

# Notifiable incident

**Incident ID** [6385](#)

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

Incident details	
<b>Division</b>	Occupational Health and Safety
<b>Notification type</b>	Incident
<b>Incident date</b>	03/02/2020 12:00 PM (WST)
<b>Notification date</b>	14/02/2020 07:31 PM (WST)
<b>NOPSEMA response date</b>	14/02/2020 08:09 PM (WST)
<b>Received by</b>	[REDACTED]
<b>Nearest state</b>	WA
<b>Initial category type</b> <i>(based on notification)</i>	Dangerous Occurrence
<b>Initial category</b> <i>(based on notification)</i>	Damage to safety-critical equipment
<b>3 Day report received</b>	17/02/2020
<b>Final report received</b>	31/03/2020
<b>All required data received</b>	31/03/2020
<b>Final category type</b> <i>(based on final report)</i>	Dangerous Occurrence
<b>Final category</b> <i>(based on final report)</i>	Damage to safety-critical equipment
<b>Brief description</b>	OHS-DSCE-Emergency depressurisation failed to meet performance standard timeframe
<b>Location</b>	Process deck
<b>Subtype/s</b>	Valve failure
<b>Summary</b> <i>(at notification)</i>	<p>OIM has just been made aware that during an emergency depressurisation of the facility on 3/2/20, two sections of the topsides did not depressurise in time in accordance with the performance standard of 15 minutes. Zone 5 section 1 was 26 minutes and Zone 4 section 1 was 17 minutes. This is a subsequent notification to NOPSEMA following the event when 3 UZVs failed to operate in time (RMS 6374)</p> <p>All units are currently shut down.</p> <p>Operator acknowledged that the notification was late and will provide further information in the 3 day report.</p>
<b>Details</b> <i>(from final report)</i>	<p>OIM has just been made aware that during an emergency depressurisation of the facility on 3/2/20, two sections of the topsides did not depressurise in time in accordance with the performance standard of 15 minutes. Zone 5 section 1 was 26 minutes and Zone 4 section 1 was 17 minutes. This is a subsequent notification to NOPSEMA following the event when 3 UZVs failed to operate in time (RMS 6374)</p> <p>All units are currently shut down.</p> <p>Operator acknowledged that the notification was late and will provide further information in the 3 day</p> <p><b>** As Supplied by Duty Holder**</b></p> <p>Brief Description: Main power outage led to loss of instrument air. On loss of instrument air, Emergency Shut Down (ESD) and Emergency Depressurization (EDP) was initiated</p>

Post ESD / EDP assurance checks were completed on critical valves and blowdown timing. This identified that 2 x Blowdown zones failed to meet performance standard (15mins). Zone details as follows:

Zone 5, Section 1 140UZV2891 26mins

Zone 4, Section 1 140UZV2871 17mins

These are new zones which did not fail during last EDP event in September.

The delay in reporting is due to the continued investigation between surveillance and instrument teams to verify if it was a genuine exceedance of the performance standard (no conformance). The facility remains shut down.

Work or activity being undertaken at time of incident - Facility experienced main power outage and was preparing to re-establish power to the facility. Production train was shut down at the time.

What are the internal investigation arrangements? Causal Reasoning Investigation.

Was there any loss of containment of any fluid (liquid or gas)? No

Action taken to make the work-site safe - Plant status confirmed to ensure equipment de-pressured as per design.

How effective was the emergency response? Effective response and full muster achieved.

Details of job being undertaken - Recovery from loss of main power.

Will the facility be shut down? Yes – All process shut down following ESD & EDP (including all boilers/steam system)

Facility shutdown : Date - 03/02/2020. Time - 03:00. Duration - ongoing.

Immediate action taken/intended, if any, to prevent recurrence of incident - A Risk Assessment and Statement of Fitness will be issued prior to starting up affected process. Responsible - OIM. Completion Date - TBA

What were the immediate causes of the incident? Currently under investigation.

**\*\* As Supplied by Duty Holder\*\***

Has the investigation been completed? Yes

Root cause 1 - Blocked bug-screen

Root cause 2 - Fouling present within the valve

Full Report:

Describe investigation in detail, including who conducted the investigation and in accordance with what standard/procedure with reference to attachments listed in the 'attachments table' (following) as applicable

Investigation into the valves 100UZV-2641, 100ZV-2496 and 130UZV-2054 not meeting performance standards identified root causes as blocked bug screen and the presence of debris within the valves.

In response to the repeat failure of a valve due to a blocked bug screen, the opportunity to remove bug screens from all UZVs across Prelude has been investigated and is to be implemented under the Shell Management of Change (MoC) process on a prioritised (safety consequence) basis.

In response to the build-up of debris inside the upper and bottom trunnion which inhibited 100UZV-2496. Samples have been taken and will be sent to a Laboratory for further analysis to identify and understand the source of the debris/dust.

Although still to be determined it is believed that the cause of 130UZV-2054 is similar to 100UZV-2496 and due to the build-up of debris/dust. Action assigned to follow-up on root cause at end May 2020 as the ongoing root cause analysis is estimated to take approx. eight weeks for this valve.

Actions to prevent recurrence of same or similar incident:

Action - Raise Z1 notifications + eMOC to remove bug-screens on UZV valves. Responsible - Maintenance Engineer. Completion date - 18-03-2020 Completed eMoc#: 85816

	Action - Lab analysis of debris found in 100UZV-2496 + investigate where debris is coming from. Responsible - Senior Automation Engineer. Completion Date - 01-05-2020 Action - Capture failures (100UZV-2496 + 130UZV-2054) in MTO #129308. Responsible - Senior Automation Engineer. Completion Date - 20-03-2020 Completed Action - Follow-up and review root cause analysis for 130UZV-2054 following completion of lab testing. Responsible - Senior Automation Engineer. Completion Date - 30-05-2020
<b>Immediate cause/s</b>	TBC
<b>Root cause/s</b>	
<b>Root cause description</b>	Root cause 1 - Blocked bug-screen Root cause 2 - Fouling present within the valve

<b>Duty inspector recommendation</b>	
<b>Date</b>	17/02/2020
<b>Duty inspector</b>	[REDACTED]
<b>Recommendation</b>	Do not conduct Major Investigation
<b>Reasoning</b>	Does not meet MI threshold based on information received
<b>Supporting considerations</b>	

<b>Major investigation decision</b>	
<b>Date</b>	17/02/2020
<b>Decision</b>	Do not conduct Major Investigation
<b>Reasoning</b>	Does not meet MI threshold based on information received
<b>Supporting considerations</b>	

<b>Non-major investigation review and recommendation</b>	
<b>Date</b>	19/02/2020
<b>Inspector</b>	[REDACTED]
<b>Risk gap</b>	Moderate
<b>Type of standard</b>	Established
<b>Initial strategy</b>	Investigate

<b>Recommended follow up strategy</b>	
<b>Recommended strategy</b>	Investigate within 45 days
<b>Supporting considerations</b>	Shell had a related notification in September 2019 where two zones failed to meet their performance standard of depressurisation to < 690 kPag in less than 15 minutes and will be making changes to the system to correct. Two further failures may require a deeper understanding of whether there is a systemic problem. Propose to elevate to investigate to investigate within 45 days; however this will coincide with the next planned inspection 2129. Propose to include in the scope of this inspection.

<b>Non-major investigation decision</b>	
<b>Date</b>	19/02/2020
<b>RoN</b>	[REDACTED]
<b>RoN review result</b>	Agree with recommendation
<b>Strategy decision</b>	Investigate within 45 days
<b>Supporting considerations</b>	

<b>Associated inspection</b>	
<b>Inspection ID</b>	<a href="#">2129</a>