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| **EVENT REPORT:ID 130916** | | | | | | | | | | | | | | | |
| 1. WHAT IS THE PROBLEM? P-3407B BURNT TERMINAL CABLE | | | | | | | | | | | | | | | |
| Title: P-3407B BURNT TERMINAL CABLE | | | | | | | | | | | | | | | |
| Date Occurred: 22. 03 .2020 | | | | Time: 10:30 hrs | | | | | | | Location: FIRE WATER PUMP HOUSE | | | | |
| Date Reported: 22. 03 .2020 | | | | Time: 1045 hrs | | | | | | | Reported by Ibrahim Odukoya | | | | |
| **Event Type** | | Potential Threat (not yet occurred)  Reliability/integrity – Trip | | | | | | | | | Reliability/integrity – Equipment failure  Reliability/integrity – Others | | | | |
| Equipment Tag Number: P-3407B | | | | | | | | | | | | | | | |
| Background/ Threat Description:  During routine operator FLM checks, the duty operator observed smoke coming out from the electric motor of fire water pump P-3407B. He immediately switched the pump control from auto to manual mode and called the attention of the supervisor on duty.  Sequence of Events:   * Pump on auto mode from previous day * 1030hrs/22.03.2020 – observed smoke from electric motor * 1031hrs/22.03.2020 –Switch pump control from auto to manual * 25.03.2020 – Raised work request notification * Electric motor removed to workshop for repairs Notf: 11779760 | | | | | | | | | | | | | | | |
| Consequences: | | |  | | Risk Assessment: (People, Asset, Community, Environment) | | | | | | | | | | |
| Deferment/outage  Oil: Nil  Gas: Nil  Flare: Nil  Other: Gas Quality  Downtime: 30days | | |  | A | B | C | | D | | E | Actual: A1  Potential: A3B  Consequence Scenario  The Risk Assessment Matrix was ranked ~~A2~~. The impact was on asset | | |
| 0 |  |  |  | |  | |  |
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| Immediate Corrective Actions Taken: | | | | | | | | | | | | | | | |
| # | Immediate action | | | | | | | | Date | | | | | By | Notification/WO # |
| 1 | Pump switched from auto to manual | | | | | | | | 23.03.2020 | | | | | Unit operator |  |
| 2 | Work request raised for burnt terminal cable | | | | | | | | 24.03.2020 | | | | | Odukoya Ibrahim | 11779760 |
| 3 | Fault captured under short term treat | | | | | | | | 25.03.2020 | | | | | Raymond Emetulu |  |

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| 2. WHAT DO WE THINK CAUSED THE PROBLEM? | | | | | | | |
| **Investigation Team** | | | **Team Composition:**  **Asset Members:**  1. Ibrahim Odukoya; Emetulu Raymond, Sani Aminu, Bernard Okoro, Idowu Olalekan, Shamsuddeen M, Arasomwan O, Etulan Adu, Adeyinka Olufemi | | | | |
| **Problem Statement (Primary Effect)** | | | 1. Expected: Pump available to start on auto mode always 2. **Actual:** P-3407B fail to start on demand 3. Impact: Cost of repairs (???#) | | | | |
|  | | **Why? / Immediate cause** | | **Answer/Root Cause** | | 3. EVIDENCE? | |
| Why 1 | | Why did: P-3407B fail to start on demand? | | 1. There was no power supply to the electric motor 2. Control signal inhibit was active | | 1. Observed burnt cable by operator/Electrical team   2 No evidence | |
| Why 2 | | Why was there no power supply to the electric motor? | | 1. No power from control panel LCP-3407B 2. Power outage from GTG 3. No power from substation (SS100) 4. Burnt cable at electric motor terminal 5. Defective circuit breaker | | 1. No evidence 2. No evidence 3. No evidence 4. Observed burnt cable by operator/Electrical team 5. No evidence | |
| Why 3 | | 1. Why was there burnt cable at electric motor terminal | | 1. Partial contact 2. Short circuit 3. Over-load | | 1. Observed loose terminal 2. No evidence 3. Manually confirmed pump shaft friction free by Mechanical technician | |
| Why 4 | | 1. Why was there partial contact | | 1. The terminals were not fully tight 2. Work loosed terminal due to vibration | | 1. Electrical PM carried-out 22.02.2020(PTW No:177522/ WO:22719822), confirmed electrical wiring tightness.  2. No vibration analysis for the unit since 0ct’19 till March’2020  3. Foundation bolts are not marked. | |
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| **4. WHAT SOLUTIONS DO WE HAVE IN MIND?** | | | | | | | |
| **#** | **Proposed Action** | | | | **Action Party** | | **Target Date** |
| 1 | Carry out vibration analysis on the motor | | | | Mech | | 30.07.2020 |
| 2 | Ref MJR to know and adopt the right torque value | | | | Elect | | 30.05.2020 |
| 3 | Carry out foundation bolt marking/operator to monitor the foundation bolt movement/shift and report | | | | Ops | | 30.05.2020 |
| 4 | Confirm motor glanding during PM’s | | | | Elect | | Continuous |
| 5 | Carry out cascade on marked foundation bolts monitoring by unit operators | | | | Ops Suprv | | 30.05.2020 |
| **5. HOW WILL THE PROPOSED SOLUTIONS ELIMINATE THE CAUSES OF THE PROBLEM?** | | | | | | | |
| 1. Foundation bolt marking & Vibration analysis to curb loose cable terminal due to vibration | | | | | | | |
| 1. MJR update to ensure proper procedure during PM activities | | | | | | | |
| **LESSONS LEARNT** | | | | | | | |
| **Incident Owner: ALOZIE G** | | | | | | | |