

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: 08-MAY-2018 TIME: 0915 HOURS

2. OPERATOR: BP Exploration & Production Inc.

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:

AREA: GC LATITUDE:  
BLOCK: 787 LONGITUDE:

5. PLATFORM: A (Atlantis)  
RIG NAME:

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

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

7. TYPE:

- HISTORIC INJURY
  - REQUIRED EVACUATION
  - 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. CAUSE:

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

10. WATER DEPTH: 7050 FT.
11. DISTANCE FROM SHORE: 124 MI.
12. WIND DIRECTION:  
SPEED: M.P.H.
13. CURRENT DIRECTION:  
SPEED: M.P.H.
14. SEA STATE: FT.

## 17. INVESTIGATION FINDINGS:

At approximately 2115 hours on Tuesday, May 08, 2018, an incident occurred on the Floating Semi-Submersible Platform, Atlantis. The platform is located at Green Canyon Block 787-A, OCS-G 23579. The operator on record is BP Exploration & Production Inc. A high pressure gas release occurred on sales gas meter #3. The gas release was discovered by third party personnel working in the area, who immediately contacted the control room. Production personnel confirmed the gas release and the control room shut in and blew down the gas compression system. The operating personnel then opened the valve for the buyback gas in order to keep the gas generators online. After approximately 15 minutes, the operating personnel realized the buyback gas was feeding the existing gas release. After the buyback gas valve was closed and approximately 30 minutes after the initial discovery, the gas release ended at approximately 2145 hours. Throughout the incident no general alarm, emergency shutdown (ESD), or personnel muster was initiated. However, after the gas release ended the platform remained shut in overnight.

During normal operations on Friday, April 20, 2018, 18 days prior to the gas release, a third party measurement technician was replacing a transmitter on the sales gas meter #3 and installed Teflon seals. The technician was unaware of a BP policy that only Viton O-rings (Green Tweed 938 elastomer) should be used instead of the Teflon seals. The seal failed at approximately 2100 psi resulting in this gas release incident. This was the fourth gas release incident to occur on BP facilities since 2008 and the third on Atlantis. On October 07, 2008 a gas release incident occurred on the Atlantis facility. On June 21, 2009 a gas release occurred on another BP facility (Nakika). Eleven days later on July 01, 2009 another gas release occurred on the Atlantis facility. All of these incidents were due to failed Teflon seals. During the BSEE visit at the platform on June 20, 2018, the inspectors noted the height/distance of the gas detectors in relation to the sales gas skid and pointed this out to the operators. Statements were obtained in relation to the incident. On August 23, 2018, BSEE interviewed the Measurement technician who performed the gas meter transmitter and seal replacement on April 20, 2018. The technician verified that miscommunication played a factor in the chain of events which led to the incident. According to the technician, the BP employee asked him if he was replacing "like for like". The technician assumed the BP employee meant the transmitter equipment since he had no knowledge of the importance of the seals.

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

Based on BSEE's investigation and BP's internal investigation, the following findings were identified:

The correct seals were not installed due to personnel not having knowledge of the importance of the seals, poor oversight by BP employees, and the technician and BP employees being unaware of the installation procedures. Also, there was no evidence found that BP had a process in place for managing third party equipment owners doing work on their facilities. The technician did not have sufficient training prior to performing work on Atlantis and did not follow the OEM (original equipment manufacturer) procedures while installing the transmitter. The gas detection system did not alarm and no ESD (emergency shutdown) was activated during the time of the gas release. Personnel did not recognize the gas release as an emergency and the emergency response procedure was not followed as per their training, drills, and assessments. Initiating the general alarm or the ESD was not considered during the event which prolonged the gas release putting the safety of all on board at risk. In 2011 and 2015, F&G (Fire and Gas) assessments were performed on Atlantis and both assessments recommended that additional gas detection sensors be installed on the facility. Also, the lack of speak-up and trust between BP leadership and BP technicians as well as the safety culture on Atlantis were all cited as contributing to the response by personnel to the gas release.

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

During ongoing simultaneous operations around the time of the incident, the control room operators bypassed the shut-in functions of the line-of-sight gas detectors for the sales gas skid. The point gas detectors were not placed in bypass, however the distance of the detectors in relation to the gas skid did not sense the presence of the gas.

20. LIST THE ADDITIONAL INFORMATION:

none

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

none

n/a

ESTIMATED AMOUNT (TOTAL):

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The Houma District has no recommendations for the Office of Incident Investigations.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

On 09-20-2018 an Incident of Non-Compliance (INC G-110 (W)) was issued from the Houma District Office for the incident occurring on May 08, 2018. The INC states as follows: "On May 08, 2018 a gas release incident occurred on the Sales Gas Skid due to an improper Teflon seal or seals placed in the Sales Gas Meter #3 during a transmitter change-out 18 days prior to the incident. This was the third gas release incident on the facility due to the Teflon seals since October 07, 2008. BP was aware of the fault in these seals and did not verify that the 3rd party measurement technician installed the proper seals during the transmitter change-out."

25. DATE OF ONSITE INVESTIGATION:

20-JUN-2018

28. ACCIDENT INVESTIGATION

PANEL FORMED: NO

OCS REPORT:

26. INVESTIGATION TEAM MEMBERS:

Devon Hillman / Andy Gros / Keith Barrios /

29. DISTRICT SUPERVISOR:

Bryan A. Domangue

APPROVED

DATE:

28-SEP-2018