

UNITED STATES DEPARTMENT OF THE INTERIOR
 BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT
 GULF OF MEXICO REGION

ACCIDENT INVESTIGATION REPORT

For Public Release

1. OCCURRED

DATE: **07-AUG-2019** TIME: **0430** HOURS

2. OPERATOR: **LLOG Exploration Offshore, L.L.C.**

REPRESENTATIVE:

TELEPHONE:

CONTRACTOR:

REPRESENTATIVE:

TELEPHONE:

- STRUCTURAL DAMAGE
- CRANE
- OTHER LIFTING
- DAMAGED/DISABLED SAFETY SYS.
- INCIDENT >\$25K
- H2S/15MIN./20PPM
- REQUIRED MUSTER
- SHUTDOWN FROM GAS RELEASE
- OTHER

3. OPERATOR/CONTRACTOR REPRESENTATIVE/SUPERVISOR ON SITE AT TIME OF INCIDENT:

8. OPERATION:

4. LEASE: **G33341**

AREA: **KC** LATITUDE:

BLOCK: **686** LONGITUDE:

- PRODUCTION
- DRILLING
- WORKOVER
- COMPLETION
- HELICOPTER
- MOTOR VESSEL
- PIPELINE SEGMENT NO.
- OTHER

5. PLATFORM:

RIG NAME: **SEADRILL WEST NEPTUNE**

6. ACTIVITY:

- EXPLORATION(POE)
- DEVELOPMENT/PRODUCTION (DOCD/POD)

9. CAUSE:

7. TYPE:

INJURIES:

HISTORIC INJURY

REQUIRED EVACUATION OPERATOR 1 CONTRACTOR

LTA (1-3 days)

LTA (>3 days)

RW/JT (1-3 days)

RW/JT (>3 days) 1

FATALITY

Other Injury

- EQUIPMENT FAILURE
- HUMAN ERROR
- EXTERNAL DAMAGE
- SLIP/TRIP/FALL
- WEATHER RELATED
- LEAK
- UPSET H2O TREATING
- OVERBOARD DRILLING FLUID
- OTHER _____

POLLUTION

FIRE

EXPLOSION

LWC HISTORIC BLOWOUT

UNDERGROUND

SURFACE

DEVERTER

SURFACE EQUIPMENT FAILURE OR PROCEDURES

10. WATER DEPTH: **6147** FT.

11. DISTANCE FROM SHORE: **231** MI.

12. WIND DIRECTION: **SSW**
SPEED: **9** M.P.H.

13. CURRENT DIRECTION:
SPEED: M.P.H.

14. SEA STATE: **3** FT.

15. PICTURES TAKEN:

16. STATEMENT TAKEN:

COLLISION HISTORIC >\$25K <=\$25K

At 04:30 hours on 7 August 2019, a Seadrill West Neptune subsea technician sustained an eye injury while working on the hands-free gooseneck (HFGN) during well operations for LLOG Exploration Offshore, L.L.C. (LLOG) at Keathley Canyon Block 686. The severity of the eye injury required evacuation of the Seadrill subsea technician from the rig on the next regularly scheduled flight for a medical evaluation.

On 7 August 2019, the Seadrill subsea team was conducting the initial latch-up pressure and function testing of the subsea blowout preventer equipment (BOPE). As the Seadrill subsea team was conducting the low-pressure test on the choke and kill lines, fluid was observed leaking from the boost line HFGN stab. Upon further investigation of the leak, fluid was discovered flowing from the area between the tension ring housing and the HFGN ring suggesting a leaking choke or kill poly-pack seal. The Seadrill subsea team then attempted to retract the HFGN stabs from the telescopic joint to unlock and lower the tensioner ring to access the poly-pack seals. However, the HFGN choke and kill line stab locks failed to retract.

The Seadrill subsea team loosened the bolts on the tail rod flanges which allowed the HFGN locking assembly to move into the unlock position enabling the rods on the choke line to retract without incident. The Seadrill subsea team began repeating this process for the kill line HFGN locking pins with the Seadrill subsea technician positioned in a personnel maintenance basket. The Seadrill subsea technician unbolted and removed the kill line lock assembly. As he was turning around in the personnel maintenance basket, the indicator rod was ejected by a combination of air and water pressure from within the operator housing. The indicator rod struck the Seadrill subsea technician in his right eye causing his safety glasses to be pushed back into his face contacting his eyebrow. The indicator rod continued to travel past the Subsea Supervisor and Toolpusher, who were standing four feet away from the operation, and landed on the upper moon pool platform. The Seadrill subsea technician was lowered in the personnel maintenance basket and taken to the Rig Medic for treatment.

After treatment by the Rig Medic, the Seadrill subsea technician was evacuated on the next regularly scheduled helicopter flight for a medical evaluation at Bourgeois Medical Clinic in Morgan City, Louisiana. On 8 August 2019, the Seadrill subsea technician was diagnosed with orbital fractures and bruising around his right eye. The doctor released the Seadrill subsea technician on restricted duty and he finished out his hitch at Seadrill's Office in Houston, Texas.

LLOG verbally reported this incident to the BSEE Lafayette District Inspectors at 08:00 hours on 7 August 2019 who were on the rig at the time of the incident to witness the subsea BOPE pressure and function testing. BSEE Inspectors gathered all available documentation, including a preliminary report and photographs, prior to departure from the rig at 13:22 hours on 7 August 2019.

Based on Seadrill's incident investigation report, the Seadrill West Neptune personnel knew that the choke and kill indicator rods had been found to have sheared from the de-coupling segments inside the HFGN cartridge operators. Seadrill documented the broken equipment case on an internal "out of service" excel report dated on 17 December 2018. The equipment was outside the Original Equipment Manufactures (OEM) guidelines. The Seadrill West Neptune equipment issue was not reported in a Synergi case.

The Seadrill incident investigation report also states the Seadrill West Neptune personnel created a temporary work around until the HFGN assembly was fixed. 'An additional step was created to slacken or remove the locking assembly mounting plate to allow the locking bar clearance over the protruding indicator rod allowing the locking bar to be extended.' The additional step with the known broken equipment was not performed within the OEM guidelines.

The Seadrill team encountered unexpected trapped hydrostatic pressure in the choke and kill lines. The dangerous pressure was not accounted for during pressure tests. BSEE recommends revising the bleed down procedures to accommodate for the trapped pressure.

18. LIST THE PROBABLE CAUSE(S) OF ACCIDENT:

The BSEE incident investigation team has determined that the probable causes of the incident was due to:

- 1) Human performance Error - Not following proper procedures by operating out of compliance equipment- Seadrill did not follow OEM operational guidelines since they knowingly operated the out of compliance equipment since December 2018 because they failed to report that the indicator rods had sheared inside the cartridge operators;
- 2) Human performance Error - Not following proper Procedures to correct issue - By not following OEM operational recommendations, Seadrill created an unsafe walkaround procedure to accommodate for out of compliant equipment; and
- 3) Human Performance Error- Not aware of Hazzards - The crew failed to recognize the presence of trapped pressure hazards when removing the locking assembly mounting plate.

19. LIST THE CONTRIBUTING CAUSE(S) OF ACCIDENT:

Human Performance Error - Improper body placement - The Seadrill subsea technician manually disengaged the locks to function the choke and kill stabs that placed him in the position to be struck by the sheared indicator rod.

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

The kill line indicator rod was damaged during this incident.

The kill line indicator rod was bent during this incident.

ESTIMATED AMOUNT (TOTAL): \$19,230

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

The BSEE Lafayette District recommends to the Office of Incident Investigations that a Safety Alert be considered to address the hazards when unlocking the hands-free gooseneck choke and kill line assemblies.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

Based on the incident investigation findings, a G-110 Incident of Noncompliance (INC) was issued "After the Fact" to LLOG Exploration Offshore, L.L.C. (LLOG) to document its failure to protect health, safety and the environment by performing operations in an unsafe and unworkmanlike manner on the Seadrill West Neptune drill ship during well operations at Keathley Canyon Block 686. On 7 August 2019, a Seadrill subsea technician sustained an injury to his right eye when he was struck by an indicator rod while attempting to retract the hands-free gooseneck kill line stab. The severity of the Seadrill subsea technician's eye injury required evacuation from the rig for medical attention and was diagnosed by a doctor to have sustained orbital fractures and bruising around his right eye.

25. DATE OF ONSITE INVESTIGATION:

07-AUG-2019

26. INVESTIGATION TEAM MEMBERS:

**David Suire / Ernest Carmouche / Troy
Naquin (Report Author) /**

27. OPERATOR REPORT ON FILE:

28. ACCIDENT CLASSIFICATION:

For Public Release

29. ACCIDENT INVESTIGATION

PANEL FORMED: **NO**

OCS REPORT:

30. DISTRICT SUPERVISOR:

Robert Ranney

APPROVED

DATE:

29-JAN-2020