Notifiable incident

Incident ID	5153
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	22/11/2017 12:30 PM (WST)
Notification date	22/11/2017 01:52 PM (WST)
NOPSEMA response date	15/11/2017 02:42 PM (WST)
Received by	[redacted]
Nearest state	WA
Initial category type *(based on notification)*	Dangerous Occurrence
Initial category *(based on notification)*	Damage to safety-critical equipment
3 Day report received	24/11/2017
Final report received	28/11/2017
All required data received	
Final category type *(based on final report)*	Dangerous Occurrence
Final category *(based on final report)*	Damage to safety-critical equipment
Brief description	OHS-DSCE-Main fire water pumps out of service
Location	
Subtype/s	Facility integrity
Summary *(at notification)*	Operator advised that due to checks being performed on main fire water pumps, only 1 pump out of 4 will be available a period of 30 mins on two separate occasions during the day. One of the fire pumps is already out of service leaving 3 of 4 available. The performance standard requires 2 of 4 pumps to be available at all times whilst the facility is manned. The checks have since been completed and 3 pumps are now back in service.
Details *(from final report)*	Failure to meet 'Firewater Pumps - FPSO Performance Standard (S060-AH-PST-10021)'. The Firewater Pumps (FWPs) Performance Standard states that two out of the four FWP's shall be available at all times whilst the facility is manned. Investigation results of an earlier failure of FWP 'C' mandated an urgent inspection of all fire water pumps on the facility. The inspection identified that repairs were required to FWPs 'A' and 'B'. As 'D' FWP was also temporarily out of service due to project Moon-Pool hose installation activities) as per MOC 20000645), a planned period of the availability of a single FWP Pump was implemented (note that one FWP meets 100% of worst case IHUC phase demand). Two 60 minute periods to repair the defect on FWPs 'A and 'B' was undertaken. FPSO Safety Critical Equipment Contingency Matrix (S060-A1-MAN-60001) was applied. This included a PA announcement, and stopping activities identified in the matrix.
Immediate cause/s	A flap valve in the fire pump engine cooling system sight glass broke and blocked the cooling system, this in turn caused the engine to overheat (it is not sure at this time why this did not shut down the engine) the engine was severely damaged. the other three fire pumps were checked and the same issue was found with all other sight glasses hence the time offline to remove the broken pieces. ([redacted] offshore on the CPF).
Root cause/s	

Root cause description	

Duty inspector recommendation	
Date	22/11/2017
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	22/11/2017
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	28/11/2017
Inspector	[redacted]
Risk gap	None
Type of standard	Established
Initial strategy	Inclusion in annual stats/data analysis

Recommended follow up strategy	
Recommended strategy	Inclusion in annual report stats / data analysis
Supporting considerations	The facility has 4 FW pumps and 2 FW pumps are required to deliver 100% firefighting coverage. The facility has no HC risk at this stage. The FPSO OIM contacted inspectors while on CPF. The reason for1 FW pump outage was due to a failure of cooling water sight-glass's flapper. The dislodged flapper caused blockage (Restriction) of the cooling water flow leading to the diesel driver (prime mover of the FW pump) overheated. (Per [redacted] (INPEX) - The FW pump was on standby and was automated to start on demand. Once it is started, it will not stop (Run to destruction). The system is configured per design philosophy and system's response was as per design). Inspectors sighted identical flapper removed from FW pump on CPF. It is a clear case of corrosion on pivot / pins supporting the flapper. INPEX has executed immediate action to remove all flappers of the cooling water system for all FW pumps on both facilities. This is clear case of design fault rather than gaps in SMS / competence/ PM/ inspection regime issues etc. The FPSO has deviation control. Risk control has to be in place prior to removal the flapper (i.e. reducing FW pump coverage down to 1). This notification is linked to notification 5119 'Damaged to FW pump C'[redacted]

Non-major investigation decision	
Date	28/11/2017
RoN	[redacted]
RoN review result	Agree with recommendation
Strategy decision	Inclusion in annual report stats / data analysis
Supporting considerations	

Associated inspection	
Inspection ID	