

Notifiable incident

Incident ID [5654](#)

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	22/10/2018 09:10 AM (WST)
Notification date	22/10/2018 06:48 PM (WST)
NOPSEMA response date	22/10/2018 07:16 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>	Damage to safety-critical equipment
3 Day report received	25/10/2018
Final report received	20/11/2018
All required data received	20/11/2018
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 - Equipment failed in ESD
Location	Process deck
Subtype/s	Valve failure, Facility integrity
Summary <i>(at notification)</i>	<p>In investigating this morning's emergency shut down (Notification 5653), the operator found two non-compliances with safety case performance standards:</p> <ol style="list-style-type: none">1) The forward water mist system failed to act on demand during the ESD. This system protects the forward EDG and fire water generator rooms and is required to operate automatically during ESD. It can also be operated manually.2) Three ESD valves closed too slowly, not meeting the timeframe set in the shut-down valve performance standards. <p>The operator is investigating further.</p>

<p>Details (from final report)</p>	<p>In investigating this morning's emergency shut down (Notification 5653), the operator found two non-compliances with safety case performance standards: 1) The forward water mist system failed to act on demand during the ESD. This system protects the forward EDG and fire water generator rooms and is required to operate automatically during ESD. It can also be operated manually. 2) Three ESD valves closed too slowly, not meeting the timeframe set in the shut-down valve performance standards. The operator is investigating further.</p> <p>Event Investigation Findings At 09:35 WST on 22nd October 2018, the FPSO had a Non Hazardous ESD1 event (This event has been reported to NOPSEMA on a separate report). During the checks and investigation in the follow up from this event, the Emergency Shutdown Down Valves (ESDV's) detailed below were recorded as having closure times in excess of the closure time nominated in the INPEX 'Shutdown Valves Performance Standard':-</p> <ul style="list-style-type: none"> • ESDV S-667-ESDV-094 LP fuel gas between Modules 1/2 and Modules 9/10 • ESDV S-708-ESDV-045 from #900 drain to KO drum • ESDV S-708-ESDV-046 from #600 drain to KO drum <p>An engineering review was undertaken to evaluate the risk and requirements for valve rectification prior to re-start of the facility. On reviewing the pneumatics faults recorded in the positioner event log, this revealed routine self-check of internal pneumatics failed to execute due to possible valve shuttle valve stuck (spool valve). About 22:30 WST the same day, 3 critical valves for re-start (S-667-ESDV-094, S-708-ESDV-045 & S-708-ESDV-046) were exercised by the facility INLECS accordingly. All valves achieved their required performance criteria. Refer to Section 33 below for actions. At 23:59 the same day, the facility was deemed ready for re-start. The 5 WHYs revealed the following: Why 1 – Immediate Cause - Routine self-check of internal pneumatics failed to execute Why 2 – caused by - Possible valve shuttle valve stuck (spool valve) Why 3 – caused by - Possible Environmental Contaminants (positioner / instrument air system).</p>
<p>Immediate cause/s</p>	<p>Routine self-check of internal pneumatics failed to execute.</p>
<p>Root cause/s</p>	<p>ED - PREVENTIVE MAINTENANCE - PM NI - PM for equip NI</p>
<p>Root cause description</p>	<p>Possible valve shuttle valve stuck (spool valve) caused by possible environmental contaminants (positioner / instrument air system).</p>

Duty inspector recommendation

<p>Date</p>	<p>23/10/2018</p>
<p>Duty inspector</p>	<p>[REDACTED]</p>
<p>Recommendation</p>	<p>Do not conduct Major Investigation</p>
<p>Reasoning</p>	<p>Does not meet MI threshold based on information received</p>
<p>Supporting considerations</p>	<p></p>

Major investigation decision

<p>Date</p>	<p>23/10/2018</p>
<p>Decision</p>	<p>Do not conduct Major Investigation</p>
<p>Reasoning</p>	<p>Does not meet MI threshold based on information received</p>
<p>Supporting considerations</p>	<p></p>

Non-major investigation review and recommendation

<p>Date</p>	<p>23/10/2018</p>
<p>Inspector</p>	<p>[REDACTED]</p>
<p>Risk gap</p>	<p>Moderate</p>
<p>Type of standard</p>	<p>Established</p>
<p>Initial strategy</p>	<p>Investigate</p>

Recommended follow up strategy	
Recommended strategy	Investigate within 45 days
Supporting considerations	Serious consequences, these items of equipment are important MAE barriers. Likelihood of consequence being realised has increased to possible, as demonstrated by failures on testing. Established standards, as per SoV. initial risk gap = moderate, however a previous notification also relates to this water mist system (RMS 5598, notified on 28/09/2018), so the recommendation is upgraded to "within 45 days". The next PI commences offshore on 4/12/2018, which is 43 days from the date of the notification.

Non-major investigation decision	
Date	23/10/2018
RoN	[REDACTED]
RoN review result	Agree with recommendation
Strategy decision	Investigate
Supporting considerations	

Associated inspection	
Inspection ID	1794