

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: 12-FEB-2020 TIME: 0430 HOURS

2. OPERATOR: Fieldwood SD Offshore LLC

REPRESENTATIVE:

TELEPHONE:

CONTRACTOR: Valaris

REPRESENTATIVE:

TELEPHONE:

- STRUCTURAL DAMAGE
- CRANE
- OTHER LIFTING
- DAMAGED/DISABLED SAFETY SYS.
- INCIDENT >\$25K \$264,021.13
- H2S/15MIN./20PPM
- REQUIRED MUSTER
- SHUTDOWN FROM GAS RELEASE
- OTHER Dropped Object Gantry Crane

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

8. OPERATION:

4. LEASE: G27278

AREA: MC LATITUDE: 28.46964723

BLOCK: 519 LONGITUDE: -88.2168238

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

5. PLATFORM:

RIG NAME: VALARIS DS-16 (ROWAN RESOLUTE)

6. ACTIVITY:

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

9. CAUSE:

7. TYPE:

INJURIES:

HISTORIC INJURY

OPERATOR CONTRACTOR

REQUIRED EVACUATION

LTA (1-3 days)

LTA (>3 days)

RW/JT (1-3 days)

RW/JT (>3 days)

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

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

10. WATER DEPTH: 6595 FT.

11. DISTANCE FROM SHORE: 58 MI.

12. WIND DIRECTION: SSE
SPEED: 21 M.P.H.

13. CURRENT DIRECTION: NW
SPEED: 1 M.P.H.

14. SEA STATE: 3 FT.

15. PICTURES TAKEN:

16. STATEMENT TAKEN:

At 03:30 hours 12 February 2020, the drillship Rowan Resolute (Valaris DS 16) drill crew was running riser to make up a double riser joint and splash the BOP's to conduct completion operations at Mississippi Canyon 519 Well 003, OCS-G 27278. At that time, a leak was observed coming from the Riser Elevation System (RES) hose reel area. The driller notified the chief mechanic of the hose reel leak. When the chief mechanic and rig mechanic arrived on site to evaluate the leak, it was observed that hydraulic oil was coming from the large hose reel. The cover plate on the hose reel was removed and a leak was confirmed due to a hose coming apart from it's fitting (This task was conducted while the Riser Joint was still on the Gantry crane). NOTE: The Riser Joint weighed 34,224 lbs.

About 05:00 hours, Fieldwood Energy dropped the riser joint. The incident involved the gantry crane dropping a joint of riser into the riser bay. There were no injuries; however there was damage to the gantry crane rear guide beam, the rear capture device flange to the spreader bar, and the walkway in the riser bay.

The RES was energized in an attempt to raise the riser joint and land it onto the riser skate. The attempt was unsuccessful. The crew then tried to lower the riser in the bay with no success. The assumption was made by all involved that the riser could not fall from the Riser Elevation System (Gantry Crane). This assumption was supported by an independent company's) documentation, "The Emergency Lowering Procedure." This procedure was not utilized due to the lack of knowledge and training. All personnel involved with this task were not aware or trained in the lowering procedure.

The job continued without informing the supervisors that the leaking hoses were going to be replaced while the riser remained suspended from the gantry crane. Also, there was no request for input/assistance prior to making these critical decisions by anyone involved in this incident, namely the chief mechanic and the rig mechanic.

The chief mechanic and rig mechanic removed the twin hoses from the hose reel, then from the spreader bar with the assistance of a floor hand. The drill crew assisted the mechanics in removing the hoses from the hose reel because it needed to be pulled due to the reel being under tension. New hoses were fed to the chief mechanic for connection to the reel and then to the spreader bar. However, it was later discovered the hoses were installed incorrectly. The mechanical supervisor arrived at the "Riser Elevation System" to assess the situation.

Once the hydraulic hoses were installed, the chief mechanic informed the assistant driller the hoses were changed, and the Riser Elevation System could be restarted. Hydraulic pressures were not verified to be within original equipment manufacturer (OEM) specifications. The mechanic then opened the hydraulic valve and the driller started the control box which activated the system. Hydraulic oil pressure reached the open command and the fingers on the Riser Elevation System opened. This inadvertently released one end of the riser from the Gantry Crane. All operations were halted and the Rig Manager was informed of what occurred.

The Aft (rear) finger remained closed while the forward (finger) end of the riser swung down into the riser bay. The weight of the riser (34,224 lbs.) was too heavy for the aft end of the Gantry Crane. Thus, causing the riser joint to fall approximately 85 ft down into the riser bay from the horizontal position. The forward end of the riser fell through a walkway and became wedged in a lower walkway.

At 07:15 hours, Fieldwood Energy reported the incident to the Bureau of Safety and Environmental Enforcement (BSEE) New Orleans District (NOD) after hours engineer.

On 14 February 2020, a BSEE investigation team mobilized to the Rowan Resolute

drillship and conducted an onsite investigation. The BSEE incident investigation team conducted the following activities: 1) gathered all applicable documents; 2) performed written and photographic documentation of the accident scene.

According to the operator's post incident report, the newly installed hydraulic hoses were discovered to be swapped from open (connection) to closed (connection). The Riser Elevation System open and close function pressures should have been 110 bar (1595 psi) per OEM recommendations, the close hose (which subsequently became the open hose) had a pressure of 200 bar (2900 psi) which was strong enough to open the finger with the riser suspended. Again, the Emergency Lowering Procedure was not utilized because the crew was not aware of the procedure.

According to Valaris investigation report, the sequence of events was as follows:

03:30 Oil leak noticed coming from RES hose reel area
03:32 Driller notified of hose reel leak - notified Chief Mechanic
03:35 Chief Mechanic and Rig Mechanic arrived on site to evaluate the leak
03:35 Leak observed coming from Large Hose Reel. Cover plate removed and leak confirmed due to a hose coming away from it's fitting
03:40 RES energized to try to raise the riser to land in the skate - no success.
03:42 RES energized to try to lower the riser to place it back down in the bay - no success.
04:00 Decision made to change the hose.
04:30 Hose replaced
04:40 Hydraulics started
05:00 Riser dropped

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

Human Performance Error:

- 1) Hydraulic hoses were installed incorrectly
- 2) The Emergency Lowering Procedure was not followed
- 3) The personnel involved were not trained and therefore were not aware of the Emergency Lowering Procedure

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

Hydraulic pressure for the Riser Elevation System (Gantry Crane) was set at 200 bars (2900 psi) instead of 110 bar (1595 psi) which is OEM recommended

20. LIST THE ADDITIONAL INFORMATION:

G-110 (C) 30 CFR 250.107 - Which states "Does the lessee preform all operations in a safe and workmanlike manner and provide for the preservation and conservation of property and the environment."

During BSEE's inspection/investigation 2/14/20, it was determined by interviews and documentation the crew did not follow or utilize "The Emergency Lowering Procedure" to lower the riser manually. Although, everyone involved with changing the hoses and lowering of the riser signed the "Laying Down and Picking Up Riser with Elevation and Riser Gantry Crane task document." Therefore, Fieldwood is in violation of 30 CFR 250.107.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

The estimated cost for repairs is
\$264,021.13
1) Gantry Aft (rear)guide beam
2) Gantry Aft capture device flange to
spreader bar
3) Walkway in the riser bay
4) Stairway in the riser bay

Dropped riser joint from Gantry Crane into
the riser bay.

ESTIMATED AMOUNT (TOTAL): \$264,021

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

At this time the New Orleans District has no recommendations.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

G-110 (C) DOES THE LESSEE PERFORM ALL OPERATIONS IN A SAFE AND WORKMANLIKE MANNER AND PROVIDE FOR THE PRESERVATION AND CONSERVATION OF PROPERTY AND THE ENVIRONMENT?
BSEE inspectors arrived on location on 2/14/2020 to conduct an investigation in regards to the dropped riser incident which occurred on 2/12/2020. When speaking to rig personnel it was stated that while in the process of running riser joint #2 a hydraulic leak was observed on the riser gantry crane. After trouble shooting, the rig mechanic verified that a hydraulic hose was leaking. At this point the riser gantry crane remote was de-energized in order to change the leaking hoses. After changing out leaking hydraulic hoses with replacement hoses, verification could not be made confirming the hoses were installed properly due to the 34,500 pounds joint of riser suspending from the crane. It was determined by documentation provided that the Emergency Procedure to lower the riser manually was not utilized. Had this procedure been followed to manually lower the joint of riser off the gantry crane, proper installation of the hydraulic hoses could have been accomplished safely. The (riser) gantry crane remote was de-energized; contrary to the Laying Down and Picking Up Riser with Elevation and Riser Gantry Crane task document stated on step #19 as follows, "...Under NO Circumstances Should the Operator Shut Off Power To The Riser Crane Remote While A Load Is Suspended From The Elevation /Gantry Crane..." All parties involved in this operation signed off on this task document.

(See Additional Information in Item 20)

25. DATE OF ONSITE INVESTIGATION:

28. ACCIDENT CLASSIFICATION:

14-FEB-2020

26. INVESTIGATION TEAM MEMBERS:
Frank Musacchia / Earl Roy / Quoc Dang
/

29. ACCIDENT INVESTIGATION PANEL
FORMED: **NO**

OCS REPORT:

27. OPERATOR REPORT ON FILE:

30. DISTRICT SUPERVISOR:
David Trocquet

APPROVED
DATE: **15-SEP-2020**