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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Activity Description & Location: | | | Coiling TEC Cable Above Hanger and Gauge Testing  Onshore, Australia | | | | | | | | Assessment No: | GN014 | | | | **Rev:** | | 1.0 | | |
| Date: | 11-Dec--2019 | | | | | | | | |
| References used:  *(Inc. Legal obligations)* | | | * Wellsite Permit to Work System / Client Wellsite Permit System * SOP GN013 Install Permanent Downhole Gauges | | | | | | | | Assessment Team: | G. Humphreys, J. Hollingworth | | | | | | | | |
| Company / Dept.: | Huracan / Reservoir Monitoring | | | | | | | | |
| Frequency of Activity: | Regular | | | | | | | | |
| Persons Affected: | Huracan Crew, Rig Crew | | | | | | | | |
|  | | | |  | | | | | |  | | | | | | | | | | |
| **OPERATION / EVENT** | | | **HAZARD** | **RISK** | | **Initial Risk** | | | **CONTROLS** | | | | | | | | **Residual Risk** | | | |
| **Steps** | | | ***Energy source to cause harm / damage*** | ***Consequence of hazard – harm / damage to occur*** | | **Pr** | **Co** | **RS** | ***Detail*** | | | ***Person to implement*** | | ***Person to monitor*** | | | **Pr** | | **Co** | **RS** |
| Cutting Cable and Stripping Encapsulation | | | Unsuitable /  Restricted  worksite  Manual handling | Equipment damage –  Huracan  Injury – Personnel Injury from longer than normal cable length, rig floor restrictions | | Possible | Major | **Med C4** | Ensure all PPE is used as per SOP  Remove all non-essential personnel from the rig floor  Visual inspection / hazard hunt of worksite  Measure cable length to ensure adequate length to uncoil cable and have it a minimum of 3m from the wellhead. (Outside of Zone 2)  Ensure two people help to strip encapsulation from cable using encapsulation stripping tool  While stripping ensure cable is not kinked and damaged | | | Huracan Crew, Rig Crew | | Huracan Supervisor | | | Remote | | Major | **Low E4** |
| Pass Cable through Tubing Hanger | | | * Moving equipment * Manual Handling | Injury – Struck by cable  Equipment damage –  Huracan cable | | Possible | Major | **Med**  **C3** | Place Borethough fittings on as normal  Lift hanger to head height as to provide enough room to pass the cable through the hanger without kinking  Pass cable through Borethough fittings and secure as normal | | | Huracan Crew, Rig Crew | | Huracan Supervisor | | | Remote | | Major | **Low D3** |
| Wrap Cable Around Landing Joint | | | * Lifting operations * Moving equipment * Manual handling | * Injury – Struck by cable * Damage to cable | | Possible | Major | **Med**  C4 | Tape cable in a 2m loop as to make easier to handle  Ensure adequate straight length of cable will be available through the rodlock for ease of install of the Wellhead Outlet before starting to wrap  Tape cable to landing joint above straight section  Wrap remaining cable around landing joint and ensure wrap finishes below the annular as this will be used to pressure test  After wrapping, slacken cable so that BPV will fit through the cable  Cut tape above straight cable section and remove for ease of landing joint removal  Land hanger and pressure test as per SOP | | | Huracan Crew, Rig Crew | | All personnel | | | Remote | | Major | Low E4 |
| Testing Gauge | | | * Ignition source * Tripping Hazard | * Injury to personnel from tripping * Damage to cable from long cable length | | Possible | Major | **MED**  C4 | After removing the BOP as per SOP straighten coiled cable section  Ensure personnel working around the longer section of cable are aware to avoid tripping  Pass cable through the rodlock and land  Test gauge function outside of the hazardous area (3m minimum) and confirm with OCR  Cut cable and install WHO bulkhead as per SOP  Pressure test rodlock  Place housing over WHO as per SOP | | | Huracan Crew, Rig Crew | | Huracan Gauge Installation Supervisor | | | Unlikely | | Major | **Low E4** |
| Approved By: | J. Hollingworth | | | Signature: | | *J. Hollingworth* | | | | | | Date: | | 11-Dec-19 | | | | | |

**NOTE:** Using the Risk Matrix below, identify the Consequence & Probability of each risk occurring and enter the risk score in the Inherent column. Review the consequence, probability and risk score after appropriate controls have been agreed upon. Remember, the consequence does not change unless you eliminate the hazard (only the probability may change!

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  | **Consequence** | | | | | | |
| **HEALTH AND SAFETY** | First Aid Injury (FAI) | Medical Treatment (MTI) | | Lost time Injury (LTI) | Permanent Disability / Fatality | | Fatalities (multiple) |
| A picture containing container  Description automatically generated**FINANCIAL IMPACT** | < $20K | $20K - $200K | | $200K - $2M | $2M - $20M | | $20M+ |
| **REPUTATION** | Minimal impact on business reputation, land holder only | Some impact on business reputation, local community exposure | | Moderate impact on business reputation, local media exposure | Significant impact on business reputation, national media exposure | | Critical impact on reputation, international media exposure |
| **ENVIRO.** | Incident. No breach of regulations / EA. Minimal and short term impact to any local environment. | Minor breach of regulations / EA resulting in notification to regulator.  Localised, short term, recoverable minor impact on flora and fauna | | Serious breach of regulations / EA resulting in reporting to regulator, investigation, environment notice or fines. Significant localised but short term environmental impact | Major breach of legislation resulting in prosecution or litigation and regulatory intervention.  Serious and long term ecological impact and environmental harm.  Emergency Management activated. | | Significant compliance breach resulting in prosecution / class action or loss of licence. Severe environmental harm with widespread or permanent Impact Crisis Management activated. |
|  |  |  | **1. Insignificant** | **2. Minor** | | **3. Moderate** | **4. Major** | | **5. Catastrophic** |
| **Likelihood** | A common event that is likely to occur in the industry many times per year | **A. Highly Likely** | **Medium  (A1)** | **Medium  (A2)** | | **High  (A3)** | **Extreme  (A4)** | | **Extreme  (A5)** |
| An event likely to occur more than once a year in the industry | **B. Likely** | **Low  (B1)** | **Medium  (B2)** | | **Medium  (B3)** | **High  (B4)** | | **Extreme  (B5)** |
| An event that may occur in the industry over 10 years | **C. Possible** | **Low  (C1)** | **Low  (C2)** | | **Medium  (C3)** | **Medium  (C4)** | | **High  (C5)** |
| An event not likely to occur in the industry over 10 years | **D. Unlikely** | **Negligible  (D1)** | **Low  (D2)** | | **Low  (D3)** | **Medium  (D4)** | | **Medium  (D5)** |
| An event that has not previously been experienced in the industry but may occur in exceptional circumstances | **E. Remote** | **Negligible  (E1)** | **Negligible  (E2)** | | **Low  (E3)** | **Low  (E4)** | | **Medium  (E5)** |
|  |  | | | | | | | | |
|  | **Hierarchy of Controls** | | **Level 1 – Eliminate the Hazard** | | **Level 2 – Substitute, Isolate & Engineer** | | | **Level 3 - Admin & PPE Controls** | |
|  |  | | | | | | | | |
|  | **Reporting Requirements** | | **Report Only – All Negligible Classifications** | | **Investigate – All Low to Medium** | | | **TapRoot – High or above, or any Hi-Po** | |
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