



# Report

## Titleholder Planned Inspection

Title Holder:	Timor Sea Oil & Gas Australia Pty Ltd (TSOGA)
Onshore Inspection dates:	From: 13 March 2017 to 14 March 2017
Offshore Inspection (phone interviews) date:	27 March 2017
Facility:	Northern Endeavour FPSO
Facility Operator:	Upstream Production Solutions Pty Ltd

Lead Inspector [s 22 irrelevant material](#)  
 Second Inspector  
 Inspection Team Well Integrity  
 Report Number 1516  
 NOPSEMA FILE ID A546152

### INSPECTION SUBJECT TOPICS

Monitoring and Auditing of WI – Management system review and audit

### REVISION STATUS

Rev:	Date:	Description:	Prepared by:	Endorsed by:	Reviewed:
A	31 March 2017	Internal Draft	<a href="#">s 22 irrelevant material</a>		
B	03 April 2017	Titleholder Review			
0	05 April 2017	Final Report			

### REPORT DISTRIBUTION

Position	Company
Records Management	NOPSEMA
HSE&C Manager	Timor Sea Oil & Gas Australia Pty Ltd

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## 1 Abbreviations

AAUWA	Application for Approval to Undertake Well Activity
CBTA	Competency Based Training and Assessment
MWIG	Managing Well Integrity Guidelines
NOGA	Northern Oil & Gas Australia
WOMP	Well Operations Management Plan

## 2 Inspection Method

The inspection team prepared a planned inspection brief and this was sent by NOPSEMA to the titleholder prior to the planned inspection conducted on 13 March 2017. The brief set out the proposed inspection itinerary and scope. The scope was as follows:

The accepted Well Operations Management Plan (WOMP) for the titleholder's well operations on the Upstream Production Solutions Pty Ltd operated FPSO: Northern Endeavour, titled: Laminaria & Corallina Well Operations Management Plan, 01-OPS-PL01, Rev 3, dated 10 November 2016 formed the basis for the inspection.

The topics planned to be covered in this inspection include but were not limited to: Monitoring and Auditing of WI – Management system review and audit.

On arrival at the titleholder's regulated business premises (office), a short premises induction was conducted by TSOGA prior to an entry meeting which was conducted by the inspection team with the titleholder personnel. The aim of the entry meeting was to present the inspection scope and brief to titleholder personnel and to make a formal notification of entering the regulated business premises in accordance with NOPSEMA Policy and with Clause 51, Part 4 of Schedule 3 of the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*. Before leaving the business premises the inspection team prepared a Planned Inspection Exit Brief, which was discussed with key titleholder personnel during an exit meeting. An attendance list for the entry and exit meeting is included in Attachments Section 4. Offshore personnel were interviewed by telephone and were sent an exit brief thereafter for any comments.

Interviews were held with key personnel, both onshore and offshore, to discuss the inspection topic. The lists of those interviewed are included in Attachment B.

### 3 Conclusions and Recommendations

The inspection findings are provided in the following sub-sections, which highlight any particular areas where non-compliance or opportunities for improvement have been identified. The inspection team's recommendations are repeated in the Recommendations and Follow-up List in Attachment D.

#### 3.1 Item 1 – Organisation

Since the WOMP was issued on 10 November 2016, there have been several organisational changes, namely:

- Office relocated to integrate NOGA / Upstream PS into one location.
- Restructuring of NOGA / Upstream PS organisation into a single entity named Northern Endeavour asset team.
- Changes in key personnel.
- Changes of job titles.

No.	Recommendation
1516-1	WOMP should be updated internally to reflect the organisation changes, predominantly, but not limited to, Section 7.4.3 of Organisation, resources and capability.

#### 3.2 Item 2 – Management System Elements

Copies were provided of new organigrams for the NOGA Corporate Organisation and the Northern Endeavour Asset One Team. CBTA (Competency Based Training and Assessment) is provided to all relevant personnel. A copy of the UPS Well Integrity Awareness course material was provide and sighted by the inspection team.

Large quantities of well related data were handed over from s 47G including the basis of design. The process is on-going to convert critical documents to NOGA and Upstream formats; e.g., Performance Standard P10 Wells have been assimilated into the Upstream PS system as 26/OP/INT/PS53. On the other hand, Performance Standard F07 Reservoir Isolation, which is referenced in the WOMP as 26/OP/INT/PS52, is still entirely a s 47G document, with s 47G document numbers and signatures. Other critical documents still remain in s 47G format, e.g., Flowline and Well Key Operating Parameters – Producers. This document was submitted by e-mail as 01-OPS-PL01 APP E Laminaria Corallina Operating Envelope Parameters rev3. On opening the file it is apparent that it is still in s 47G format, with references to other s 47G fields and DRIMS documents. This document is referenced in the WOMP as 01-OPS-PLO3. The reference page of the WOMP also refers to several other "operating envelope" documents. It is not clear what these documents are.

No.	Recommendation
1516-2	Reference table in the WOMP should be reviewed for consistency with references within the WOMP.

No.	Recommendation
1516-3	Critical well integrity related documents should be assimilated into the NOGA/UPS system as soon as possible, particularly Performance Standard FO7 Reservoir Isolation, and the Laminaria Corallina Operating Envelope.

### 3.3 Item 3 – Well Barrier Management

Well barrier design and management is understood to be based on NORSOK D-010 Guidelines with at least two verified barriers system requirement. There are emergency response procedures in place and are as addressed or described in the WOMP.

### 3.4 Item 4 – Production Operations

There are currently 9 completed subsea wells making up by 4 production wells, 1 gas injection well and 4 suspended wells. Annulus pressures are monitored and managed. Well control and well head equipment are managed and controlled at the FPSO. Onshore also have access to live well data packs

The latest NE Weekly Integrity Monitoring and 01-OPS-PL01 APP G Northern Endeavour Well Subsea Integrity Status Reports were sighted by the inspection team and copies were obtained. The Weekly Integrity Monitoring spreadsheet is owned and maintained by the facility process engineer. It is designed to monitor the operating performance of the facility and equipment integrity envelope.

The Well Subsea Integrity Status Report is generated and owned by the production engineer and officially reviewed monthly by titleholder key personnel. Reviews are currently being held more frequently during the transition period.

Key offshore personnel are familiar with the WOMP and have electronic access. Key well integrity documents are available electronically, with hard copies also available. Well Integrity CBTA process for relevant offshore staff is ongoing.

No.	Recommendation
1516-4	Consider including the Northern Endeavour OIM in the WOMP review process. If there is a system of controlled hard copies the OIM should be included.

### 3.5 Item 5 – Laminaria 8ST4 PMV, PWV. SSV Failure Notification

The failure of the Laminaria-8ST4 PMV, PWV, SSSV notification was discussed. This incident was handled as per the UPS Performance Standard Non-Conformance Procedure, 26/OP/INT/PC03. While trouble shooting the problem with an ROV it was found the controls for the PMV and PWV functions were reversed.

No.	Recommendation
1516-5	Visual confirmation by ROV of correct PMV and PWV functioning on all other wells should be considered.

## 4 Attachments

### A. Entry and Exit Meeting

The Entry Meeting provided an opportunity for NOPSEMA to provide an overview of the planned inspection programme and confirm the itinerary. The Exit Meeting provided an opportunity for NOPSEMA to present the interim observations and conclusions from the planned inspection and for the titleholder's workforce to give their views.

A list of personnel at the entry and exit meeting is attached below:

#### Onshore List of Personnel

Name	Company	Position	Entry Meeting	Exit Meeting
s 22 irrelevant material	NOPSEMA	WI Specialist	Yes	Yes
	NOPSEMA	WI Specialist	Yes	Yes
	NOGA (TSOGA)	HSE&C Manager	Yes	Yes
	NOGA (TSOGA)	Asset Manager	Yes	Yes
	Upstream PS	Operations Manager	Yes	Yes
	NOGA (TSOGA)	Engineering Manager	Yes	Yes
	NOGA (TSOGA)	Production Engineer	Yes	Yes
	NOGA (TSOGA)	Subsea Engineer	Yes	Yes

## Onshore Entry and Exit Meeting Register and Notification of Entry Form



## Form

## Entry and Exit Meeting Register and Notification of Entry

By initialling the 'Entry' column of the form below, I hereby acknowledge that on entering the regulated business premises the inspectors notified the entry meeting attendees of the purpose of entering the facility in accordance with Clause 51 (2) [regulated business premises]: "Notification of entry" of Part 4 (OHS Inspections), Division 2 of Schedule 3 to the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGSA).

Note: Page two of this form contains NOPSEMA Privacy Notice

LEVEL 5, 1101 HAY ST, PERTH WA 6005

<b>OPERATOR:</b>	Timor Sea Oil & Gas Australia Pty Ltd	<b>REGULATED BUSINESS PREMISES:</b>	Level 2, 16 Milligan St, Perth WA 6000	
<b>Entry meeting date:</b>	13 March 2017	<b>Exit meeting date:</b>	15 March 2017	
NAME (Please Print)	COMPANY	POSITION	Entry	Exit
s 22 irrelevant material	NOPSEMA	Well Integrity Specialist		s 22 irrelevant material
	NOPSEMA	Well Integrity Specialist		
	NOGA	HSEC MANAGER		
	NOGA	ASSET MANAGER		
	Upstream PS	Operations Manager		
	NOGA	Eng. Manager		
	NOGA	Production Engineer		
	NOGA	Subsea Engineer		

Revision: 3

Revision Date: 1 October 2014

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Reference: N-02100-FM0042

Objective ID: A15392

National Offshore Petroleum Safety and Environmental Management Authority



## B. Interviews

During the Planned Inspection, interviews were held with the following onshore personnel.

(1)	s 22 irrelevant t i l	- NOGA Asset Manager
(2)	s 22 i l	- NOGA Engineering Manager
(3)	s 22 irrelevant i l	- NOGA HSE &C Manager
(4)	s 22 irrelevant i l	- Upstream PS Northern Endeavour Operations Manager
(5)	s 22 irrelevant i l	- NOGA Subsea Support
(6)	s 22 i l	- NOGA Production Engineer

Post the onshore inspection, telephone interviews were held with the following offshore personnel.

(1)	s 22 irrelevant i l	- Upstream PS Northern Endeavour Panel Operator
(2)	s 22 irrelevant i l	- NOGA Northern Endeavour Production Engineer
(3)	s 22 irrelevant i l	- Upstream PS Northern Endeavour Production Supervisor
(4)	s 22 i l	- Upstream PS Northern Endeavour Offshore Installation Manager



### C. Documents and Photographs

For the purposes of this planned inspection extracts from and/or copies of the following documents were made in accordance with Clause 51(1) of Schedule 3 to the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*.

•	01/MN/PC01-NOGA Managing Well Integrity Guidelines (MWIG)
•	26/OP/INT/PS52-Performance Standard F07 – Reservoir Isolation
•	26/OP/INT/PS52-Performance Standard P10 – Wells
•	26/OP/INT/PC03-UPS Performance Standard Non-Conformance Procedure
•	01-OPS-PL03- Well Integrity Envelope
•	01-OPS-PL02 -Well Integrity Monitoring Plan
•	NOGA Incident reporting and Investigation Procedure
•	1516-ON-001 - NOGA Corporate Organisation Chart
•	1516-ON-002 – Northern Endeavour Asset One Team Organisation Chart
•	1516-ON-003 – Northern Endeavour Facility Offshore Crew Organigram
•	1516-ON-004 – Northern Endeavour Weekly Integrity Monitoring sheet
•	1516-ON-005 – 01-OPS-PL01 APP G Northern Endeavour Well & Subsea Integrity Status Report
•	1516-ON-006 - 00-HSE-PC04-Well Integrity Awareness CBTA Sheet

**D. Detailed Recommendations**

NOPSEMA	ID	1516-1
	Recommendation	WOMP should be updated internally to reflect the organisation changes, predominantly, but not limited to, Section 7.4.3 Organisation, resources and capability.
	Status	Open

NOPSEMA	ID	1516-2
	Recommendation	Reference table in the WOMP should be reviewed for consistency with references within the WOMP.
	Status	Open

NOPSEMA	ID	1516-3
	Recommendation	Critical well integrity related documents should be assimilated into the NOGA/UPS system as soon as possible, particularly Performance Standard FO7 Reservoir Isolation, and the Laminaria Corallina Operating Envelope.
	Status	Open

NOPSEMA	ID	1516-4
	Recommendation	Consider including the Northern Endeavour OIM in the WOMP review process. If there is a system of controlled hard copies the OIM should be included.
	Status	Open

NOPSEMA	ID	1516-5
	Recommendation	Visual confirmation by ROV of correct PMV and PWV functioning on all other wells should be considered.
	Status	Open