

Notifiable incident

Incident ID [5710](#)

Duty holder: INPEX Operations Australia Pty Ltd
Facility/Activity: Ichthys Venturer
Facility type: Floating production storage and offloading facility

Incident details	
Division	Occupational Health and Safety
Notification type	Incident
Incident date	03/12/2018 06:30 PM (WST)
Notification date	03/12/2018 08:31 PM (WST)
NOPSEMA response date	03/12/2018 08:35 PM (WST)
Received by	[REDACTED]
Nearest state	WA
Initial category type <i>(based on notification)</i>	Dangerous Occurrence
Initial category <i>(based on notification)</i>	Other kind needing immediate investigation
3 Day report received	06/12/2018
Final report received	02/01/2019
All required data received	02/01/2019
Final category type <i>(based on final report)</i>	Dangerous Occurrence
Final category <i>(based on final report)</i>	Other kind needing immediate investigation
Brief description	OHS-OKNI-Excessive exhaust temperatures on main power generator B
Location	Deck
Subtype/s	Facility integrity
Summary <i>(at notification)</i>	Operator advised that the external surface of exhaust manifold temperature on main power generator B was 370 degrees celcius. The safety case content based on the design specification is for no greater than 200 degrees celcius. The plan is to share the load with another generator to reduce the temperature to allow further investigation.

Details <i>(from final report)</i>	<p>Operator advised that the external surface of exhaust manifold temperature on main power generator B was 370 degrees celcius. The safety case content based on the design specification is for no greater than 200 degrees celcius. The plan is to share the load with another generator to reduce the temperature to allow further investigation.</p> <p>A thermography survey of the Main Power Generator B exhaust was conducted on all viewable external areas. Temperature values on the first expansion joint FWD of air inlet (Lower Exhaust)370 degC and Waste Heat Recovery Unit lower pipe (Upper Exhaust) 310 degC respectively. MPG A temperatures were then measured and found to be 320 degC and 315 degC at the same points. Temperatures do not comply with design specification of 200 degC. Reported as a dangerous occurrence as it exceeds Safety Case and Performance Standard limits for Control of Ignition Sources I/FPSO/DC-05.02.</p> <p>Main Power Generator C was brought online and load reduced to 5.5 MW on MPG A, B and C to reduce temperature below 350 degC. MPG B shut down and preparation for rectification work scope.</p> <p>A thermography survey of the Main Power Generator B exhaust was conducted on all viewable external areas. Temperature values on the first expansion joint FWD of air inlet (Lower Exhaust)370 degC and Waste Heat Recovery Unit lower pipe (Upper Exhaust) 310 degC respectively. MPG A temperatures were then measured and found to be 320 degC and 315 degC at the same points. Additional installation was installed as a temporary measure. When restarted, regular thermographic surveys were performed to assess external temperatures and MPG was operated at reduced flow through waste heat recovery unit to manage surface temperatures in line with Control of Hot Surfaces in Open Air procedure and comply with Safety Case and Performance Standard limits for Control of Ignition Sources I/FPSO/DC-05.02 Permanent insulation solution to be developed and installed.</p>
Immediate cause/s	Exhaust surface temperature identified a maximum temperature of 370 Deg C. Additional insulation required on hot spots.
Root cause/s	ED - DESIGN - Design specs - design not to specs
Root cause description	Insufficient insulation on MPG exhaust bellows and Waste Heat Recovery Unit

Duty inspector recommendation	
Date	04/12/2018
Duty inspector	██████████
Recommendation	Do not conduct Major Investigation
Reasoning	Does not meet MI threshold based on information received
Supporting considerations	

Major investigation decision	
Date	04/12/2018
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	04/12/2018
Inspector	██████████
Risk gap	Extreme
Type of standard	Established
Initial strategy	Investigate ASAP

Recommended follow up strategy	
Recommended strategy	Investigate ASAP
Supporting considerations	Serious consequence - MAE due to ignition of an HC LoC. Likelihood increases from negligible (from this ignition source) to possible. Established standard - as per SoV. Risk gap (by table) - extreme. Relevant notification - similar incident on Ichthys CPF (Notification 5620 - October 2018). This resulted in Inspection 1890, which generated 5 recommendations (still open). Recommend that the inspection team currently at the facility (PI 1794) be tasked to investigate.

Non-major investigation decision

Date	04/12/2018
RoN	
RoN review result	Agree with recommendation
Strategy decision	Investigate ASAP
Supporting considerations	

Associated inspection

Inspection ID	1794
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