

Notifiable incident

Notification ID [NTF11740](#)**Duty holder** Woodside Energy Global Pty Ltd**Facility/Activity** Pyrenees**Nearest state** WA**Incident** OHS-DSCE: Vacuum release line at 3S cargo oil pump below minimal allowable wall thickness**Basic information provided at time of notification**

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|------------------------------|----------------------------|
| Notification type | Incident |
| Incident date | 30/08/2022 11:45 AM (AWST) |
| Notification date | 30/08/2022 03:55 PM (AWST) |
| NOPSEMA response date | 30/08/2022 04:10 PM (AWST) |
| Received by | |

Summary of information provided

| | |
|---|---|
| Brief descriptive title | OHS-DSCE: Vacuum release line at 3S cargo oil pump below minimal allowable wall thickness |
| Incident location | |
| Subtype/s | |
| Summary <i>(provided at notification)</i> | Planned radiography piping inspections find the vacuum release line at 3S cargo oil pump below minimal allowable wall thickness, 0.65mm thick. Equipment has been isolated pending repairs. |

Request permission to disturb the site

| | |
|----------------------------|----------------|
| Permission given | Not Applicable |
| Permission given by | |
| Permission given on | |

Initial spill and release amounts

| | |
|-------------------------|--|
| Gas (kg) | |
| Liquid (L) | |
| Release type | |
| More information | |

Details of person providing information to NOPSEMA

| | |
|------------------|--|
| Full name | |
| Job title | |

Initial notification category

| | |
|--|---|
| Initial category type <i>(based on notification)</i> | Dangerous Occurrence |
| Initial category <i>(based on notification)</i> | OHS - damage to safety-critical equipment |

Running sheet

There are no running sheet entries for this notification

| Decision | |
|---------------------|------------------|
| Escalate to level 1 | Yes |
| Inspector | |
| Escalated on | 31/08/2022 07:04 |

| Final notification category | |
|---|---|
| Final category type <i>(based on final report)</i> | Dangerous Occurrence |
| Final category <i>(based on final report)</i> | OHS - damage to safety-critical equipment |

| Immediate causes | |
|------------------|--|
| Details | What were the immediate causes of the incident? External corrosion and wall loss as a result of Galvanic Corrosion. |

| Initial report | |
|----------------|------------|
| Due date | 02/09/2022 |
| Received date | 02/09/2022 |
| Reviewed date | 08/09/2022 |
| Reviewed by | |

| | |
|---|--|
| Additional details provided by duty holder | <p>Brief description of incident: Initially 3S cargo oil pump vacuum release line found below minimal allowable wall thickness (As reported). Further inspection of all of the COP's revealed 9 x COP vacuum release spools in total were below or at MAWT.</p> <p>Inspection Results: P-4411A - 1.35mm – COT 1S (Below MAWT) P-4411B - 0.78mm – COT 1P (Below MAWT) P-4411C - 2.64mm – COT 2S (OK) P-4411D - 1.93mm – COT 2P (Below MAWT) P-4411E - 0.66mm – COT 3S (Below MAWT) P-4411F - 2.61mm - COT 3P (OK) P-4411G - 2.13mm - COT 4S (OK) P-4411H - 1.75mm - COT 4P (Below MAWT) P-4411I - 2.00mm - COT 5S (At MAWT) P-4411J - 1.63mm - COT 5P (Below MAWT) P-4411K - 1.97mm - COT 6S (Below MAWT) P-4411L - 0.48mm - COT 6P (Below MAWT) Estimated Nominal WT - 2.77mm (SCH 10) MAWT = 2 mm MRWT = 0.25 mm (Wall thickness Required for pipe Design Pressure)</p> <p>Work or activity being undertaken at time of incident: Targeted piping inspection and radiography thickness testing campaign.</p> <p>What are the internal investigation arrangements? Failure analysis of affected spool.</p> <p>Was there any loss of containment of any fluid (liquid or gas)? No</p> <p>Action taken to make the work-site safe: Was permission given by a NOPSEMA inspector to interfere with the site? OPGGS(S)R 2.49. - No Action taken - The defect spools have been isolated until such time they can be replaced and or repaired. Details of any disturbance of the work site - Nil</p> <p>Was an emergency response initiated? No Was anyone killed or injured? No Was there any serious damage? No</p> <p>Will the equipment be shut down? No. Equipment was offline at the time.</p> <p>Will the facility be shut down? No</p> <p>Immediate action taken/intended, if any, to prevent recurrence of incident: Action 1 - Isolate the affected spools Responsible party - [REDACTED] Completion date - 31/08/2022</p> <p>Action 2 - Spool repair/replacement Responsible party - [REDACTED] Completion date - 24/10/2022</p> <p>Are you attaching any documents? No</p> |
|---|--|

| Final report | |
|---------------|------------|
| Due date | 29/09/2022 |
| Received date | 30/09/2022 |
| Reviewed date | 04/10/2022 |
| Reviewed by | [REDACTED] |

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|---|---|
| Additional details provided by duty holder | <p>Full Report:</p> <p>Corrosion: The COP vacuum release spool identified as below MAWT is a short 25mm carbon steel stub piece off the COP discharge elbow. The stub is fitted with a weld neck flange that connects to a 316SS spool and isolation valve facilitating the vacuum release function. The corrosion mechanism in this instance is galvanic corrosion as a result of the dissimilar metals used in the vacuum release spool arrangement.</p> <p>Inspection and Identification: The discharge and vacuum release spool assembly is part of the manufacturer supplied package and typically would be inspected as part of the parent equipment related routines. In this instance however there are only two routines in 1SAP related to COP's (1Y Bearing Lube & 6m Performance test). Investigation also revealed that the carbon steel vacuum release spool is a unique vendor spec roughly equivalent to Schedule 10 that does not provide for any significant corrosion tolerance</p> <p>Actions to prevent recurrence of same or similar incident: Action - Replace all 12 COP discharge and vacuum release spools - Responsible party - Designated [REDACTED] - Completion date - 30th June 2023</p> <p>Action - Technowrap the three spools with <1mm remaining wall thickness to facilitate Offtake 1st – 5th November 2022 - Responsible party - [REDACTED] - Completion date - 23rd October 2022</p> <p>Action - Apply STOPAQ to balance of COP spools not being Technowrapped to prevent further corrosion until the time of spool replacements. - Responsible party - [REDACTED] - Completion date - 23rd October 2022</p> <p>Action - Implement Main Deck GVI, inclusive of COP discharge and vacuum release spool assembly in the facility Area Inspection Program. - Responsible party - [REDACTED] - 30th December 2022</p> |
|---|---|

| Final spill and release amounts | |
|---------------------------------|------|
| Gas (kg) | 0.00 |
| Liquid (L) | 0.00 |
| Release type | |
| More information | |

| Root causes | |
|-------------|--|
| Code | |
| Description | <p>Has the investigation been completed? Yes</p> <p>Root cause analysis: Root cause 1 External corrosion and wall loss as a result of Galvanic Corrosion.</p> <p>Root cause 2 There was no inspection routine established for the COP discharge spool / vacuum release lines on the main deck.</p> |

| All data received | |
|-------------------|------------|
| Date | 04/10/2022 |

