N-03000-FM0831 Revision 8 January 2015

Report of an accident, dangerous occurrence or environmental incident

For instructions and general guidance in the use of this form, please see the last page.

Part 1 is required within 3 days of a notified incident.

Part 2 is required within 30 days of notified incident.

What is the date and time of this written incident report?

What was the date and time of the initial verbal incident notification to NOPSEMA?							
Date	07 February 2017	Time	0900				

NOTE: It is a requirement to request permission to interfere with the site of an accident or dangerous occurrence. Refer OPGGS(S)R, Reg. 2.49.

Date 07 Tebruary 2017				.500	
What type of incident is being reported? Please tick appropriate incident type					
Accident or dangerous occurre	nce			Complete parts 1A, 1B & part	2
Environmental Incident Complete parts 1A, 1C					
BOTH (Accident or dangerous occurrence AND environmental incident) X Complete ALL parts (1A, 1B, 1					C, 2)
Please tick all applicable (one or more	categories)	To use e	lectr	onically: MS Word 2007-10 – click in c	heck box
	Accidents	Hydrocarbon release >1 kg or ≥80 L (gas or lique) Fire or explosion Collision marine vessel and facility Could have caused death, serious injury or LT Damage to safety-critical equipment			
Categories Please select one or more	Dangerous occurrences				
Hydrocarb				elease	

Environmental incidents

Chemical release

Fauna Incident

Drilling fluid/mud release

controls to contain an MEE-01

Loss of Primary, Secondary, Tertiary Barrier to

LAM 8 causing potential loss of barriers or

 \boxtimes



Part 1A – Information required within 3 days of an accident, dangerous occurrence or environmental incident

Gene	General information — all incidents							
1.	Where did the incident	Facility / field / title name	Northern Endeavour – Lar & WA-18-L	minaria / Corallina AC/L5				
	occur?	Site name and location Latitude/longitude	Timor Sea / 10o 37' S x 125o 59' E					
	Who is the registered	Name	Timor Sea Oil & Gas Australia					
2.	operator/titleholder or other person that controls	Business address	Level 5, 1101 Hay Street, West Perth, 6005					
	the works site or activity?	Business phone no.	(08) 6109 4000					
3.	When did the incident	Time and time zone	0830 WST					
٥.	occur?	Date	Between 23 rd and 26 th Jan	2017				
	Did anyone witness the incident?	Yes or no If yes, provide details below	Yes					
	Witness details	Witness no 1	Witness no 2	Witness no 3				
	Full name	s 22 irrelevant material						
	Phone no. (Business hours)							
4.	Phone no. (Home) (Mobile)							
4.	Email (Business) (Private)							
	Postal address	c/o Upstream PS Level 5 1101 Hay Street West Perth 6005						
	NB: If	more witnesses, copy and insert th	is section (4) here , and add extra	witness numbers appropriately				
		Name	s 22 irrelevant material					
5.	Details of person submitting	Position	NOGA HSE Manager					
	this information	Email	s 22 irrelevant material					
		Telephone no.						



Part 1A – Information required within 3 days of an accident, dangerous occurrence or environmental incident General information - all incidents LAMINARIA-8ST4 not been in production since Oct 2016, a subsea campaign was required to dissociated the hydrate preventing flow. During this campaign (19th to the 24th Jan) the PMV, PWV and AWV on the LAM-8 were found to be partially open during the initial ROV survey (GVI) despite the topsides control system registering them as closed. At the time it was assumed that the likely cause was the hydrate in the pipework as previous history indicated both valves as functional. The campaign progressed and the hydrate was dissociated successfully and the well was able to kick off production. As part of the campaign completion activities the function of the PMV and PWV were tested on the warm well. Analysis on the results of Brief description of incident 6. this testing showed that both valves are only able to move from 100% open to ~75% open and that this restriction in operation is not likely to be caused by hydrates. This represents the failure of a primary and secondary well barrier. The integrity of the subsea production system isolation was confirmed by visual ROV inspection as far as possible. The well was subsequently stalled by shutting in gaslift and by closing the SSSV. It was however noted on the pressure temperature transmitters in the manifold that the well continued to flow despite the aforementioned measures. It was hence established that the SSSV is not closing as well and that the well is flowing without gaslift. The well was subsequently shut in by closing Lam-8PIV and Lam-8TIV. 7. Work or activity being Campaign completion activities undertaken at time of incident 8. A team in the Northern Endeavour office of 4 subsea engineers have been tasked with the investigation which is ongoing. What are the internal investigation arrangements? 9. No Yes or no If Yes, provide details below Hydrocarbon Please specify_____ Type of fluid (liquid or gas) Non-hydrocarbon If hydrocarbon release please Please specify complete item no.15 as well Was there any loss of Estimated quantity containment of any fluid Liquid (L), Gas (kg) (liquid or gas)? Calculation Measurement Estimation details Please specify_ Composition Percentage and description

Toxicity to people



Part 1A – Information required within 3 days of an accident, dangerous occurrence or environmental incident

Gene	ral information – all incidents					
		Known toxicity to people and/or environment	Toxicity to environ	ment		
		How was the leak/spill detected?	F&G detection ☐ CCTV ☐		Visual Other	
		400000	No Yes		Immediate Delayed	
		Did ignition occur?	If yes, what was the likely ignition source	_	Hotwork ark electrical source ark metallic contact Hot surface Other	
		Yes or no				
10.	Has the release been	Duration of the release				
	stopped and/or contained?	Estimated rate of release Litres or kg per hour				
	Location of release	What or where is the location of the release?				
11.		What equipment was involved in the release?				
		Is this functional location listed as safety-critical equipment?				
		Ambient temperature c°				
		Relative humidity %				
		Wind speed m/s NB: for enclosed areas use Air change per hour				
12.	Weather conditions Please complete as appropriate	Wind direction e.g. from SW				
		Significant wave height m				
		Swell m				
		Current speed m/s				
		Current direction e.g. from SW				
13.	Hydrocarbon release details	System of hydrocarbon release	Process Drilling Subsea / Pipeline		Utilities Well related Marine	



	Part 1A – Information required within 3 days of an accident, dangerous occurrence or environmental incident								
Ge	General information – all incidents								
	If hydrocarbon fluid (liquid or gas)	Estimated inventory in							
	was released, please complete this section as well	the isolatable system							
	Section do Wen	Litres or kg							
		System pressure and size	Pressure MPag						
		of piping or vessel diameter (d in mm) length (l in m) or volume (V in L)	Size Piping (d) and Piping (l) or Vessel (V)						
		Estimated equivalent hole							
		diameter							
		d in mm							

Part 1	Part 1B - Complete for accidents or dangerous occurrences							
Acciden	Accidents and dangerous occurrences information							
		as NOPSEMA notified through the dedicated otification phone line? Phone No. 08 6461 7090					No	
		Was permission given by a	Was permission given by a NOPSEMA inspector to interfere with the site?					
	Action taken to make the work-site safe	OPGGS(S)R 2.49.	Yes				No	\boxtimes
15.		Action taken	Laminaria 8 well iso GIV valves at the La					
		Details of any disturbance of the work site	Nil					
	Was an emergency response initiated?		Yes 🗆				No	\boxtimes
16.		Type of response	Manual Automatic alarm				luster uation	
		How effective was the emergency response?						
	Was anyone killed o	r injured? Provide details below	Yes				No	\boxtimes
	Injured persons (IP)		Casualty No 1	•				
17.	If different from item 2. Employer name		Employer address					
17.	Employer phone no.		Employer email					
	IP full name							
	IP date of birth			Sex	М		F	



Part 1B - Complete for accidents or dangerous occurrences									
Acciden	Accidents and dangerous occurrences information								
	IP residential address								
	IP phone no. (Work)		IP phone no. (Home) (Mobile)						
	IP occupation/job title		Contractor or core crew						
	Details of injury								
	Based on TOOCS	a. Intracranial injury		d. Burn					
	(refer last page)	b. Fractures		e. Nerve or sp	inal cor	d injury			
	, , , ,	c. Wounds, lacerations,				scle or tendon injury			
	Nature of injury	amputations, internal		g. Other					
		organ damage		05 111 1					
		G1. Head or face		G5. Hip or leg	ti				
	Part of body	G2. Neck G3. Trunk		G6. Multiple locations G7. Internal systems G8. Other G3. Exposure to sound or G4. Muscular stress G5. Heat, cold or radiation G6/7 Chemical, biological G8. Other 5/6. Chemicals, materials					
	,	G4. Shoulder or arm							
		GO. Falls, stepping, kneeling,				or pressure			
		sitting on object G1. Hitting object				tion			
	Mechanism of injury	G2. Being hit or trapped							
		oz. being int of trapped							
		Machinery or fixed plant				als substances			
		Mobile plant or transport	7. Environmental agencies						
	Agency of injury	3. Powered equipment		8. Human or animal agencies					
		4. Non-power equipment		9. Other					
	Details of job being undertaken								
	Day and hour of shift	Day		Hour					
		e.g. 5 th day of 7 (5/7)		e.g. 3 rd hour of 1.					
		NB: If more casualties, please copy/p c damage? Provide details below	aste tni	Yes		No			
	Details	ltem 1		Item 2		Item 3			
18.	Equipment damaged								
	Extent of damage								
	Will the equipment be shut down? Yes or No	Yes – Lam 8 Shut In							
		Until Functionality to							
19.	If Vas. for how long?	barriers can be restored or							
	If Yes, for how long?	intervention campaign.							
		NB: If more equipme	nt serio	usly damaged, ple	ase cop	y/paste this section as re	quired		



Part 1	Part 1B - Complete for accidents or dangerous occurrences									
Accider	Accidents and dangerous occurrences information									
	Will the facility be shut down?	Yes or no If yes provide details below	No	=						
20.		Date		dd/mm/yyyy						
	Facility shutdown	Time		24 hour clock						
		Duration		days / hours / minutes						
		Action	Responsible party	Completion date Actual or intended						
	Immediate action taken/intended, if any, to prevent recurrence of incident.									
21.										
22.	What were the immediate causes of the incident?	Review of previous records indicates the LAM-8 PMV and PWV to be functional. This failure was detected by operation of these valves with an ROV deployed on site. Valve signatures indicate that the signal is sent by the SCM (Subsea Control								
	causes of the incluent:	Module) to the valves. It can the SCM and the valve (inclu		hat the fault is between						

Are you a	ttaching any d	locuments?	Yes or no If yes provide details below	
No.	ID	Revision	Date	Title/description
1	M2000-DP- 206.03	6	21/02/97 marked up 02/2017	Laminaria & Corallina Field Development Process Flow Diagram Sheet 3 of 4



Part	Part 1C – Complete for environmental incidents									
Envir	Environmental Impacts									
23.	What is the current environment plan for this incident?	Environment plan	Northern Endeavour FPSO Environment Plan							
		Yes or no If yes provide details below	No							
		Incident details e.g. estimated area of impact, nature/significance of impact								
		ENVIRONMENTAL RECEPTO	RS							
	Has the incident resulted in an impact to the environment?		ocean oreline	_		Macroalgae Coral Reef				
		Population			Be	enthic invertebrates				
			nolders			Seagrass				
		Other sen				Mangrove				
24.		e.g. conservation area, nestin	g beach							
		Further details								
	Details	Environment 1	Er	nvironi	ment 2	Environment 3	;			
	Location of receiving									
	environments Lat/Long									
	Date & time of impact		<u> </u>							
	Action taken to minimise									
	exposure		<u> </u>							
	Specify each matter									
	protected under Part 3 of the EPBC Act impacted									
	the EPBC Act impacted	NB: If more environments we	re damage	d, please	copy/paste this s	ection (Item E3) and add ext	ra data			
		Yes or no	No	, ,	1741					
		If yes, provide details								
		Details e.g. zone of potential impact								
	Are any environments at	AT RISK ENVIRONMENTS								
	risk?		ocean			Macroalgae				
	Including as a result of spill response measures	· · · · · · · · · · · · · · · · · · ·	oreline			Coral Reef				
	response measures	Population			Be	enthic Invertebrates				
		-	nolders			Seagrass				
25.		Other sen				Mangrove				
		e.g. conservation area, nestin	ng beach							
	Details	Environment 1	Е	nviron	ment 2	Environment 3				
	Estimated location of 'at- risk' environments									
	Estimated impact date & time									
	Action required to minimise exposure									



or proposed, to stop,

control or remedy the

incident.

30.

Part 1C – Complete for environmental incidents **Environmental Impacts** Specify each matter protected under Part 3 of the EPBC Act at risk NB: If more environments at risk of damage, please copy/paste this section (Item E2) and add extra data Yes or no No If yes, what action has been Was an oil pollution 26. emergency plan activated? implemented /planned? If yes, how effective is/was the spill response? Was an environmental Yes or no No monitoring program If yes, what actions have 27. initiated? been implemented and/or planned? Did the incident result in Yes or no No the death or injury of any (If yes provide details of species in the table below) fauna? Injured fauna Species 1 Species 2 Species 3 Species name 28. (common or scientific name) Killed: Number of individuals Killed: Killed: killed or injured Injured: Injured: Injured: NB: If more species were injured or killed, please copy/paste this section (Item E4) and add extra data Completion date Action Responsible party Actual or intended LAM-8 well was shut in with the barriers available and by isolating gaslift to the well. Review of temperature trends Subsea Engineer Complete 26-01-17 Actions taken to avoid or confirmed the well being mitigate any adverse effectively shut in. Refer to 29. environmental impacts of marked up P&ID attached the incident. for details on barriers used to shut in the well. NB: If more actions, please add extra rows as required Completion date Action Responsible party Corrective actions taken,

As above

Actual or intended



Part 1C – Complete for environmental incidents **Environmental Impacts** NB: If more actions, please add extra rows as required **Completion date** Action Responsible party Actual or intended Analysis of all available information to determine failure mechanism and risk of occurrence on other wells and review any preventative measures available. The best options forward for Lam-8 are; Subsea Team 31/03/17 Actions taken, or 1. Attempt to repair XT proposed, to prevent a 31. valves in situ or to similar incident occurring restore functionality to in the future. well barriers by other means. 2. XT change out.

Atta	chments						
Are you attaching any documents?		ny	Yes or no If yes provide details below				
No.	ID	Revision	Date	Title/Description			
	Insert or delete rows as required						

NB: If more actions, please add extra rows as required



Part 2 – Information required within 30 days of accident or dangerous occurrence

NOPSEMA acknowledges that in many circumstances an operator may not have completed an investigation within 3 days of an accident or first detection of a dangerous occurrence and agrees that these items must be provided within 30 days unless otherwise agreed, in writing with NOPSEMA. In circumstances where an investigation has been completed within 3 days, and these items are available (supplemented, as required by any attachments) this part should also be completed at that time.

part	part should also be completed at that time.								
	Has the investigation been completed?	Yes or no	Desktop investigation con confirmation of findings is tree is recovered in the fu	s only possible when the					
		Root cause 1	Gas migration via stem se system leading to hydrate corrosion	-					
	Root cause analysis	Root cause 2	Blockage within compens	ation system.					
	What were the root causes?	Root cause 3	Blockage in the valve control system						
		Other root causes							
32.	Full report Describe investigation in detail, including who conducted the investigation and in accordance with what standard/procedure with reference to attachments listed in the 'attachments table' (following) as applicable	by the SCM (Subsea Control I that the fault is between the not within or upstream of the Review of historic records shit the trees were found as early deemed not to have an impa down reports also mention swould lead to the conclusion occur given that hydrostatic the hydrate region. A failure of the return spring failure occurring on 3 valves walve movement. The investigation reached out	es were reviewed and indicate that the signal is sent Module) to the valves. It can therefore be concluded e SCM and the valve (including the valve itself) and						
		Action Monitor valve signatures to detect early valve	Responsible party CCR / SSE team	Completion date Actual or intended Ongoing					
33.	Actions to prevent recurrence of same or similar incident	deterioration. If valve function can be restored during this coming campaign by the planned repair of the compensation	SSE team	Intended					

system, then in future any



Part 2 – Information required within 30 days of accident or dangerous occurrence

NOPSEMA acknowledges that in many circumstances an operator may not have completed an investigation within 3 days of an accident or first detection of a dangerous occurrence and agrees that these items must be provided within 30 days unless otherwise agreed, in writing with NOPSEMA. In circumstances where an investigation has been completed within 3 days, and these items are available (supplemented, as required by any attachments) this part should also be completed at that time.

p			
	cases of valve deterioration		
	may be managed in a		
	similar manner.		
		NE	3: Add or delete rows as appropriate

Attachments (Insert/delete rows as required)						
Are you attaching any documents?		Yes or no If yes provide details below				
No.	ID	Revision	Date	Title/description		



Instructions and general guidance for use:

- The use of this form is voluntary and is provided to assist operators and titleholders to comply with their obligations to give notice and provide reports of incidents to NOPSEMA under the applicable legislation.
- 2. Accidents, dangerous occurrences or environmental incidents can all be reported using this same form.
- 3. The applicable legislation for incident reporting is:
 - a. Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009 [OPGGS(S)R]; and
 - b. Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 [OPGGS(E)R], for facilities located in Commonwealth waters; or
 - c. for facilities located in designated coastal waters, the relevant State or Territory Act and associated Regulations where there is a current conferral of powers to NOPSEMA.
- 4. In the context of this form an incident is a reportable incident as defined under:
 - a. OPGGSA, Schedule 3, Clause 82.
 - b. OPGGS(E)R, regulation 4.
- 5. This form should be used in conjunction with NOPSEMA Guidance Notes available on the NOPSEMA website:
 - a. N-03000-GN0099 Notification and Reporting of Accidents and Dangerous Occurrences
 - b. N-03000-GN0926 Notification and Reporting of Environmental Incidents
- 6. Part 1 requires completion for all incidents; then ALSO complete part 2 if the incident is an accident or dangerous occurrence.
- 7. NOPSEMA considers that a full report will contain copies of documentary material referenced and/or relied on in the course of completing this form, which may include (but not be limited to) as appropriate: witness statements, management system documents, drawings, diagrams and photographs, third party reports (audit, inspection, material analysis etc.), internal records and correspondence.
- 8. This form is intended to be completed electronically using Microsoft Word by completing the unshaded cells which will expand as required to accept the information required <u>and</u> the check boxes where relevant (NB: check boxes may appear shaded and have reduced functionality in MS Word versions prior to 2010).
- 9. The completed version of this form (and any attachments, where applicable) should be emailed to: submissions@nopsema.gov.au or submitted via secure file transfer at: https://securefile.nopsema.gov.au/filedrop/submissions as soon as practicable, but in any case within three days of the incident.

References

NOPSEMA website: www.nopsema.gov.au

TOOCS – Type of Occurrence Classification System.

The *Type of Occurrence Classifications System, Version 3.0* (TOOCS3.0) was developed to improve the quality and consistency of data. This system aligns with the International Classification of Diseases –Australian Modification (ICD10-AM).

http://www.safeworkaustralia.gov.au/sites/SWA/AboutSafeWorkAustralia/WhatWeDo/Publications/Documents/207/TypeOfOccurrenceClassificationSystem(TOOCS)3rdEditionRevision1.pdf

OPGGS(S)R. Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009. Select Legislative Instrument 2009 No. 382 as amended and made under the *Offshore Petroleum and Greenhouse Gas Storage Act* 2006. Commonwealth of Australia.

OPGGS(E)R. Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009. Statutory Rules 1999 No. 228 as amended and made under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*. Commonwealth of Australia.



Privacy Notice

NOPSEMA collects your personal information for the purpose of investigating accidents, dangerous occurrences and environmental incidents under the Offshore Petroleum and Greenhouse Gas Storage Act 2006.

NOPSEMA will not use or disclose your personal information for any other purpose without your consent, unless it is required or authorised by law, or relates to NOPSEMA's enforcement activities. Your personal information may be disclosed to the following organisations, entities or individuals:

- individuals who make a request under the Freedom of Information Act 1982
- the Australian National Audit Office and other privately-appointed auditors
- other law enforcement bodies (for example, the police or the Coroner)
- NOPSEMA's legal advisors.

NOPSEMA may occasionally be required to disclose information to overseas recipients in order to discharge its functions or exercise its powers, or to perform its necessary business activities.

Information about how you can access, or seek correction to, your personal information is contained in NOPSEMA's APP Privacy Policy at www.nopsema.gov.au/privacy. If you have an enquiry or a complaint about your privacy, please contact NOPSEMA's Privacy Contact Officer on (08) 6188 8700 or by email at: privacy@nopsema.gov.au.