

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF OCEAN ENERGY MANAGEMENT, REGULATION AND ENFORCEMENT  
GULF OF MEXICO REGION

# ACCIDENT INVESTIGATION REPORT

1. OCCURRED

DATE: **01-FEB-2011** TIME: **1500** HOURS

2. OPERATOR: **Black Elk Energy Offshore Operati**

REPRESENTATIVE: **Verret, Wayne**

TELEPHONE: **(281) 598-8652**

CONTRACTOR:

REPRESENTATIVE:

TELEPHONE:

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

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

6. OPERATION:

4. LEASE: **G02391**

AREA: **HI** LATITUDE:

BLOCK: **A 571** LONGITUDE:

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

5. PLATFORM: **B-AUX**

RIG NAME:

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

8. CAUSE:

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

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

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

9. WATER DEPTH: **283** FT.

10. DISTANCE FROM SHORE: **116** MI.

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

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

13. SEA STATE: FT.

17. INVESTIGATION FINDINGS:

On 1 February 2011, at approximately 1500 hours, a Third Party Pipeline Company ( ) installed a new battery charger in the Third Party's Remote Terminal Unit (RTU) located on the leased space portion of the platform. Platform personnel were informed that the original battery charger's breaker was turned off; however, the original charger was not removed and left hooked up to the original bank of batteries. The fire melted the battery casings and scorched the battery charger and the immediate inside surroundings of the RTU. The fire was extinguished with two CO2 hand-held extinguishers and two "purple-k" hand-held extinguishers.

Findings suggest that one of the batteries had an internal short that melted the battery charger plastic and battery lead. The intense heat from the lead in the batteries and the aluminum housing in the RTU resulted in a chemical reaction. The reaction created a gas that was rich in hydrocarbons which triggered a 20% ASH. Within one minute the gas concentration initiated a total platform shut-in at 50% ASH.

It was discovered that the original charger's breaker was in the "on" position. No determination could be made on when the breaker was turned back on, but platform personnel indicated it may have occurred by the Third Party during their last meter proving operation. This operation was not documented in the platform's maintenance log.

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

The original charger's old nickel cadmium batteries internally shorted, resulting in melting of the battery casings and ignition of the released battery fluids.

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

- \* The original battery charger's breaker was turned back to the "on" position without platform personnel being made aware of the breaker's status. Without this knowledge, a competent platform person could not ensure proper method of battery charger isolation and discharge of the storage energy.
- \* The old unused cadmium batteries were not inspected to ensure they were in good condition and being maintained in accordance with the manufacturer's recommendations.

20. LIST THE ADDITIONAL INFORMATION:

To eliminate or minimize the chance of any similar reoccurrence, the operator is requiring the following:

- \* Old batteries not in use be removed from the platform, and any spare batteries be stored in a protective enclosure.
- \* All batteries currently in use be inspected for condition, while ensuring they are being maintained as per the manufacturer's recommendations.
- \* All electrical devices rendered inoperative, be inspected by a competent platform individual to ensure proper method of isolation and discharge of stored energy.
- \* When any Third Party work is being performed on the facility, the work plan involving changes or implementation of equipment, maintenance and/or operations be discussed with the operator's platform personnel.
- \* At time of completion of any Third Party project, the operator's PIC or designated person must verify that all tasks were performed in compliance with the operator and Third Party requirements.

21. PROPERTY DAMAGED:

NATURE OF DAMAGE:

Out-of-service Rectifier,  
Remote Terminal Unit Building interior,  
and Temperature Safety (TSE) Element  
plugs and gas detector

Smoke and fire

ESTIMATED AMOUNT (TOTAL): \$1,000

22. RECOMMENDATIONS TO PREVENT RECURRENCE NARRATIVE:

The Lake Jackson District recommends a Safety Alert be issued, advising operators to ensure that:  
\* A competent person ensure all inoperative electrical devices, battery chargers in particular, are properly isolated and discharged of the stored energy.  
\* Batteries currently in use should be inspected to ensure they are in good condition and being maintained as per the manufacturer's recommendations.  
\* Remove old batteries no longer in use from the platform, and store spare batteries in protective enclosures.  
\* Any Third Party work performed on a facility's leased space should be discussed between the Third Party and the operator's personnel, in order for the operator's designated representative to verify that all tasks were performed in accordance with both the platform operator and Third Party requirements.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: YES

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

F-103:All rechargeable battery systems should be installed such that hydrogen cannot collect in sufficient quantities to create a hazard and to protect the batteries in accordance with API RP 14F, paragraphs 10.3.4.2 and 10.3.4.3, and API RP 14FZ, paragraphs 10.3.4.2 and 10.3.4.3. The rechargeable batteries were not enclosed to provide protection from internal shorting.

25. DATE OF ONSITE INVESTIGATION:

16-FEB-2011

26. ONSITE TEAM MEMBERS:

Edward Lacy / Aaron Campbell /

29. ACCIDENT INVESTIGATION

PANEL FORMED: NO

OCS REPORT:

30. DISTRICT SUPERVISOR:

John McCarroll

APPROVED

DATE: 03-MAR-2011

# FIRE/EXPLOSION ATTACHMENT

1. SOURCE OF IGNITION: **Internal shorting of old nickel cadmium batteries from "on" breaker.**

2. TYPE OF FUEL:  GAS  
 OIL  
 DIESEL  
 CONDENSATE  
 HYDRAULIC  
 OTHER **Batteries**

3. FUEL SOURCE: **Battery chemicals**

4. WERE PRECAUTIONS OR ACTIONS TAKEN TO ISOLATE KNOWN SOURCES OF IGNITION PRIOR TO THE ACCIDENT ? **NO**

5. TYPE OF FIREFIGHTING EQUIPMENT UTILIZED:  HANDHELD  
 WHEELED UNIT  
 FIXED CHEMICAL  
 FIXED WATER  
 NONE  
 OTHER

# INJURY/FATALITY/WITNESS ATTACHMENT

OPERATOR REPRESENTATIVE

INJURY

CONTRACTOR REPRESENTATIVE

FATALITY

OTHER \_\_\_\_\_

WITNESS

NAME :

HOME ADDRESS :

CITY :

STATE :

WORK PHONE :

TOTAL OFFSHORE EXPERIENCE :

YEARS

EMPLOYED BY :

BUSINESS ADDRESS :

CITY :

STATE :

ZIP CODE :

