Notifiable incident

Incident ID	6142
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	13/09/2019 11:00 PM (WST)
Notification date	14/09/2019 07:38 AM (WST)
NOPSEMA response date	14/09/2019 08:19 AM (WST)
Received by	[redacted]
Nearest state	WA
Initial category type *(based on notification)*	Accident
Initial category *(based on notification)*	Incapacitation >= 3 days LTI
3 Day report received	15/09/2019
Final report received	14/10/2019
All required data received	23/01/2020
Final category type *(based on final report)*	Dangerous Occurrence
Final category *(based on final report)*	Unplanned event - implement emergency response plan
Brief description	OHS-LTI-Member of the workforce suffered hand injury
Location	Deck
Subtype/s	Injury, Medivac
Summary *(at notification)*	Operator advised that a worker carrying out insulation work cut the back of his right hand when working on an insulation box. The perforations in the inside of the box caused the injury when his put his gloved hand into the box. The IP was medivaced from the facility following consultation with the company doctor for further assessment.
Details *(from final report)*	Operator advised that a worker carrying out insulation work cut the back of his right hand when working on an insulation box. The perforations in the inside of the box caused the injury when his put his gloved hand into the box. The IP was medivaced from the facility following consultation with the company doctor for further assessment. ** As Supplied by Duty Holder** What happened: Insulator (Services team, [redacted] was preparing for reinstatement of sheet metal insulation box to be put around a manual valve. He was setting up the site and had previously prepared the insulation box. The box was lying on the ground. It has sharp triangular spikes upright (`100mm long) in the box, built in to allow insulation material to be put inside the box and anchored by the spikes. The insulator rested his right hand in the box and one of the triangular prongs entered the back of his hand, from one side to another. When he felt the cut, he pulled his hand back and was guided by his colleague to the medic for treatment. Work or activity being undertaken at time of incident - Insulation work preparation What are the internal investigation arrangements? Preliminary internal investigation commenced immediately gathering data, pictures and documented evidence. NOPSEMA notified. Formal

investigation to be conducted by onshore investigation team.

Action Taken: IP was taken directly to the Medic.

Details of any disturbance of the work site - Insulation box involved was moved to be photographed and then placed upside down to cover the spikes.

How effective was the emergency response? On site treatment by medic; onshore duty doctor assessment then non-urgent medevac following day to Perth.

Immediate action taken/intended, if any, to prevent recurrence of incident:

Work ceased, site closed, safety stand down conducted - Prelude OIM - Ongoing at time of report.

No sheet metal work to be undertaken on site until risks and controls have been reviewed - Services Team Lead - Ongoing at time of report

What were the immediate causes of the incident? Investigation ongoing. This is still being established.

** As Supplied by Duty Holder**

What were the immediate causes of the incident? Lapse in situational awareness. (Investigation ongoing. This is still being established)

Has the investigation been completed? Yes

Root cause analysis:
Root cause 1 Handling insulation covers with sharp spikes exposed
Root cause 2 The task required the IP to be in a low body position with limited visibility
Root cause 3 The IP's hand came into contact with the exposed sharp spike
Other root causes The PPE worn by the IP was penetrated by the spike on contact and force of the IP's hand reaching out.

Full Report:
The IP was part of a 2-person team that was re-instating insulation in the facility after a maintenance event. At the time of the incident the IP was testing the fit of an insulation cover around a low point drain valve. The location of the valve required a low body position, so the IP was on their hands and knees at the time of the incident.

When shifting their body weight, the IP reached out their hand to deck resulting in the IP's hand lining up with the metal spike.
The IP was wearing a "cut 1" gloves as PPE (classification was 3131 by EN 388 standard) at the time of the incident. However, the force of the IPs hand on the metal spike was sufficient to cut through the glove and cause the laceration. It should be noted that the investigation re-created the incident in controlled conditions using foam blocks in the place of a hand. If the IP had worn a higher cut resistance glove, such as 4542, the nature of the spike is such that the glove would still have been pierced, though the injury would have been less severe.

The investigation was a joint investigation between Shell, [redacted] (Employer of IP) following the causal learning methodology.

Actions to prevent recurrence of same or similar incident:
Action - Engage the contractor & sub-contractor to agree an insulation installation method that eliminates the need to use sharp metal spikes. Responsible - [redacted] Completion Date - 31 Oct 2019
Action - Agree and enact the transition process for applying the new insulation installation methodology and identifying where the old insulation installation method has been applied. Responsible - [redacted]. Completion Date - 31 Dec 2019
Action - Update the PPE glove matrix to give improved clarity on which glove is suitable for which task. Responsible - [redacted]. Completion Date - Completed

** as supplied by duty holder **

Email containing updated 30 day report received 23/1/2020:
Report updated as follows:

	• Previous identified category of LTI equal to and greater than 3 days "un-ticked" – LTI days observed as 1, therefore less than 3 days. • Category updated to 'Unplanned event – implement ERP', as the individual involved was medevac'd post incident.
Immediate cause/s	TBC
Root cause/s	
Root cause description	Root cause 1 Handling insulation covers with sharp spikes exposed Root cause 2 The task required the IP to be in a low body position with limited visibility Root cause 3 The IP's hand came into contact with the exposed sharp spike Other root causes The PPE worn by the IP was penetrated by the spike on contact and force of the IP's hand reaching out.

Duty inspector recommendation	
Date	19/09/2019
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	19/09/2019
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	16/09/2019
Inspector	[redacted]
Risk gap	Moderate
Type of standard	Interpretative
Initial strategy	Investigate

Recommended follow up strategy	
Recommended strategy	Investigate
Supporting considerations	During follow up at the RBP Shell clarified that the injury was a full penetration through the back of the hand. It is not clear at this stage that whether the injury will be disabling. It is proposed that this be investigated at the next inspection.

Non-major investigation decision	
Date	16/10/2019
RoN	[redacted]
RoN review result	Agree with recommendation
Strategy decision	Investigate
Supporting considerations	Agreed.

Associated inspection	
Inspection ID	2051

Runsheet entries		
1	**Event date**	28/11/2019 09:58 AM
	Event	October report (A703605) - updated injury to 1 day LTI and 15 days ADI for September. In addition to 31 days ADI for October. Total is now 46 days ADI

2	**Event date**	30/12/2019 10:02 AM
	Event	November report (A707748) - 30 days ADI. Total is updated from 46 days to 76 days ADI.
3	**Event date**	17/02/2020 11:34 AM
	Event	December report A713059 - 31 days ADI. Total updated from 76 to 107 days ADI. January 2020 report A717016 - 31 days ADI. Total updated from 107 to 138 days ADI
4	**Event date**	20/04/2020 04:05 PM
	Event	January report 31 days ADI. February report 29 days ADI. March report 31 days ADI. Total is now at 204 days
5	**Event date**	11/05/2020 01:49 PM
	Event	April report A730769 stated: Update to the April report is as follows: • Incident 2455522 - Contractor sustained a hand injury from a sharp spike whilst reviewing cladding on a valve for installation. • Updated date of cleared for full duties as of the 05 March 2020. • Total ADI Days: 171 • Total LTI Days: 1 [redacted]