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: **03-MAY-2016** TIME: **1620** HOURS

2. OPERATOR: **Energy XXI GOM, LLC**
   REPRESENTATIVE:
   TELEPHONE:
   CONTRACTOR:
   REPRESENTATIVE:
   TELEPHONE:

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

4. LEASE: **G01083**
   AREA: **WD** LATITUDE: **28.9463**
   BLOCK: **73** LONGITUDE: **-89.7063**

5. PLATFORM: **D**
   RIG NAME:

6. ACTIVITY:
- [ ] EXPLORATION(POE)
- [X] 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
- [ ] STRUCTURAL DAMAGE
- [X] 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:
- [X] EQUIPMENT FAILURE
- [X] HUMAN ERROR
- [ ] EXTERNAL DAMAGE
- [ ] SLIP/TRIP/FALL
- [ ] WEATHER RELATED
- [ ] LEAK
- [ ] UPSET H2O TREATING
- [ ] OVERBOARD DRILLING FLUID
- [ ] OTHER _____

9. WATER DEPTH: **168** FT.

10. DISTANCE FROM SHORE: **17** MI.

11. WIND DIRECTION: **NE**
    SPEED: **12** M.P.H.

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

13. SEA STATE: FT.

On 03-May-2016 at 1620 hrs at the West Delta (WD) 73-D, OCS-G 1083 Energy XXI Platform, a crane incident occurred while offloading the 4.75 ton rental diesel generator from the Motor Vessel (M/V) Jessica Faye crew change boat to the platform. During the lift, the sea state was observed to be choppy resulting in the M/V constantly moving back and forth during the operations. This incident resulted in shock loading the crane which damaged the crane boom cable. The boom cable is a mechanism responsible for raising and lowering the crane boom.

At approximately 1600 hrs, the M/V Jessica Faye entered the Energy XXI WD 73 field. The M/V contacted the platform to inform them of heavy lifts of a 4.75 ton rental diesel generator and a 2 ton diesel tank skid along with crew change personnel. The Fab-Con Crane Operator (#1 CO) responded and started the Job Safety Analysis (JSA) and crane pre-use procedures. When the pre-use was performed on the WD 73-D crane (American Aero G-20F- Serial #87493), it was noted of no discrepancies found at the time of the pre-use inspection. The decision was made by the #1CO to offload the heavy equipment first utilizing the load block and the crew change personnel second utilizing the auxiliary line with personnel basket.

While offloading the 4.75 ton rental diesel generator at approximately 1620 hrs from the M/V Jessica Faye with the WD 73-D platform crane, the generator contacted the diesel tank skid lifting it up approximately 5 ft off the M/V deck. The load suddenly released from the diesel tank skid, springing upward and shock loading the crane. The generator was then lifted from the M/V to the platform. The #1 CO then offloaded the personnel from the M/V not recognizing that the crane has just been shock loaded. The #1 CO was relieved of his crane duty by the Fab-Con Crane Operator (#2 CO) who made the final personnel lift along with the #1CO for crew change. The M/V Jessica Faye was released after crane operations were completed at approximately 1830 hrs.

At approximately 1730 hrs, Island Operating A - Crew notified the Energy XXI Maintenance Foreman about the WD 73-D platform crane incident that transpired during crew change. The A Operator informed the Maintenance Foreman that the WD 73-D crane needed to be inspected due to the incident that transpired at 1420 hrs. After being informed of the incident, the Maintenance Foreman had the crane tagged out of service. On the day of the incident, Sparrows Offshore Services Ltd (Sparrows) Crane Mechanics were already in the area performing inspections and were scheduled to perform an annual inspection of the WD 73-D crane on 05-May-2016.

On 04-May-2016 the Sparrows Crane Mechanics conducted a thorough inspection of the crane. The Mechanics noted that while performing a visual inspection of the boom wire rope condition, high strands were visible on the bottom layer. The Sparrows Crane Mechanics confirmed with the Maintenance Foreman that the crane had been shock loaded due to the incident. According to the crane inspection, Sparrows noted that the boom cable was badly crushed and needed to be replaced.

BSEE Investigators arrived on 10-May-2016 to conduct an investigation of the crane incident. Statements, Job Safety Analysis (JSA), pictures and initial reports were obtained.

The BSEE investigation revealed that the Fab-Con #1 CO failed to recognize the severity of the hazards that resulted in the shock loading of the crane. The shock loading resulted in damaging the crane. The Fab-Con #1 CO who was involved in the incident was then relieved of crane duty, and the Fab-Con #2 CO made the final personnel lift. Neither of Fab-Con's Crane Operators recognized the hazards of shock loading the crane and continued to keep the crane in service while transferring personnel. At the time of the incident, no one used Stop Work Authority (SWA) when the 4.75 ton rental diesel generator contacted the diesel tank.

1. Based on interviews conducted and documents reviewed of the crane incident investigation, it was discovered that during lifting operations, the Fab-Con #1 CO failed to recognize the hazards of heavy lifts associated with shock loading the crane.
2. Lessee failed to perform crane operating practices for attaching and moving the load being utilized in accordance with API RP 2D, paragraphs 3.2.1, 3.2.2 and 3.2.3
3. During the investigation, it was found that the relief Fab-Con #2 CO failed to perform a crane pre-use after the first qualified CO change-over during crane operations on 03-May-2106 in accordance with API RP 2D 4.1.2.2
4. Fab-Con #2 CO Offshore Crane Certification and Evaluations was expired during crane operations on 03-May-2016 in accordance with API RD 2D 6th edition and API specifications 2C crane certification was expired a total of 82 days before renewal.
5. The qualified CO and the designated signal person directing the lift, if utilized, should determine that:
A. The load is secured and properly balanced in the appropriate sling or lifting device before it is lifted.
B. The lift and swing paths are clear of obstructions and personnel.
6. The CO was not aware of the effects of the velocity and weight of the load to minimize shock loading.
7. The qualified rigger on the M/V Jessica Faye shouldn’t walk away without giving the appropriate hand signals to the CO on the platform during a critical lift. Signals between the CO and the designated signal person should be discernible, audibly or visually, at all times. The CO should not respond unless signals are clearly understood. The designated signal person should be in clear view of the CO to ensure that their signals may be seen. The Rigger position should have a clear view of the load, crane, personnel, and area of operation. If the Crane Operator’s view of the primary signal person is obstructed, a secondary signal person should be provided.
8.The probable cause of this incident was the lessee and the personnel engaged in this lifting operation failed to follow and adhere to safe rigging practices. Also, personnel failed to recognize hazards which could have prevented this incident from occurring.
9. Pre-use inspection API RP 2D 4.1.2.2 shall be performed and documented prior to the first crane use of the day and prior to or during each change in the Crane Operator. The second CO failed to perform a Pre-use inspection in accordance with API RP 2D 4.1.2.2 before operating the crane.
10. After reviewing the Energy XXI crane pre-use, there was no documentation of a second pre-use performed.

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

1. Lessee failed to perform crane operating practices for attaching and moving the load being utilized in accordance with API RP 2D, paragraphs 3.2.1, 3.2.2 and 3.2.3

2. The Qualified CO and the designated signal person directing the lift, if utilized, should determine that:
• The load is secured and properly balanced in the appropriate sling or lifting device before it is lifted.
• The lift and swing paths are clear of obstructions and personnel.
• The hook is brought over the load in such a manner as to minimize swinging.
• The load, boom or other parts of the crane do not contact with obstructions.
• The load is free to be lifted utilizing appropriate hand signals.
• The Lessee and the personnel engaged in this lifting operation failed to follow and adhere to safe rigging practices. Also, the personnel failed to recognize hazards which could have prevented this incident from occurring.
• The second CO failed to perform a pre-use inspection in accordance with API RP 2D 4.1.2.2 before operating the crane.

3. The #1 CO was relieved of his crane duty by the Fab-Con #2 CO who made the final personnel lift along with the #1 CO for crew change.

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

• No personnel at the time of the incident used Stop Work Authority (SWA) when the rental generator contacted the diesel tank and lifted it 5 ft before the load spring loaded.
• Personnel were transferred after the crane was damaged. This could have elevated into a catastrophic event if the boom cable had parted.
• The crew boat deck hand hooked the load and walked away without giving the CO hand signals.
• SWA should have been initiated.
• The CO did not stop the job and continued to lift the load.
• A failure of communication between the crew boat personnel and the CO was the contributing factor in the crane incident.
• When CO noticed the crew boat moving around due to choppy seas, SWA should have been initiated.

20. LIST THE ADDITIONAL INFORMATION:

Obtained the following documents from Energy XXI: POB, JSEAs, witness statements, crane and rigging certifications, heavy lift operating procedures, Energy XXI HSE incident report, Sparrows thorough examination check sheet, daily safety meeting and operations review log, marine forecast, crane pre-use form, Sparrows quarterly inspection 06-Feb-2016, crane annual inspection 21-May-2016, Photos of crane cable in question, R&R Boats, Inc. cargo log sheet, Energy XXI manifest of generator and fuel tank, Sparrows latest annual crane inspection 06-May-2016.

While reviewing the statements and documents, discrepancies were found on the weights of the cargo manifest #05032016 Rental generator 8000 lbs and the 560 gallon Diesel Fuel tank 4000 lbs.
1. The photo of the Rental diesel generator serial #4811 shows it to be 9200 lbs.
2. The manifest from the Energy XXI dock shows it to be 8000 lbs.
3. The statement from the CO shows he was informed to pick up a 9500 lbs load from the Jessica Faye.
4. During the Pre-use inspection before the quarterly inspection were to be performed

of the WD 73-D American Aero Crane dated 6-Feb-2016. The Sparrows Crane Mechanic noted in the inspection that the boom cable was found crushed badly and needed to be replaced.

21. PROPERTY DAMAGED:

Boom Cable

NATURE OF DAMAGE:

Shock load

22. RECOMMENDATIONS TO PREVENT RECURRANCE NARRATIVE:

BSEE New Orleans District makes no recomendations to the Office of Incident Investigations.

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

24. SPECIFY VIOLATIONS DIRECTLY OR INDIRECTLY CONTRIBUTING. NARRATIVE:

1. G-132 - Lessee failed to notify the New Orleans District Office verbally immediate after the crane incident that occurred on 03-May-2016 as required in 30CFR 250.188

2. G-110 - During crane operations, the CO was lifting a 9500 pound rental generator. During the lift the generator contacted the diesel tank frame resulting in shock loading the crane cable. The CO made another lift picking up personnel from and to the crew boat not recognizing the hazards that has occurred shock loading and damaging the boom cable.
After the fact during the Investigation additional INCs were issued.

3. I-143 - During the investigation it was found that the relief CO failed to perform a crane pre-use after the first qualified CO change over during crane operations on 03-May-2016 in accordance with API RP 2D 4.1.2.2

4. I-182- Fab-con CO Offshore Crane Certification and Evaluations was expired during crane operations on 03-May-2016 in accordance with API RD 2D 6th edition and API specifications 2C. Crane certification was expired a total of 82 days before renewal.-Corrected action 21-June-2016

25. DATE OF ONSITE INVESTIGATION:

13-MAY-2016

26. ONSITE TEAM MEMBERS:

Johnathan Fraser / Pierre Lanoix /

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

OCS REPORT:

30. DISTRICT SUPERVISOR:

David Trocquet

APPROVED DATE: **03-OCT-2016**

INJURY/FATALITY/WITNESS ATTACHMENT

☐ OPERATOR REPRESENTATIVE	☐ INJURY
☒ CONTRACTOR REPRESENTATIVE	☐ FATALITY
☐ OTHER _____	☒ WITNESS

NAME:

HOME ADDRESS: **Roustabout(18 Yrs)/Crane Operator(4 Yrs)**

CITY: STATE:

WORK PHONE: TOTAL OFFSHORE EXPERIENCE: **22** YEARS

EMPLOYED BY:

BUSINESS ADDRESS:

CITY: STATE:

ZIP CODE:

INJURY/FATALITY/WITNESS ATTACHMENT

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

[ ] INJURY
[ ] FATALITY
[X] WITNESS

NAME:
HOME ADDRESS: **Fab-con/Roustabout/ Rigger**
CITY: STATE:
WORK PHONE: TOTAL OFFSHORE EXPERIENCE: **5.5** YEARS

EMPLOYED BY:
BUSINESS ADDRESS:
CITY: STATE:
ZIP CODE:

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

[ ] INJURY
[ ] FATALITY
[X] WITNESS

NAME:
HOME ADDRESS: **Compliance Tech**
CITY: STATE:
WORK PHONE: TOTAL OFFSHORE EXPERIENCE: **8** YEARS

EMPLOYED BY: **ISLAND OPERATORS CO. INC. / 20324**
BUSINESS ADDRESS: **108 ZACHARY**
CITY: **LAFAYETTE** STATE: **LA**
ZIP CODE: **70583**

INJURY/FATALITY/WITNESS ATTACHMENT

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

[ ] INJURY
[ ] FATALITY
[X] WITNESS

NAME:
HOME ADDRESS: **Fab-con/ Crane Operator**
CITY: STATE:
WORK PHONE: TOTAL OFFSHORE EXPERIENCE: **31** YEARS

EMPLOYED BY:
BUSINESS ADDRESS:
CITY: STATE:
ZIP CODE:

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

[ ] INJURY
[ ] FATALITY
[X] WITNESS

NAME: **Operator**
HOME ADDRESS:
CITY: STATE:
WORK PHONE: TOTAL OFFSHORE EXPERIENCE: **8** YEARS

EMPLOYED BY: **ISLAND OPERATORS CO. INC. / 20324**
BUSINESS ADDRESS: **108 ZACHARY**
CITY: **LAFAYETTE** STATE: **LA**
ZIP CODE: **70583**

Crane/Other Material-Handling Equipment Attachment

Equipment Information

Installation date: **03-MAY-16**

Manufacturer: **AMERICAN AERO**

Manufacture date: **03-MAY-16**

Make/Model: **G-20F** / **SERIAL 87493**

Any modifications since manufactured? Describe and include date(s).

What was the maximum lifting capacity at the time of the lift?

Static: Dynamic:

Was a tag line utilized during the lift? **N**

Were there any known documented deficiencies prior to conducting the lift? If yes, what were the deficiencies?

List specific type of failure that occured during this incident.(e.g. cable parted, sticking control valve, etc.)

If sling/loose gear failure occurred does operator have a sling/loose gear inspection program in place? **Y**

Type of lift: **MD**

For crane only:

Type of crane: **MECHANICAL**

Boom angle at time of incident: Degrees: **60** Radius: **55**

What was load limit at that angle? **0**

Crane equipped with: **B**

Which line was in use at time of incident? **L**

If load line involved, what configuration is the load block: **4** part.

Load Information

What was being lifted?

Description of what was being lifted (e.g. 10 joints of 2 3/8-inch pipe, ten 500-lb. sacks of sand, 2 employees, etc.)

4.75 ton Rental Diesel Generator

Approximate weight of load being lifted: **9500**

Was crane/lifting device equipped with an operable weight indicator? **Y**

Was the load identified with the correct or approximate weight? **N**

Where was the lift started, where was it destined to finish, and at what point in the lift did the incident occur? Give specific details (e.g. pipe rack, riser cart, drill floor, etc.)

The crane incident occurred while offloading the 4.75 ton Rental Diesel Generator from the Jessica Faye crew change boat to the platform resulting in shock loading the crane damaging the crane boom cable which is a critical component to the crane operations. Personnel was lifted after the shock load occurred. The crane operator did not recognize the hazards of shock loading the crane.

If personnel was being lifted at the time of this incident, give specific details of lifting device and riding apparatus in use (e.g. 1) crane-personnel basket, 2) air hoist-boatswain chair, other)

Were personnel wearing a safety harness? **NA**

Was a lifeline available and utilized? **NA**

List property lost overboard.

NONE

Rigger/Operator Information

Has rigger had rigger training? **Y**

If yes, date of last training: **23-SEP-13**

How many years of rigger experience did rigger have? **4**

How many hours was the operator on duty prior to the incident? **10**

Was operator on medication when incident occurred? **N**

How many hours was the rigger on duty prior to the incident? **10**

How much sleep did rigger have in the 24 hours preceding this incident? **8**

Was rigger on medication when incident occurred? **N**

Were all personnel involved in the lift drug tested immediately following this incident?

Operator: **N** Rigger: **N** Other: **NO**

While conducting the lift, was line of sight between operator and load ma

N

Does operator wear glasses or contact lenses? **N**

If so, were glasses or contacts in use at time of the incident? **N**

Does operator wear a hearing aid? **N**

If so, was operator using hearing aid at time of the incident? N

What type of communication system was being utilized between operator and rigger at time of this incident?

RADIO/VHF

For crane only:

What crane training institution did crane operator attend?

FALCK ALFORD

Where was institution located? **HOUMA LA**

Was operator qualified on this type of crane? **Y**

How much actual operational time did operator have on this particular crane involved in this incident?

Years: **4** Months: **2**

List recent crane operator training dates.

23-SEP-2013

For other material-handling equipment only:

Has operator been trained to operate the lifting device involved in the incident? **N**

How many years of experience did operator have operating the specific type of

Inspection/Maintenance Information

For crane only:

Is the crane involved classified as Heavy, Moderate or Infrequent use.
M

Was pre-use inspeciton conducted? **Y**

For the annual/quarterly/monthly crane inspections, please fill out the following information:

What was the date of the last inspection? **27-APR-16**

Who performed the last inspection? **(CRANE OPERATOR #1)**

Was inspection conducted in-house or by a 3rd party? **TP**

Who qualified the inspector? **(CRANE OPERATOR #1)**

Does operators' policy require load or pull test prior to heavy lift? **Y**

Which type of test was conducted prior to heavy lift? **P**

Date of last pull test: **06-MAY-16** Load test: **06-MAY-16**

Results: **P**

If fail explain why:
Pull test 100% or less than the LRC load test

Test Parameters: Boom angle: **70** Radius: **49**

What was the date of most recent crane maintenance performed? **27-APR-16**

Who performed crane maintenance? (Please clarify persons name or company name.)
SPARROWS

Was crane maintenance performed in-house or by a third party? **TP**

What type of maintenance was performed?
Annual Inspection

For other material-handling equipment only:

Was equipment visually inspected before the lift took place?

What is the manufacture's recommendation for performing periodic inspection on the equipment involved in this incident?

Safety Management Systems

Does the company have a safety management program in place? **N**

Does the company's safety management program address crane/other material-handling equipment operations?

N

Provide any remarks you may have that applies to the company's safety management program and this incident?

Did operator fill out a Job Safety Analysis (JSA) prior to job being performed?

Y

Did operator have an operational or safety meeting prior to job being performed?

Y

What precautions were taken by operator before conducting lift resulting in ir

Pre-use inspection and company policies

Procedures in place for crane/other material-handling equipment activities:

Did operator have procedures written? **Y**

Did procedures cover the circumstances of this incident? **Y**

Was a copy available for review prior to incident? **Y**

Were procedures available to MMS upon request? **Y**

Is it documented that operator's representative reviewed procedures before conducting lift?

N

Additional observations or concerns:

The BSEE investigation revealed that the Fab-Con (#1CO) failed to recognize the severity of the hazards that resulted in the shock loading of the crane. The shock loading resulted in damaging the crane. The Fab-Con #1 CO who was involved in the incident was then relieved of crane duty, and the Fab-Con #2 Crane Operator made the final personnel lift. Neither Fab-Con's Crane Operators recognized the hazards of shock loading the crane and continued to keep the crane in-service while transferring personnel. At the time of the incident, nobody used Stop Work Authority (SWA) when the 4.75 ton rental diesel generator contacted the diesel tank.

1. Based on interviews conducted and documents reviewed of the crane incident investigation, it was discovered that during lifting operations, the Fab-Con #1 CO failed to recognize the hazards of heavy lifts associated with shock loading the crane.
2. Lessee failed to perform crane operating practices for attaching and moving the load being utilize in accordance with API RP 2D, paragraphs 3.2.1, 3.2.2 and 3.2.3
3. During the investigation it was found that the relief Fab-Con #2 CO failed to perform a crane pre-use after the first qualified CO change over during crane operations on May 3, 2106 in accordance with API RP 2D 4.1.2.2
4. Fab-Con #2 CO Offshore Crane Certification and Evaluations was expired during crane operations on May 3, 2016 in accordance with API RD 2D 6th edition and API specifications 2C crane certification was expired a total of 82 days before renewal.
5. The Qualified CO and the designated signal person directing the lift, if utilized, should determine that:

A. The load is secured and properly balanced in the appropriate sling or lifting device before it is lifted.
B. The lift and swing paths are clear of obstructions and personnel.

6. The CO was not aware of the effects of the velocity and weight of the load to minimize shock loading.
7. The qualified rigger on the M/V Jessica Faye shouldn’t walk away without giving the appropriated hand signals to the CO on the platform during a critical lift. Signals between the CO and the designated signal person should be discernible, audibly or visually, at all times. The CO should not respond unless signals are clearly understood. Be in clear view of the CO to ensure that their signals may be seen. The Rigger position should give a clear view of the load, crane, personnel, and area of operation. If the Crane Operator’s view of the primary signal person is obstructed, a secondary signal person should be provided.
8. The probable cause of this incident was the lessee and the personnel engaged in this lifting operation failed to follow and adhere to safe rigging practices. Also, personnel failed to recognize hazards which could have prevented this incident from occurring.

9. Pre-use inspection API RP 2D 4.1.2.2 shall be performed and documented prior to the first crane use of the day, prior to or during each change in the Crane Operator. The second CO failed to perform a Pre-use inspection in accordance with API RP 2D 4.1.2.2 before operating the crane.
10. According to the Energy XXI Root Cause Analysis (RCA) the Fab-con #1 CO relief the Fab-con #2 CO, made the final lift of personnel onto the M/V Jessica Faye without performing a pre-use inspection.
11. After reviewing the Energy XXI crane pre-use, there was no documentation of a second pre-use performed.