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: **23-JUN-2014** TIME: **1030** HOURS

2. OPERATOR: **Arena Offshore, LP**
   REPRESENTATIVE:
   TELEPHONE:
   CONTRACTOR: **ISLAND OPERATORS CO. INC.**
   REPRESENTATIVE:
   TELEPHONE:

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

4. LEASE: **G10638**
   AREA: **EC** LATITUDE:
   BLOCK: **328** LONGITUDE:

5. PLATFORM: **B**
   RIG NAME:

6. ACTIVITY:
- [ ] EXPLORATION(POE)
- [X] DEVELOPMENT/PRODUCTION (DOCD/POD)

7. TYPE:
- [ ] HISTORIC INJURY
- [X] REQUIRED EVACUATION **1**
- [ ] LTA (1-3 days)
- [ ] LTA (>3 days
- [ ] RW/JT (1-3 days)
- [ ] RW/JT (>3 days)
- [ ] Other Injury
- [ ] FATALITY
- [X] POLLUTION
- [ ] FIRE
- [ ] EXPLOSION

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

COLLISION [ ] HISTORIC [ ] >$25K [ ] <=$25K

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

6. OPERATION:
- [X] PRODUCTION
- [ ] DRILLING
- [ ] WORKOVER
- [ ] COMPLETION
- [ ] HELICOPTER
- [ ] MOTOR VESSEL
- [ ] PIPELINE SEGMENT NO.
- [ ] OTHER

8. CAUSE:
- [ ] EQUIPMENT FAILURE
- [X] HUMAN ERROR
- [ ] EXTERNAL DAMAGE
- [ ] SLIP/TRIP/FALL
- [ ] WEATHER RELATED
- [ ] LEAK
- [ ] UPSET H2O TREATING
- [ ] OVERBOARD DRILLING FLUID
- [ ] OTHER

9. WATER DEPTH: **243** FT.

10. DISTANCE FROM SHORE: **96** MI.

11. WIND DIRECTION: **SW**
    SPEED: **7** M.P.H.

12. CURRENT DIRECTION: **NE**
    SPEED: **3** M.P.H.

13. SEA STATE: **2** FT.

14. PICTURES TAKEN: **YES**

15. STATEMENT TAKEN: **YES**

17. INVESTIGATION FINDINGS:

On June 23, 2014, an incident occurred at approximately 10:30 A.M. on the Arena Offshore East Cameron 328 B facility which resulted in a pollution event and injury to an 0perator (IP). The IP was also the platform's 1erson in $harge (PIC). At the time of the incident, the IP was attempting to replace the pneumatic temperature controller (TC) on Heater Treater #2 NBK-2770 (vessel). The TC was threaded directly into a thread-o-let within the liquid medium of the vessel instead of being installed inside a thermo-well as recommended by the manufactureS. The vessel normally operates at approximately 40 pounds per square inch (psi) and 150 degrees Fahrenheit. There were six persons on board the facility, including one 'ield 'oreman, four 0perators, and one &lectrician.
On June 24, 2014, the BSEE Lake Charles District conducted an onsite accident investigation and learned that operations personnel experienced problems with the vessel's TC maintaining a stabilized temperature on June 22, 2014. As a result of the temperature instability, the vessel's liquid medium temperature safety high (TSH) sensor activated a shut-in action of fuel and inflow of fluids. Again on June 23, 2014, the vessel's TSH activated due to temperature instability and operations personnel deemed it necessary to replace the faulty TC. Approximately two hours after the TSH activated, with the vessel's heat source shutdown and the liquid inlets and outlets blocked off, the IP began removing the TC. However, the vessel was not depressurized and the hot oil was not drained to a safe level below the TC. Once the TC was completely removed from the thread-o-let, hot pressurized oil blew out of the one inch opening in the vessel, striking and burning the IP on his left bicep. Operations personnel then shut-in the rest of the facility by manually actuating an emergency shut-down station. Oil continued to flow out of the one inch thread-o-let, striking the line heater approximately 20 fFFt across the deck. In an effort to direct the oil into the containment skid beneath the vessel, operations personnel positioned a sheet of plywood in front of the oil stream. Once the pressurized flow of oil declined, operations personnel installed a one inch nipple and ball valve into the open thread-o-let, isolating the leak. After regaining control of the vessel, operations personnel reported the pollution event (National Response Center Incident Report # 1086799) and made arrangements for the injured operator to be evacuated. Personnel then cleaned themselves up due to being covered in oil, and then began cleaning the facility. A Spill Report Form was submitted showing that 12 gallons of crude oil were discharged into offshore waters and one person sustained a burn injury to his arm due to the incident.
The BSEE investigation findings revealed that the operations personnel took the following precautionary measures in preparation for replacement of the TC: manually blocked the boarding valve on the Vermillion 342 A incoming pipeline, isolated the vessel's liquid dump lines, and isolated the make-up gas to the vessel. The Job Safety Analysis (JSA) for this task identified hazards, including: pressure, temperature, and liquid release; however, the JSA failed to specifically identify the primary potential threat which was the TC not being installed inside a thermo-well. As a result, critical mitigations were not executed prior to removing the TC from the vessel which jeopardized the safety of personnel, production equipment, and the environment. These critical mitigations included: depressurizing the vessel, lowering the liquid levels within the vessel, and allowing sufficient time for cooling.

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

The IP removed the TC prior to depressurizing and lowering the oil level within the vessel.

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

Operations personnel failed to recognize the potential hazards associated with the TC being installed directly into the vessel instead of inside a thermo-well; therefore adequate mitigations were not identified on the JSA and implemented prior to performing the TC replacement.

20. LIST THE ADDITIONAL INFORMATION:

21. PROPERTY DAMAGED:

N/A

NATURE OF DAMAGE:

N/A

ESTIMATED AMOUNT (TOTAL): **$**

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

The Lake Charles District has no recommendations for the Regional Office of Safety Management.

23. POSSIBLE OCS VIOLATIONS RELATED TO ACCIDENT: **YES**

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

E-100 A pollution event occurred on June 23, 2014, discharging 12.3 gallons of crude oil into the Gulf of Mexico, during an incident involving the NBK-2770 Heater Treater

G-110 Operations personnel failed to conduct operations in a safe and workmanlike manner which resulted in injury to the PIC and uncontrolled flow of oil into offshore waters on June 23, 2014.

25. DATE OF ONSITE INVESTIGATION:

24-JUN-2014

26. ONSITE TEAM MEMBERS:

Darron Miller / Brandon Rider / Roger Major / Chad Chaffin /

28. ACCIDENT CLASSIFICATION:

MINOR

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

OCS REPORT:

30. DISTRICT SUPERVISOR:

Larry Williamson - Distri

27. OPERATOR REPORT ON FILE: **YES**

APPROVED DATE: **19-AUG-2014**

INJURY/FATALITY/WITNESS ATTACHMENT

[ ] OPERATOR REPRESENTATIVE
[X] CONTRACTOR REPRESENTATIVE
[ ] OTHER _____

[X] INJURY
[ ] FATALITY
[ ] WITNESS

NAME:

HOME ADDRESS:

CITY: STATE:

WORK PHONE: TOTAL OFFSHORE EXPERIENCE: YEARS

EMPLOYED BY:

BUSINESS ADDRESS:

CITY: STATE:

ZIP CODE:

[X] OPERATOR REPRESENTATIVE
[ ] CONTRACTOR REPRESENTATIVE
[ ] OTHER _____

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