

Notifiable incident

Incident ID [6083](#)

Duty holder: Shell Australia Pty Ltd
Facility/Activity: Prelude FLNG
Facility type: Floating liquefied natural gas facility

Incident details	
Division	Occupational Health and Safety
Notification type	Incident
Incident date	08/08/2019 05:00 PM (WST)
Notification date	09/08/2019 07:47 AM (WST)
NOPSEMA response date	09/08/2019 08:28 AM (WST)
Received by	[REDACTED]
Nearest state	WA
Initial category type <i>(based on notification)</i>	Dangerous Occurrence
Initial category <i>(based on notification)</i>	Damage to safety-critical equipment
3 Day report received	11/08/2019
Final report received	27/08/2019
All required data received	27/08/2019
Final category type <i>(based on final report)</i>	Dangerous Occurrence
Final category <i>(based on final report)</i>	Damage to safety-critical equipment
Brief description	OHS-DSCE-Deluge auto valve will not reset
Location	Process deck
Subtype/s	Valve failure
Summary <i>(at notification)</i>	<p>Following a deluge test in process module (2P2 & 2P3 refrigerant compressors) the auto valve would not reset.</p> <p>The valve is currently closed manually and the automatic deluge system is not available for these modules.</p> <p>The remote manual operation is still available through a bypass arrangement.</p> <p>Work is currently limited in this module while the matter is further investigated.</p> <p>The OIM was made aware of the issue at 0600hrs on 09/08/19</p>

<p>Details (from final report)</p>	<p>Following a deluge test in process module (2P2 & 2P3 refrigerant compressors) the auto valve would not reset.</p> <p>The valve is currently closed manually and the automatic deluge system is not available for these modules.</p> <p>The remote manual operation is still available through a bypass arrangement.</p> <p>Work is currently limited in this module while the matter is further investigated.</p> <p>The OIM was made aware of the issue at 0600hrs on 09/08/19</p> <p>**As Supplied by Duty Holder** Brief description of incident During routine wet deluge testing the Fire Water Deluge Squeeze Valve 600NV-0230 opened on demand but didn't close upon reset. A number of attempts were made during the nightshift 8 Aug to reset the valve and none of these were successful. The squeeze valve was blocked in with a manual valve and hence the automatic deluge function was not available.</p> <p>Work or activity being undertaken at time of incident Fire deluge wet test</p> <p>What are the internal investigation arrangements? Squeeze Valve 600NV-0230 will be inspected to determine why the valve opened upon activation but didn't close upon reset</p> <p>Action taken to make the work-site safe?</p> <p>Was permission given by a NOPSEMA inspector to interfere with the site? Yes ? No ?</p> <p>SAP Notification is being raised to undertake remediation works. Deluge systems can be activated by remote manual activation via block valve on A-60013 (Deluge skid on 2P2/2P3 to protect P-34009 / K-14040 & it's Lube Oil Skid.</p> <p>*as supplied by duty holder* During routine wet deluge testing the Fire Water Deluge Squeeze Valve 600NV-0230 opened on demand but didn't close upon reset. A number of attempts were made during the nightshift to reset the valve and none of these were successful. The squeeze valve was blocked in with a manual valve and hence the automatic deluge function was not available.</p> <p>Visual inspection of the valve identified salt and debris build up within the orifice causing the blockage and subsequent impairment. Orifice was cleaned and freed from obstruction which allowed the squeeze valves to operate on demand and as per design.</p> <p>The investigation procedure used was the 5 causal reasoning questions. Action Responsible party Completion date Actual or intended Raise a technical query to address the following questions - Determine the frequency for fixed plant deluge testing (12 monthly) - Determine the frequency for over the side deluge testing (3-6 monthly) - Review an option to install pilot line filter/strainer In line orifice hole size to be reviewed Maintenance Mechanical Team Lead Completed Update Preventative Maintenance following technical query for fixed deluge and over the side deluge frequencies to ensure adequate flushing frequencies are obtained and followed. Maintenance Mechanical Team Lead 15/9/19</p>
<p>Immediate cause/s</p>	<p>tbc</p>
<p>Root cause/s</p>	
<p>Root cause description</p>	<p>Root cause 1 Solid residue obstruction (salt and debris) Root cause 2 Lack of circulation did not flush the system causing a blockage in the orifice of the valve</p>

Duty inspector recommendation	
Date	09/08/2019
Duty inspector	[REDACTED]
Recommendation	Do not conduct Major Investigation
Reasoning	Does not meet MI threshold based on information received
Supporting considerations	

Major investigation decision	
Date	09/08/2019
Decision	Do not conduct Major Investigation
Reasoning	Does not meet MI threshold based on information received
Supporting considerations	

Non-major investigation review and recommendation	
Date	16/08/2019
Inspector	[REDACTED]
Risk gap	Moderate
Type of standard	Established
Initial strategy	Investigate

Recommended follow up strategy	
Recommended strategy	Investigate
Supporting considerations	The operator confirmed that the system is not operational in automatic activation mode. Root cause of the failure not yet established. Moderate risk gap.

Non-major investigation decision	
Date	19/08/2019
RoN	[REDACTED]
RoN review result	Agree with recommendation
Strategy decision	Investigate
Supporting considerations	

Associated inspection	
Inspection ID	2051