

Notifiable incident

Incident ID [5598](#)

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	27/09/2018 04:00 PM (WST)
Notification date	28/09/2018 09:30 AM (WST)
NOPSEMA response date	28/09/2018 09:40 AM (WST)
Received by	
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	30/09/2018
Final report received	05/10/2018
All required data received	
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
Location	
Subtype/s	Valve failure
Summary <i>(at notification)</i>	<p>On testing of fire emergency system at 16:00 hours on 27 August 2018 the water mist system failed to operate automatically (this is the forward water mist system). This was a fire suppressant system for emergency diesel generators and it appears one solenoid has failed to actuate. The system can still be operated manually. The point of manual activation is in the TR which is on the same level as the control room. The OIM was of the view that the system can still be operated manually and there is redundancy in the system so the OIM advised that there was no immediate risk in the event of fire. A new solenoid is not available on board but will be brought in.</p>

<p>Details (from final report)</p>	<p>On testing of fire emergency system at 16:00 hours on 27 August 2018 the water mist system failed to operate automatically (this is the forward water mist system). This was a fire suppressant system for emergency diesel generators and it appears one solenoid has failed to actuate. The system can still be operated manually. The point of manual activation is in the TR which is on the same level as the control room. The OIM was of the view that the system can still be operated manually and there is redundancy in the system so the OIM advised that there was no immediate risk in the event of fire. A new solenoid is not available on board but will be brought in.</p> <p>During routine maintenance (function testing) of the forward water mist system, the system failed to activate in auto on demand due to faulty solenoids.</p> <p>The failure experienced was the supply of water mist to zone 4 (Fire Water Generator Room (FWGR) 'B' (XV-816)) and zone 2 (Emergency Diesel Generator (EDG) Room 'B' (XV-814)), which resulted in these rooms being unable to be activated in auto or from the Central Control Room (CCR) as per the required performance standard.</p> <p>Replacement of solenoid valve was undertaken for the EDG room which can now be activated in auto or from the CCR.</p> <p>Replacement/rectification of the solenoid for FWGR 'B' room is currently being undertaken.</p> <p>Facility status: Currently we are at normal operations.</p> <p>The investigation was completed in accordance with the INPEX Event Reporting and Investigation Procedure. The 5 WHYs failure elimination method was used.</p> <p>A summary of the incident is as follows: During routine maintenance (function testing) of the forward water mist system, the system failed to activate in auto on demand, owing to faulty solenoids supplying water mist to the forward EDG Room 'B' and FWG Room 'B'. Water mist activation can be performed manually however. This has been recognised as being non-compliant to the Active Fire Protection- FPSO Performance Standard. The 5 WHYs revealed the following; Why 1 – Immediate cause - Water mist activation failure due to the solenoid valves failing during function testing. Why 2 – caused by –the solenoid has failed to activate, no apparent failure mode identified. Needs to be sent to vendor for Root Cause Analysis (RCA). The root cause identified at this stage is identified as: Unknown /other (pending the completion of the RCA on the solenoids by the vendor)</p>
Immediate cause/s	Solenoid failure.
Root cause/s	
Root cause description	

Duty inspector recommendation	
Date	28/09/2018
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	28/09/2018
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	28/09/2018
Inspector	[REDACTED]
Risk gap	Moderate
Type of standard	Established
Initial strategy	Investigate

Recommended follow up strategy	
Recommended strategy	Investigate
Supporting considerations	Consequence - serious, failure of an MAE control. Benchmark likelihood - remote. Potential likelihood increases to possible, due to loss of remote control of the deluges. Established standard - as per SoV. Relevant incidents - deluge solenoid failures on FPSO (5591) and CPF (NMI 5494, 5498, 5510).

Non-major investigation decision	
Date	28/09/2018
RoN	
RoN review result	Agree with recommendation
Strategy decision	Investigate
Supporting considerations	Agreed.

Associated inspection	
Inspection ID	1794