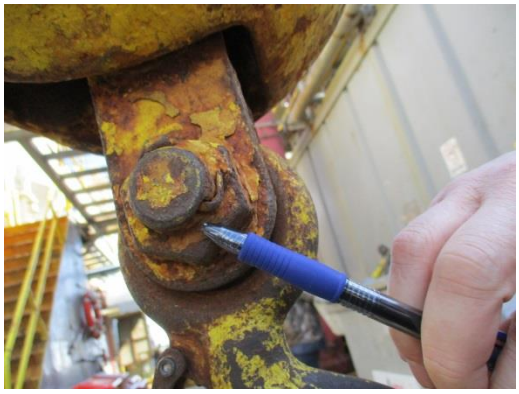
1. Noncompliance with Regulations – **12.5 percent of the facilities involved in the PBRI had documented incidents of noncompliance.** These facilities failed to meet the minimum requirements of BSEE or USCG regulations. For example:
    a. **Facility was issued an I-116 PINC**. At the time of inspection, the anti - two block on the load line of the West Crane did not operate as designed. Note: The anti -two block is installed but did not perform its design function. The load line must be placed out of service until repaired. As a result of this inspection, the facility remained on BSEE's increased oversight list.
    b. **Facility was issued a G-112 PINC**. At the time of inspection, all work areas were not maintained in a safe condition: 1) trash and debris found on the decks, 2) items not properly stored 3) rope and other trip hazards in walkways. **Facility was issued a G-111 PINC.** At the time of inspection, the handrails near the top of the crane access ladder were corroded. **Facility was issued an I-102 PINC**. There were two lifts made outside of the restrictions of the currently down-rated load chart. The load chart indicated that the maximum distance for onboard lifts was 60 ft. The conex box #M6070002, weighing 4500 lbs., was approximately 65.5 ft. from the center of the crane pedestal and a cargo basket measuring 4X8 ft., weighing 1500 lbs., was approximately 63ft. from the center of the crane pedestal.
    c. **Facility was issued an I-145 PINC**. At time of inspection, operator did not complete required quarterly inspection on Crane A (HSMC370 / Serial No. 424).
    d. **Facility was issued an I-105 PINC.** At the time of the BSEE Inspection, the following was found on A Platform: crane a bolt was missing from the boom heel section. Repaired at time of the inspection; **Facility was issued an I-141 PINC.** At the time of the BSEE Inspection the following was found on A Platform: Lack of grease, load sensor had no oil, missing and cracked glass, diesel hose cracked. D Platform: cracked and missing glass, missing door, back glass has paint over spray. G Platform: missing and broken glass; **Facility was issued an I-147 PINC.** At the time of the BSEE Inspection the following was found on G Platform: crane on the main hoist line needed to be re-spooled.

Repaired at the time of the inspection; **Facility was issued an I-153 PINC.** At the time of the BSEE Inspection the following was found; On D Platform boom lattice rusted thru in two areas; **Facility was issued an I-182PINC.** At the time of the BSEE Inspection the operator did not have the proper Crane Operator Qualification Card.

e. USCG shut in both of the jack-up rig's gantry cranes (approved for personnel lifting) On both cranes, the winches were recently replaced and the vessel failed to provide required records proving load test prior to use. Other issues were failed cotter retaining pins on the auxiliary line overhaul balls of both gantry cranes, bird-caged/crushed wire rope at wedge socket on one gantry crane, and worn hydraulic and fuel lines. Additionally, several probable electrical and watertight integrity issues were identified warranting follow up.

Bolt was missing from the boom heel section on platform crane

Handrails near the top of the crane access ladder corroded



Failed cotter retaining pins on the auxiliary line overhaul balls of both gantry cranes

2. API Spec 2D Crane Inspections – PBRI teams reviewed the operator's latest inspection reports on all cranes at the subject facilities (pre-use, monthly, quarterly, and/or annual). **BSEE was able to determine operators are conducting crane inspections in accordance with API Spec 2D; however, evidence suggested that the inspections are not effective and/or operators are not aggressively closing out noted deficiencies.**
    - **a.** During the inspection, the crane was placed out of service for corrosion on two lacings in the center boom section. No issue(s) identified on monthly inspection conducted on 3/1/18, quarterly inspection conducted on 1/8/18, or annual inspection conducted on 7/4/17.
    - **b.** Both north and south cranes had heavy lift inspections performed around the time of inspection, where corrosion, bent/holes in lacing, leaks from gear box/hydraulic/fuel hoses were identified. Both north and south cranes had follow up inspections within the following month that showed that the conditions had worsened over time. Very little progress was made to correct any issues identified in the heavy lift inspections. (i.e. corrosion had evolved to excessive corrosion, recommended painting had evolved to requiring painting, etc.) .
    - **c.** A moderate number of deficiencies (frozen jibs, corroded fuel lines, leaking hydraulic filters, etc.) were identified on both cranes in their annual inspections, but it appears that personnel are prioritizing and addressing them appropriately. Additionally, BSEE inspectors identified a cut handrail on the west crane. The handrail was found blocked off with a steel cable, and personnel stated that a more permanent fix would be welded in the near future. The missing handrail isn't adjacent to a walkway or in an area of the crane frequented by personnel, so it isn't a serious safety hazard. However, it is concerning that none of the personnel interviewed knew exactly why or when it got cut, or by whom.
    - **d.** Quarterly Inspection (FEB 2018) Serial NO. 4383 show deficiencies of corrosion on boom, minor leak on hoist gearbox, and minor corrosion on thrust walk. Annual inspection (SEPT 2017) Serial NO. 4383 shows deficiencies of corrosion on boom, damaged hydraulic hoses, boom light is out, gantry warning light is damaged, boom cable and main cable need lube, minor corrosion on heat exchanger. Quarterly Inspection (FEB 2018) Serial NO. 4382 shows multiple deficiencies and the correction date for the deficiencies on inspection form.
    - **e.** The crane was recently de-rated for boom hoist material loss. Current load chart showing de-rating indicates no personnel capacity. Annual inspection report notes that neither the auxiliary line

block/ball nor the main line block/ball has a certification on file. "Second mid-section of boom is installed upside down."

f. Inspector noted discrepancy list on crane inspection report. February Crane Winch Inspection notes undefined 2/18/2018 deficiency pending.

g. Maintenance records during the time of the annual inspection are not associated with the final annual inspection report even though deficiencies with the crane were corrected. Anti-two block device failed nine days after Annual Inspection date.

h. SWP require pre-use, quarterly, semi-annual, and annual inspections of winches for infrequent use cranes. Operator could not provide these inspections and was conducting work outside of SWP. Crane ball markings were painted over, but paint was removed prior to the end of the inspection.

i. Possible inconsistencies in how the crane certification and classification restrictions are managed. No evidence of deficiencies on annual inspection or record of any deficiency corrections. This is consistent with other locations in that the inspections are suspect in their effectiveness and thoroughness.

j. Parts on order for a Bow Crane non-working boom angle indicator as of 12/31/2017. Still active order and parts have not been replaced. Considered “low” priority. Barge engineer remembers performing calibration of load indicator as he was the person on board, but the last annual inspection does not have documentation and the inspecting company is no longer in operation.

k. Quarterly crane inspection DOES have associated deficiencies.

l. Multiple crane discrepancies were noted including broken retainer pins, gouged hydraulic lines, leaks, data plates missing from ball on fast lines, cracks in glass, oil accumulations in skids. While multiple inspections were performed, these items were NOT identified as deficient or as a problem and rig contractor cannot provide an explanation or reason for this.

m. Annual inspection report notes that the front crash bar keeper roll bar on West Crane is broken on one side and needs to be welded back into place. Load chart in crane did not show correct wire rope size on main hoist. Numbers are faded on angle indicator.

n. 1/12/18 Quarterly Inspection Report indicated that "all hydraulic hoses are in rough shape with the rubber material dry rotting and cracking and fittings rusting very badly." No previous monthly inspection notes made any note of this.

o. There was severe corrosion on the engine covering. At the time of the inspection, it was not an immediate safety hazard, but it needs to be addressed in the near future. This corrosion was noted on the previous three crane inspections. There are missing pages in the annual and quarterly inspections. Both lack page two of the reports.

p. Load chart for Pedestal Crane 700 is marked as "old chart do not use." At the time of inspection, operator did not complete required quarterly inspection on Crane A (HSMC370 / Ser# 424).

Severe corrosion on the engine covering

Load chart showing de-rating of crane 6 days prior to inspection

Numbers are faded on angle indicator

3. Lifting Equipment Maintenance – BSEE requested the operator provide a register (maintenance tracking) in place for the lifting equipment at the facility, and asked if there was a dedicated person on the facility who was responsible for monitoring and updating the maintenance. **During the Lifting Safety PBRI, BSEE inspectors were able to conclude that a majority of the operators subjected to the inspection had no process for following the manufacturer's recommendations for preventative maintenance, track maintenance records, or to schedule and regularly replace lifting equipment (slings, components, etc.).**
    - **a.** Operator had no unique ID to track maintenance of lifting equipment (slings, components, etc.).
    - **b.** Facility could not provide a maintenance tracker for lifting equipment. No dedicated person on facility to update.
    - **c.** No tracking system for lifting equipment or slings. "During pre-use inspection, all crane operators have the responsibility to inspect all lifting equipment (including slings/straps) and they also have the authority to order out replacement equipment at any time equipment is found deficient. Old slings/straps are cut up and discarded to not be used again."
    - **d.** Lifting equipment is marked with a rated limit and the manufacturer, but the serial number and the inspection date were not predominantly visible. Lifting equipment storage was not organized well, and it had abrasive wires contacting nylon straps.
    - **e.** Response to request for maintenance tracking/register resulted in one vague work order from personnel on the facility.
    - **f.** No maintenance tracking register for lifting equipment. Personnel only inspect lifting equipment prior to each use. Operator could not produce a Maintenance Tracking System for slings / lifting equipment.
    - **g.** No separate system/inventory/forms for tracking lifting equipment maintenance: In practice, provisions for lifting equipment inspections are included within the operator crane monthly and pre-use inspection forms. Prior to each use, the crane and lifting equipment are inspected (item #13 on the pre-use inspection checklist). Additionally, the last section of the Monthly Inspection Form "General/Operations" includes a check of the lifting equipment. These processes include

visual inspections of the equipment and verification of the tags on slings to determine compliance with the replacement interval. Most recent monthly and weekly sling inspections consisted of hard copies from the year 2008.

h. There is a maintenance tracking system, but there is no dedicated person on the facility responsible for monitoring and updating the register.

i. During PBRI, one cable sling was put out of service because there was no tag to identify sling and how long it had been in service.

j. Safety clips were found broken and/or deteriorated. Maintenance Work Order tracking sheet is very organized and covers Class A20 (engine, winches, crane, etc.) as well as Class A15 and Class A65. Tracking sheet is from January 2017 to March 2018.

k. Lessee recertifies slings on an annual basis. They have a usage log book that stays in the sling box for the life of the sling.

l. Organization of lifting gear is commendable, and the cranes are "meticulously maintained."

Commendable, "meticulously maintained" equipment maintenance

Abrasive wires contacting nylon straps in storage container

4. Load Indicating System – During the PBRI, BSEE inspectors verified if operators had functioning load-indicating systems and when they were last calibrated. **Twenty percent of the facilities inspected during the PBRI had no load-indicating system in place, or it had no available record(s) of calibration.**

    a. No load-indicating system installed on crane.

b. Has a functioning load-indicating system but it is not calibrated. Always follow the load weights posted on equipment and manifest.
c. No load-indicating system installed on crane.
d. Crane does not have a functioning load-indicating system
e. No load-indicating system installed on crane.
f. Unknown when last calibration was performed for load-indicating system.
g. Crane load indicator was recently not zeroing out, meaning that it showed 700 lbs when there was no weight on it.
h. Weight indicator calibration could not be located at the time of the inspection.

Crane Load Indicator with unknown calibration

5. Tag Lines – During the PBRI, BSEE inspectors reviewed the taglines in use at the facilities and tried to evaluate the Operator's Safe Work Practices associated with their use. **The inspections suggest that Operators Safe Work Practices (SWP) with tag lines, are not implemented specific to line length/strength requirements, or personnel are not familiar with those that exist.**
    a. Tag lines included in operator's Safe Work Practices; however, there is no mention of line length or strength requirements.
    b. Tag line policy states "shall be used on all lifts. They shall be of sufficient length, diameter, and strength to allow adequate control of the load by the rigger(s)....All loads shall contain a tag line of proper length." Length was defined as a minimum of 15 ft., but diameter and strength were not defined.
    c. Operator has a tag line policy, but crane operator was unaware of it.
    d. The Offshore Installation Manager is unaware of a written tag line policy but thinks that the Crane/Lifting Program is currently under revision to include tag lines. It should be noted their Safe Work Practice on lifting was revised two weeks prior to the PBRI inspections and BSEE representatives were told on site that the operator knew the approximate date of the inspection.
    e. Taglines policy in place, but no information on length, size, or strength of taglines.

f. Lifting policy does not specifically have a procedure on tag line use. Upon inspection of the tag lines, two tag lines had clips/carabiners with sticky/unsuitable components. The tag lines were immediately taken out of service to be worked on, fixed, or quarantined if they cannot be replaced.
g. Tag line policy is in place "They shall be of sufficient length, diameter, and strength to allow adequate control of the load." Yet, the appropriate diameter and strength are not defined.
h. There is no written tag line policy.
i. Tag lines are within Safe Work Practices Manual but don't describe the size or length requirements.
j. Person In Charge (PIC) was not familiar with the dimension requirements for the tag lines (i.e. minimum length of 15 ft.).

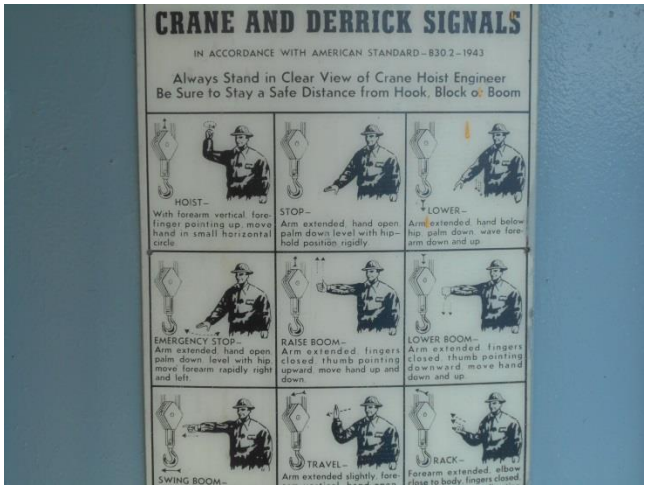
Tag line in use at subject facility

6. Training and Competency – **Overall, training documents were readily available to BSEE inspectors during the inspections to verify minimum requirements were being met; however, there was a noticeable gap on the determination of a crane operator, crane inspector, or rigger's competency after training**.
    a. Does not seem to be a policy in place to determine competency of crane ops/riggers beyond training certifications.
    b. No policy to verify competency of crane operator beyond training certificate.
    c. Competency is verified by experience and comfort level of the crane operator. No formal policy on crane competency.
    d. Received Crane Operator Competency (Hands on Proficiency), but the documents were created and completed 3/27/2018 – after the PBRI. BSEE Office of Safety Management Sample Audit request to operator was sent on 3/26/2018. Did not receive documented evidence prior to this date. Crane Lifting Procedures were revised on 3/27/2018 to include these competency assessments.
    e. No competency verification outside of checking certificates. New crane operators have to be supervised by "qualified crane operators."
    f. Operator provided Crane Qualification Cards based on their Crane Policy Section 8.3.3 which states "A test and a hands-on evaluation of each candidate's operating proficiency shall be administered

by an approved qualified instructor on the type of crane (hydraulic, mechanical, or both) to be operated by that candidate. Based on the results of the hands-on evaluation, operator experience and classroom test results, the operator will be classified as follows: "There's no revalidation period stated in policy, and one card was last issued 4/12/2011.

g. Crane operators have inconsistent certifications. Some have an operator's classification card and other don't. Possible inconsistencies in how the crane certification and classification restrictions are managed. This was no crane certification information for the main crane task supervisor or subject matter expert.
h. Crane Operations Personnel Safety Manual has a section for Crane Operator competency evaluations, but no sample evidence of completion could be provided to BSEE.
i. Employee's rigging certification was expired as of 11/15/2017. Furthermore, no training certs of the crane operators on the approved list were provided to BSEE.
j. One crane operator on B crew had an expired simulator certificate. Expired on 2/18/18.
k. On multiple JSAs, there is a job step for a responsible person to verify crane operation is qualified for planned lifts by ensuring the crane operator has valid API Certificate; however, at the time of the inspection, BSEE identified an employee making lifts who did not have the certifications to pass but the JSA was signed and acted on.

7. Lifting Communication – **BSEE identified multiple facilities which lacked evidence to support personnel were knowledgeable of proper lifting signals referenced in API RP 2D.** A few examples of these gaps are:
    a. There was inconsistency with hand signal knowledge. Each person demonstrated a different signal for Stop Work Authority (SWA). There was also inconsistency in the number of signal persons reported: PIC stated that there can only be one; the crane operator said that there may be multiple. Contractor recommended hand signals are different from what is posted on the crane itself. Both of these are even different from the operator's signals (correct) provided in the Crane Handling Procedures. The signals in the Contractor's document and the placard in the crane cab are using incorrect "emergency stop" signals.
    b. Hand signal display in cab has tape covering some signals.
    c. Crane operators exhibited an understanding of the hand signals; however, the OIM failed to execute the SWA hand signal correctly.
    d. The SWP manuals for QPM and operator illustrate conflicting crane signals. Some of the operator's signals do not even appear in the QPM Safe Work Practices.
    e. Emergency Stop signal posted on crane differs from current API requirements.
    f. There is some room for improvement in hand signal knowledge/consistency. When interviewing the crane operators separately, they had different signals for all stop/emergency signaling.



Outdated Placard on crane

8. Personnel Transfer – **BSEE identified multiple facilities and operators which lacked personnel transfer procedures, specifically those that covered weather and sea conditions.** A few examples of these gaps are:
    a. PIC stated that there is no personnel transfer procedure or specific personnel transfer training.
    b. Operator and contractor have no predefined criteria for personnel lifts - seas states, wind speeds, etc.
    c. There is no specific personnel transfer training. If it is someone's first time to ride in a personnel basket, they are instructed on the boat.
    d. All Operator Facilities - Operator has no predefined criteria for personnel lifts - seas states, wind speeds, etc.
    e. All Operator Facilities - Operator has no predefined criteria for personnel lifts - seas states, wind speeds, etc.
    f. Despite having no plans to use it in the future, the operator's personnel transfer basket was left exposed to sunlight on the deck. Recommended to operator to store it in a location shielded from direct sunlight.
    g. Operator has a policy with weather considerations that align with 29 CFR 1926.1431(k)(8)(i) – the policy includes a determination made by qualified person when wind speed exceeds 20 mph.
    h. There is no paperwork documenting personnel basket inspection; however, the basket is less than a year old.

9. Hazard Communication – **During the PBRI, BSEE identified multiple facilities and operators which lacked evidence to support companies informing offshore personnel of the circumstances surrounding an accident or near miss release by BSEE.** A few examples of these gaps are:
    a. Safety alert information was not transferred over to the other hitch. Once the first crew receives the safety alert notification email, they review it, but they don't post it on their bulletin board for the next crew to get exposure to it.
    b. Consider improving the distribution of safety alerts and bulletins. Some address specific issues, so more focused communications may be appropriate. The field coordinator wasn't familiar with the

recent BSEE Safety Alert No. 329 on crane incidents and wanted to be included in future communications.

c. Operator not familiar with Safety Alert #329, operator was provided with a copy at the close of inspection.
d. Personnel were not aware of Safety Alert # 329. People on opposite 14/14 hitch do not hear about what was received.
e. Facility was not familiar with Safety Alert #329. Safety Alerts are supposed to be sent to field locations by management.
f. Safety Alert #329 was discussed at facility when it first was issued. No changes were made as a result of it, jut instructed to bring it up at the next safety meeting. Inspectors were provided distribution emails as evidence.
g. No meeting minutes were documented when reviewing the safety alert. Furthermore, the safety alert information was not transferred over to the other hitch. Once the first crew receives the safety alert notification email, they review it, but they don't post it on their bulletin board for the next crew to get exposure to it.
h. Personnel were not familiar with Safety Alert #329. The facility actually received it on 3/5/2018, but the operator was unaware.

10. Simultaneous Operations (SIMOPs) and Safe Work Practices – **Overall, SIMOP plans were readily available to BSEE Inspectors during the inspections; however, there was evidence to suggest multiple operators failed to address lifting operations within their SIMOPs plan.** A few examples of these gaps are:
    a. SIMOPS plan does not mention lifting. During SIMOPS all crews attend a pre-job meeting, and lifting and JSAs would be discussed. PIC has UWA and stays in communication with anyone doing SIMOPS.
    b. SIMOPS plan does not address lifting. Crew would have a pre-job meeting to discuss and fill out JSA. PIC would discuss SIMOPS in a safety meeting.
    c. There is no specific written policy identifying the roles and responsibilities of personnel involved in crane operations. There is a SIMOPs Plan, but the PIC is unaware if it addresses lifting operations. There are no written policies/procedures for restricting operations during lifts.
    d. Operator Safe Work Practice was revised two weeks prior to the PBRI inspections and BSEE representatives were told on site that the operator knew the date of the inspection
    e. No requirement to cordon off area. No SIMOPS plan in place at the time of the inspection.
    f. No SIMOPS plan but "always mentioned in morning meetings."

5.0 PBRI CONCLUSIONS AND RECOMMENDATIONS

Approximately 12.5 percent of the facilities involved in the PBRI had documented incidents of noncompliance. Recommendation: The appropriate BSEE District office(s) should verify timely closeout of all corrective actions associated with the Lifting Safety PBRI Incidents of Noncompliance.

BSEE was able to determine operators are conducting crane inspections in accordance with API Spec 2D; however, evidence suggested that the inspections are not effective in identifying all deficiencies and/or operators are not aggressively closing out noted deficiencies. Recommendation: Operators shall verify that all API RP 2D required inspections are being performed and ensure all associated equipment and systems are operating as intended. Further, operators should develop and maintain a crane maintenance tracker that clearly assigns an individual (or individuals) responsible for correcting the deficiencies.

During the Lifting Safety PBRI, BSEE inspectors were able to conclude that a majority of the operators subjected to the inspection had no method for following the manufacturer's recommendations for preventative maintenance, track maintenance records, or to replace on schedule lifting equipment (slings, components, etc.). Recommendation: Operators shall review Section 5 of API RP 2D and develop and/or implement a maintenance program that focuses on lifting equipment, such as slings, wire rope, etc..

About 20 percent of the facilities inspected during the PBRI had no load-indicating system in place, or had no available record(s) of calibration. Recommendation: Although load indicators shall not be used to test cranes, the readings should be recorded on each lift where load indicators are installed on the crane. Additionally, if load indicators are present, Operators should have calibration procedures in place.

The inspections suggest that operators Safe Work Practices (SWP) with tag lines are not implemented, specific to line length/strength requirements, or personnel are not familiar with those that exist. Recommendation: All lifts on the OCS should be evaluated for all risks, and the appropriate tag lines and use of tag lines should be reviewed. This includes defined length, strength, and diameter.

Overall, training documents were readily available to BSEE Inspectors during the inspections to verify minimum requirements were being met; however, there was a noticeable gap on the determination of a crane operator, crane inspector, or rigger's competency after training. Recommendation: Operator should develop procedures, beyond requiring training certifications, to ensure understanding and competency for crane operators, riggers, and crane inspectors. These procedures should specifically address how an operator verifies lifting personnel have adequate retention of the required knowledge and skills to carry out their duties.

BSEE identified multiple facilities which lacked evidence to support personnel were knowledgeable of proper lifting signals as referenced in API RP 2D. Recommendation: Operators shall review the "Standard Hand Signals for Controlling Crane Operations" figure in API RP 2D, and verify those signals are implemented and understood by all lifting personnel on their facilities.

BSEE identified multiple facilities and operators which lacked personnel transfer procedures, specifically those that covered weather and sea conditions. Recommendation: Operators shall review BSEE Safety Alert 331 and develop/implement personnel transfer procedures as discussed the recommendations presented within the alert.

During the PBRI, BSEE identified multiple facilities and operators which lacked evidence to support companies inform their offshore personnel of the circumstances surrounding an accident or near miss information release by BSEE. Recommendation: Operators should review how they disseminate safety and environmental information to direct and contract personnel to ensure all offshore personnel are knowledgeable on the hazards identified by BSEE.

Overall, SIMOP plans were readily available to BSEE inspectors during the inspections; however, there was evidence to suggest multiple operators fail to address lifting operations within their SIMOPs plan. Recommendation: Operators should review their SIMOP plans and address lifting operations where applicable.