INTERNAL USE ONLY

Notifiable incident

Incident ID	6408
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	01/03/2020 01:00 PM (WST)
Notification date	01/03/2020 08:01 PM (WST)
NOPSEMA response date	01/03/2020 08:14 PM (WST)
Received by	[redacted]
Nearest state	WA
Initial category type *(based on notification)*	Dangerous Occurrence
Initial category *(based on notification)*	Could have caused death or serious injury
3 Day report received	03/03/2020
Final report received	31/03/2020
All required data received	31/03/2020
Final category type *(based on final report)*	Dangerous Occurrence
Final category *(based on final report)*	Could have caused death or serious injury
Brief description	OHS-DODSI - Weather shield dislodged due to extreme weather fell approximately 20 metres on to deck.
Location	
Subtype/s	Dropped object
Summary *(at notification)*	The OIM of the facility reported a weather shield of a LOS gas detector dislodged and fell approximately 20 metres on the deck. The weather shield weighed 1.5kgs. The winds on the day were around 50 knots. No one was in the area of the dropped object and no one was hurt. The OIM informed all weather shield are being assessed for damage.

Details *(from final report)*	The OIM of the facility reported a weather shield of a LOS gas detector dislodged and fell approximately 20 metres on the deck. The weather shield weighed 1.5kgs. The winds on the day were around 50 knots. No one was in the area of the dropped object and no one was hurt. The OIM informed all weather shield are being assessed for damage. ** As Supplied by Duty Holder** Brief description of incident - A 1.8kg metallic weather shield installed to a line-of-site gas detector on the AFT corner of Prelude Module 1S1 (C-Deck) has dislodged during strong winds and has fallen to the deck (infill 4) approximately 21m below. The weather shield was identified by a worker making his way to a work location within module 1S1. The exact time that the weather shield dislodged is unknown. High winds over 50 knots (92 km/hr) were experienced the previous day (29th Feb). Work or activity being undertaken at time of incident - Routine plant duties. What are the internal investigation arrangements? Five causal reasoning questions to be conducted. Action taken to make the work-site safe - No action required to make site safe. Details of any disturbance of the work site - None Immediate action taken/intended, if any, to prevent recurrence of incident - Recovered dropped weather shield and inspection commenced for other potential loose shields. Responsible - Maintenance Coordinator. Completion Date - Completed What were the immediate causes of the incident? Weather shield blown loose by strong winds ** As Supplied by Duty Holder** Has the investigation been completed? Yes Root cause 1 - Metal fatigue Root cause 2 - Substandard construction of non-OEM supplied weather shields Root cause 3 - Corrosion - Material incompatibility with marine environment Full Report: Five causal reasoning investigation was conducted by the onshore engineering team in collaboration with the offshore team. Investigation findings identified that the installed weather shields are not Original Equipment Manufacturer (OEM) supplied. These units were fabricated at the construction yard using mild steel sheet; rather than the vendor recommended 316SS. The root cause is identified as metal fatigue, brought about due to the following contributing factors: (i) Substandard construction and installation. Construction of sunshades is not as robust as those provided by the OEM and some were inadequately bolted, resulting in vibration, leading to loss of paint. (ii) Loss of paint exposes mild steel surfaces to humid, salt-laden marine environment; where elevated temperatures also help expedite the rate at which corrosion takes place. (iii) The weakening of the metal due to corrosion further increases the rate at which metal fatigue occurs, leading to premature failure. Actions to prevent recurrence of same or similar incident: Action - Short term: Remove all accessible weather shields on line of sight gas detectors. This will reduce number of potential dropped objects. Responsible - Maintenance Manager. Completion Date - 30-05-2020 Action - Medium term: Remove weathershields from Line of sight detectors requiring scaffold / rope access. Responsible - Maintenance Manager. Completion Date - 30-07-2020 Action - Long Term: supply and install new OEM supplied weathershields on all affected devices. New covers are fabricated from painted 316SS and are of a more rigid construction. Responsible - Maintenance Manager. Completion Date - 30-10-2020
Immediate cause/s	TBC
Root cause/s	

Root cause description	Root cause 1 - Metal fatigue Root cause 2 - Substandard construction of non-OEM supplied weather shields Root cause 3 - Corrosion - Material incompatibility with marine environment

Duty inspector recommendation	
Date	03/03/2020
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	03/03/2020
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	03/03/2020
Inspector	[redacted]
Risk gap	Moderate
Type of standard	Established
Initial strategy	Investigate

Recommended follow up strategy	
Recommended strategy	Investigate
Supporting considerations	Drops calculator (drops online) rates the risk as potential fatality; however risk gap assessed to be moderate (possible -> remote). Suggest investigation.

Non-major investigation decision	
Date	03/03/2020
RoN	[redacted]
RoN review result	Agree with recommendation
Strategy decision	Investigate
Supporting considerations	

Associated inspection	
Inspection ID	2129