

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: 16-JUL-2017 TIME: 1630 HOURS

2. OPERATOR: Renaissance Offshore, LLC

REPRESENTATIVE:

TELEPHONE:

CONTRACTOR:

REPRESENTATIVE:

TELEPHONE:

- STRUCTURAL DAMAGE
- CRANE
- OTHER LIFTING DEVICE
- DAMAGED/DISABLED SAFETY SYS.
- INCIDENT >\$25K \$45,000
- H2S/15MIN./20PPM
- REQUIRED MUSTER
- SHUTDOWN FROM GAS RELEASE
- OTHER

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

6. OPERATION:

4. LEASE: G12355

AREA: SS LATITUDE:

BLOCK: 198 LONGITUDE:

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

5. PLATFORM: J-PRD

RIG NAME:

6. ACTIVITY: EXPLORATION(POE)
 DEVELOPMENT/PRODUCTION
(DOCD/POD)

8. CAUSE:

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

7. TYPE:

- HISTORIC INJURY
- REQUIRED EVACUATION 1
- LTA (1-3 days)
- LTA (>3 days)
- RW/JT (1-3 days)
- RW/JT (>3 days)
- Other Injury

- FATALITY
- POLLUTION
- FIRE
- EXPLOSION

- LWC
- HISTORIC BLOWOUT
 - UNDERGROUND
 - SURFACE
 - DEVERTER
 - SURFACE EQUIPMENT FAILURE OR PROCEDURES

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

9. WATER DEPTH: 100 FT.

10. DISTANCE FROM SHORE: 44 MI.

11. WIND DIRECTION:
SPEED: M.P.H.

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

13. SEA STATE: FT.

14. PICTURES TAKEN:

15. STATEMENT TAKEN:

On July 16,2017, an incident occurred on the Ship Shoal 198-J platform (OCS-G12355). Renaissance Offshore, LLC (Renaissance) is the Designated Operator of Record. The platform is located 44 miles from shore, with a water depth of 100 feet. The facility was installed in 1985 and has 13 well slots--8 drilled and 2 active.

The compressor was shut down on July 12,2017, for maintenance which included the installation of new packing glands and piston assemblies on the 2nd and 3rd stage cylinders. The work was completed on July 15. During this time period, the internal components of the engine were open to the atmosphere.

At approximately 4:30 pm on July 16 during normal start-up operations, the Waukesha Reciprocating Compressor ran for approximately five minutes without being loaded. Then the engine shut down due to low fuel gas supply. Once the fuel gas problem was corrected, the compressor was restarted without being purged or loaded. The engine ran in idle for approximately ten minutes with the blowdown valve (BDV) in the open position. At that time, an explosion occurred, causing damage to the 3rd stage cooler and associated piping. Renaissance states that, "[t]he internal detonation was caused by the ignition of a [lower explosive limit] LEL mixture (air and natural gas) within the process piping and components. This internal detonation [resulted in an explosion] upon ignition[,] causing the damage. The unit was not loaded or compressing gas at the time of the incident, and air from the bleed points [was] not properly purged[,] which allowed a continuous source of air into the process and components." As such, the probable cause of this incident is the failure to purge. Furthermore, purging was not even recognized as a key step in the job safety analysis (JSA). At the time of the incident, Renaissance had no general purging procedure in place.

There were no injuries, fires, or spills observed at the time of the incident; however, the compressor mechanic (who was at the compressor panel at the time of the incident) complained of migraines and dizziness five days later. Renaissance elected to send the Injured Person (IP) to Thibodeaux Regional Medical Center, where IP underwent a CAT scan and was subsequently released.

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

The probable causes identified by investigation of this incident include:

1. Failure to purge
2. Inadequate JSA

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

A Renaissance internal investigation revealed that, "[s]ome of the contributing factors are employee competency testing, insufficient hazard analysis, complacency and lack of detail[ed] understanding of proper purging techniques."

20. LIST THE ADDITIONAL INFORMATION:

To prevent recurrence, Renaissance proposes to retrain all personnel on recognition of hazard analysis and proper system purging requirements following any repairs that expose combustible equipment to atmospheric conditions.

21. PROPERTY DAMAGED:

*3rd stage cooler coils
*3rd stage piping

NATURE OF DAMAGE:

*Damaged 3rd cooler coils
*Burst 3rd stage piping

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ESTIMATED AMOUNT (TOTAL): **\$45,000**

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The Houma Distict has no recommendation for the Regional Office.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: **NO**

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

None

25. DATE OF ONSITE INVESTIGATION:

09-SEP-2017

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

OCS REPORT:

26. ONSITE TEAM MEMBERS:

/ / Keith Barrios /

29. DISTRICT SUPERVISOR:

Bryan Domangue

APPROVED

DATE: **11-OCT-2017**