



INCIDENT INVESTIGATION REPORT

INCIDENT INVESTIGATION SUMMARY			
IMPACT Incident ID	667751		
Incident Title	Cobia failed nipple on CBA 2430 seal oil regulator		
Incident Date	26/2/13		
Site	Cobia		
Investigation started / completed	02/03/13	to	19/03/13 (dd/mm/yy)

INCIDENT TYPE <i>(Select all relevant types)</i>			
Personnel Injury:	LTI <input type="checkbox"/>	RWI <input type="checkbox"/>	MTI <input type="checkbox"/>
	Employee <input type="checkbox"/>		Contractor <input type="checkbox"/>
Spill:	Oil <input type="checkbox"/>	Chemical <input type="checkbox"/>	
	Volume:	Land <input type="checkbox"/>	Water <input type="checkbox"/>
Hydrocarbon Release:	<input checked="" type="checkbox"/>	Volume: ~2.5kgs	Product: Gas
IRAT Score	L (0 - 399) <input checked="" type="checkbox"/>	M (400-799) <input type="checkbox"/>	H (800 or above) <input type="checkbox"/>
Fire / Explosion	<input type="checkbox"/>	Major Incident (refer below)	<input type="checkbox"/>
Environmental Exceedance	<input type="checkbox"/>	Major Accident Event (refer below)	<input type="checkbox"/>
Occupational Illness	<input type="checkbox"/>	Significant Near Miss	<input type="checkbox"/>
Equipment Damage or Failure	<input checked="" type="checkbox"/>	COP Exceedance	<input type="checkbox"/>
Well Control Incident	<input type="checkbox"/>	Product Quality	<input type="checkbox"/>
Other:			

INVESTIGATION TEAM MEMBERS	
Position	Name
Investigation Team Leader	[REDACTED]
Investigation Report Author	[REDACTED]
[REDACTED]	[REDACTED]
Team Member	[REDACTED]

FINAL REPORT APPROVAL			
Position	Name	Signature	Date
Investigation Team Leader	[REDACTED]	On File	On File
Incident Owner	[REDACTED]	On File	On File
Superintendent / Plant Manager	[REDACTED]	On File	On File

DISTRIBUTION LIST				
Operations Manager	S.Bank	Plant Manager	LFD	Investigation Team Members
Off Ops Supt – Oil	S.Bank	Plant Manager	LIP	Action Item Custodians
Off Ops Supt – Gas	S.Bank	Superintendent	BBMT	Site Safety Coordinator
Off Ops Supt – Maint.	S.Bank	SHES Dept Mgr	S.Bank	OIMS System Owner/Admin
Off Ops Supt – Wellwork	S.Bank	Safety / ER Sup	S.Bank	Safety Case Coordinator
Drilling Manager	S.Bank	Reg / OIMS Sup	S.Bank	Site Supervisors
OpsTech Mgr – Subsurface	S.Bank	Ops Tech Surface Mgr	S.Bank	OTHER: (Please List)
		Projects Div Mgr	S.Bank	

- *This form should be approved by the Incident Owner within **15 working days** of the incident. If additional time is required to complete the investigation, extensions must be approved by the SHE&S Manager*
- *Once completed, return the signed original report to Incident Management at SHE&S, please also forward an electronic copy for distribution. An **Investigation Summary** must be prepared and distributed with this report to assist in communicating the outcomes of this investigation*
- *SHE&S will enter root causes and action items into Impact Enterprise. For assistance or further information regarding completion of this form contact Incident Mgmt group c/o SHE&S x3720/3580*
- *A **Major Incident** as defined in the Victorian Occupational Health and Safety Regulations 2007 means an uncontrolled incident, including an emission, loss of containment, escape, fire, explosion or release of energy, that involves Schedule 9 materials (e.g. Gas, crude & LPG) and poses a serious and immediate risk to health and safety.*
- *A **Major Accident Event** as defined in the Commonwealth Offshore Petroleum & Greenhouse Gas Storage (Safety) Regulations 2009 means an event connected with a facility, including a natural event, having the potential to cause multiple fatalities of persons at or near the facility.*



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DESCRIPTION OF THE INCIDENT *(Attach drawings, photos, sketches, etc. as required)*

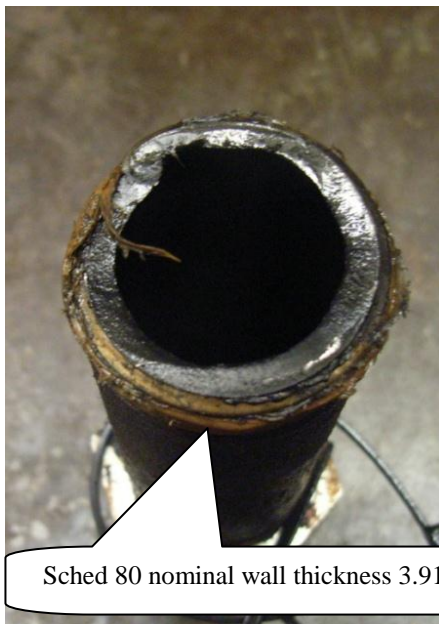
At approximately 0200hrs on February 26th 2013 the nightshift operations technician identified a gas leak within the CBA 2430 gas compressor module. The platform surface shutdown was immediately activated by the operation technician and the supervisor was informed. The gas detection within the module did not activate due to the air flow through the module which diluted the vapour release and the location of the regulator within the module being directly in front of the louvered doors through which the module air system vents. The seal oil buffer gas system operates at approximately 3,500 kPag.

The regulator is held in place either side of the body on uni-strut brackets and clamps. The 4 regulators at this location are mounted the same way. The nipple that failed on the seal oil system regulator appears to be the only nipple of the other eight nipples in similar service that is carbon steel. The remaining 7 nipples are stainless steel. This and the manufactures markings indicate this nipple had been replaced at some time in the past. No record of this work could be located in IPES.

The failed nipple was a 20mm diameter NPT carbon steel schedule 80 nipple with a wall thickness of 3.91mm. In this type of service the ExxonMobil Design Specification, *Piping wall thickness selection tables (03-06-03)* requires a schedule 160 wall thickness of 5.56mm to be used for carbon steel screwed NPT threaded piping.

The failure of the nipple was determined to be as a result of fatigue failure for the following reasons

- Reduced wall thickness (schedule 80 vs. Schedule 160)
- Vibration from within the turbine module causing stress
- The location of the failure is consistent with vibration induced fatigue failure

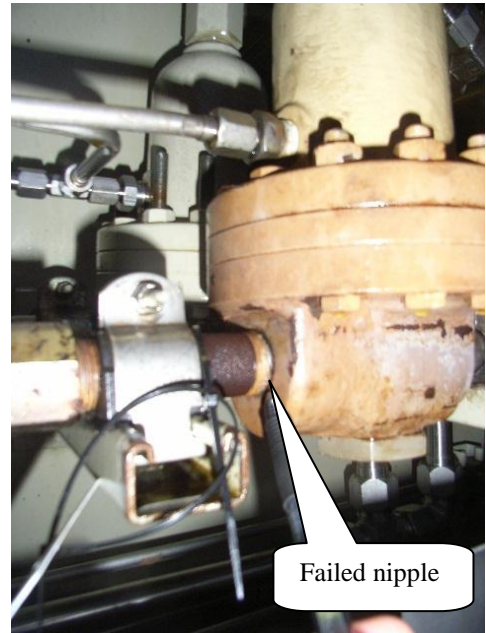
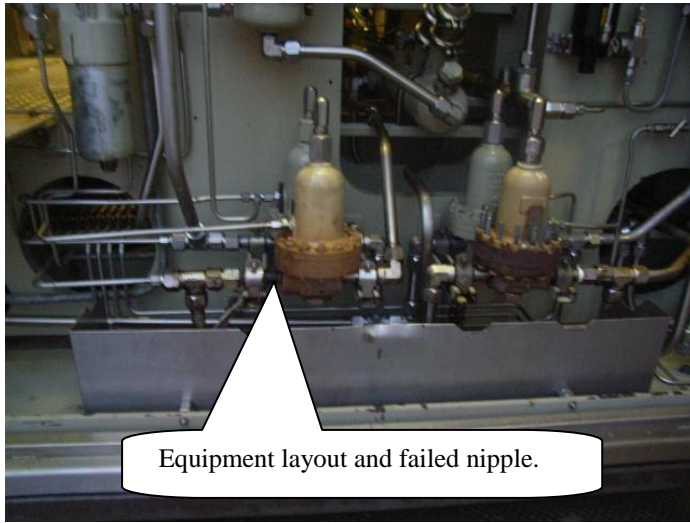


Sched 80 nominal wall thickness 3.91mm



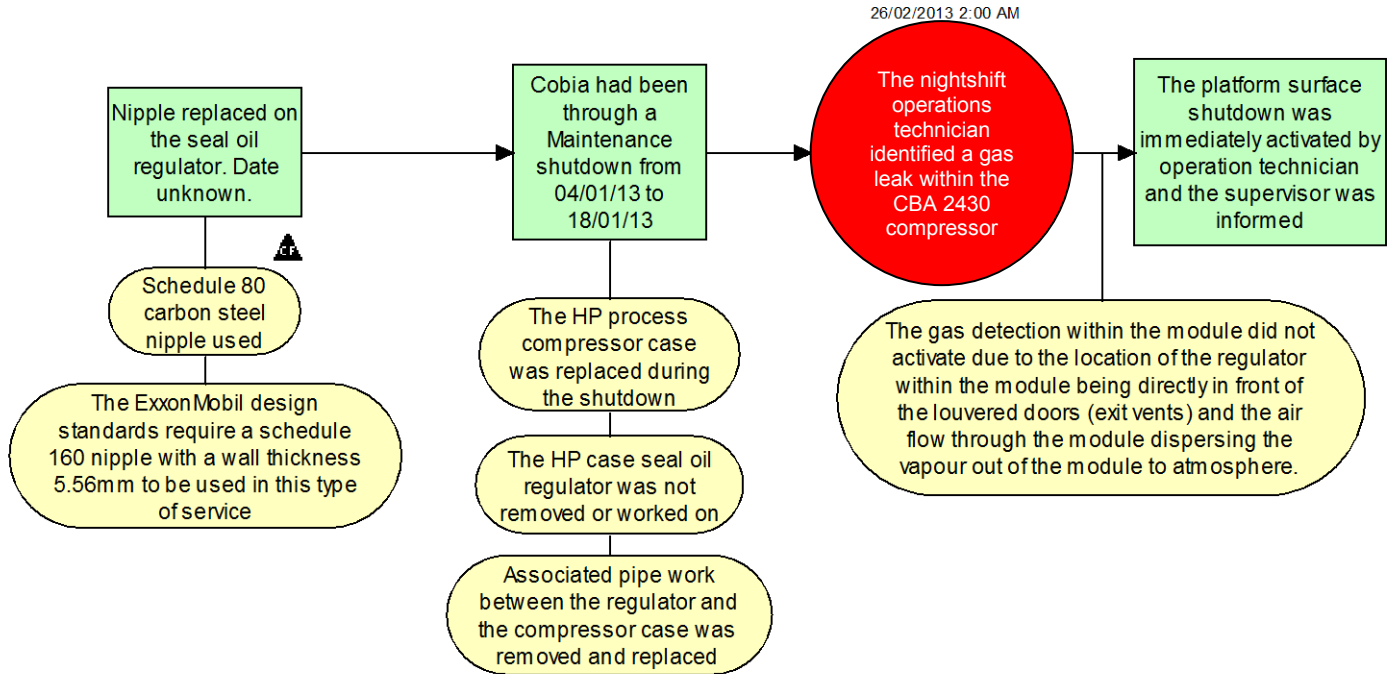
6 threads engaged into regulator body

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SEQUENCE OF EVENTS <small>(A TapRoot® Snap Chart with dates and timeline can replace this section)</small>	
Date/Time	Event Description
	Refer to the attached Snap Chart



ROOT CAUSE ANALYSIS <small>List all causal factors and Root Causes using the TapRoot® methodology Analysis outcomes will be entered into Impact by SHE&S</small>	
Causal Factor(s) A problem or issue that, if corrected, could have prevented an incident from occurring or significantly reduced the incident's consequences	CF1 Schedule 80 carbon steel nipple used with a 3.91mm nominal wall thickness.
Root Cause(s) The most basic cause(s) that can reasonably be identified, that management has control to fix and, when fixed, will prevent (or significantly reduce the likelihood or consequences of) the problem's recurrence. <i>Prior to Mgmt System assignment, discuss with System Owner/Administrator as appropriate</i>	<div style="display: flex; justify-content: space-between;"> <div style="width: 70%;"> <p style="font-size: small; margin: 0;"><i>Note the TapRoot® Root Cause and include a brief explanation</i></p> <p>CF1 RC1 & 2 Management System, Standards Policies Admin Controls Not Used. Accountability needs improvement.</p> <p>1: The person/ persons responsible for changing the nipple at some time in the past have not employed the Esso FCA (management of change) process to ensure the change was properly assessed and managed.</p> <p>2: The ExxonMobil design standard for small bore piping has not been referenced or complied with.</p> </div> <div style="width: 25%; text-align: center;"> <p>Mgmt System (eg: 9-1)</p> <p>7-1</p> </div> </div>



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SAFETY CASE CRITICAL CONTROLS

Was the incident a Major Incident/Major Accident Event as described on page one of this document?

YES NO .

If **YES**, the incident report must document below the specific Safety Management System (OIMS) critical control(s) that contributed to this incident either via lack of effectiveness or failure to act as intended. A review, and if necessary revision, of controls is required to demonstrate that the hazard(s) is eliminated or reduced So Far As Reasonably Practicable (SFARP)/As Low As Reasonably Practical (ALARP).

(This section requires review by the Risk Group, SHE&S, Southbank)

Given the small volume of gas released, the quick dispersion of gas within the turbine module and the number of independent control measures in place (module gas detection, fire systems and machine shutdowns) there was minimal escalation potential for this incident. On this basis the incident has not been classified as a potential MAE.

INCIDENT RISK ASSESSMENT

Does an existing risk assessment address this incident? YES NO

(Conduct a keyword search in the Risk Scenario Database to ensure relevant scenarios are identified, and contact Risk Group, SHE&S, Southbank)

If **Yes**, then ensure that existing P/M steps are adequate and/or update the existing risk assessment.

(Include an Action Item in this report to complete this task)

If **No**, is further risk assessment to be considered? YES NO

(A further risk assessment should be considered if the incident investigation findings could have implications for other sites that have not been addressed by the investigation, or the incident had significant escalation potential)

If **Yes**, complete a Triggered Risk Assessment (TRA) Form (refer eManual: 2-1, System Reference Tools)

If a risk assessment is endorsed, ensure a follow up action for the assessment is included in this report.

If **No**, document the reasoning behind this decision:

Further to the comments above (refer to Safety Case Critical Controls section), this has not been assessed as a potential Category 1 or 2 risk and as a result a triggered risk assessment is not required in accordance with OIMS System 2-1 requirements.

ACTION ITEMS

- Ensure action items address all identified root causes
- Place an asterisk (*) in the "RC" column if the action item specifically addresses an identified Root Cause
- Only list key action items that will significantly reduce the potential for this incident to recur
- Include interim controls (short-term actions) that are required to prevent incident recurrence while longer term actions are completed
- Action item custodians must be aware of their action(s) and target dates agreed prior to report approval
- A Verifier (Supervisor or higher) must be assigned for each action to enable correct entry into Impact. The role of the verifier is to confirm that the work has been completed.
- Action items should be prioritised as per the Priority Setting Guide (available in Production Globalshare)
- Action items will be entered into Impact Enterprise by SHE&S

Action Item Description	Custodian	Verifier	Target Date	Priority	R C
Replace the nipple with a schedule 160 nipple			Complete	1	*



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Maintenance to raise MWO's to check nipples in similar service (seal oil buffer gas system) are in compliance with the Esso design specifications for all offshore platforms.	██████	██████	30/04/13	2	
Issue a Safety Alert reiterating the OIMS expectations for system 7-1 Management of Change	██████	██████	30/06/13	2	*