
From: Submissions - Shared Mailbox
Sent: Wednesday, 10 July 2019 1:39 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Letter & Report - Planned Inspection - Northern Endeavour - NOGA Facility [DLM=For-Official-Use-Only]
Attachments: Letter - Planned Inspection Report.pdf; Report - Inspection July 2019.pdf

For Official Use Only

Dear [REDACTED]

Please see attached letter and report.

Kind Regards,

[REDACTED] | Regulatory Assistant
Assessment & Inspection Floating Production & Drilling
National Offshore Petroleum Safety and Environmental Management Authority
[REDACTED] | **W:** nopsema.gov.au
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Our ref: ID 2040: A682017

Contact: [REDACTED]

Email: [REDACTED]

Mr [REDACTED]
Operations Manager
Upstream Production Solutions Pty Ltd
Level 5, 1101 Hay St
WEST PERTH WA 6100

[REDACTED]

Dear Mr [REDACTED]

RE: INSPECTION REPORT – NORTHERN ENDEAVOUR – NOGA FACILITY

Thank you for the assistance extended to [REDACTED] during their inspection of the Northern Endeavour - NOGA facility, at your regulated business premises on 8 July 2019. Attached with this letter is a copy of the inspection report that contains the conclusions from the OHS inspectors.

In accordance with the requirements of Clause 80 (5) of Schedule 3 to the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*, the operator of the facility is required to give copies of the report to any relevant health and safety committees and Health and Safety Representatives (HSRs).

For further information regarding this report, please contact [REDACTED].

Yours sincerely

[REDACTED]
Manager, Assessment and Inspection
SAN: wA253206

10 July 2019

cc [REDACTED] – HSEQ and Compliance Manager [REDACTED]

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Facility Northern Endeavour - NOGA
 Operator Upstream Production Solutions Pty Ltd
 Regulated Business Premises 08/07/2019
 Inspection Dates

Lead Inspector: [REDACTED]
 Inspection Team: [REDACTED]
 Inspection Number: 2040

REPORT DISTRIBUTION

Position	Company
Records management	NOPSEMA
	Upstream Production Solutions Pty Ltd (UPS)

REVISION STATUS

Rev	Date	Description	Prepared By	Approved By
A	08/07/2019	Internal Draft	[REDACTED]	[REDACTED]
B	09/07/2019	Final	[REDACTED]	[REDACTED]

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1. Abbreviations

ALARP	As Low As Reasonably Practicable
MAE	Major Accident Event
NOPSEMA	National Offshore Petroleum Safety Environment Management Authority
PDO	Potential Dropped Object
PSD	Process Shutdown
UPS	Upstream Production Solutions

2. Inspection Method

The scope of this inspection was to conduct a non-major Investigation (NMI) of the following dangerous occurrences at the Northern Endeavour-NOGA facility:

- 30/06/2019 – Dropped Object – Corroded Pipe Support (NOPSEMA #6019)
- 04/07/2019 – Potential Dropped Object – Corroded Pipe Support (NOPSEMA #6027)

NOPSEMA assessed the risk gap for both occurrences as “substantial” due to the potential for a:

- fatality from a dropped object, or
- hydrocarbon loss of containment due to the failure of a pipe support for a flare line.

NOPSEMA investigated as soon as possible due to the correlation with existing corrosion issues that NOPSEMA has identified at the facility and described in inspection reports 1489, 1742, 1826 and 1877. Corrosion related failures at the facility could result in a fatality from a dropped object, or an MAE from structural failure.

NOPSEMA advised the operator that OHS inspectors would conduct an investigation into this incident at the regulated business premises on 26 June 2019. On arrival at the regulated business premises the inspection team provided details of the inspection scope.

The goal of the investigation was to establish whether there was an immediate threat to the health and safety of personnel at the facility. Such a threat could warrant an immediate response from NOPSEMA to reduce or eliminate that threat.

A list of persons present at the inspection meeting is included in Attachment A.

3. Non-Major Investigation: Dropped and Potential Dropped Object

Dropped Object – Corroded Pipe Support (NOPSEMA #6019)

On 1 July 2019, NOPSEMA recorded the following in relation to a dangerous occurrence at the Northern Endeavour-NOGA facility that occurred on 30 June 2019 (NOPSEMA #6019).

'Dropped Object, Pipe support found on deck. Crew estimate that it fell in the early hours of Saturday.

No Injury or equipment damage

3 Day report had been submitted via the submissions inbox prior to telephone call to duty phone'

- UPS reported that the pipe support weighed 5.7 kg and dropped from a height of 5.9 m. and that the potential consequence was a fatality.
- The failed pipe support was reported to be supporting a DN 100 LP flare line and was located between the tie ins to the header from the Methanol Storage Vessel (V-4201) and the Closed Drains Drum (V-4801).
- Photographic evidence suggested that the pipe support had severely corroded.
- UPS stated that a process shutdown (PSD) event caused vibration in the LP flare line and may have initiated a failure of the severely corroded pipe support.
- UPS claimed that inspections conducted by the previous operator of the facility (Woodside) had concluded that the pipe support was fit for service and that the next inspection of the pipe support was due in 2021.
- UPS are currently maintaining a potential dropped object register which contains approximately 51 entries in relation to pipe supports in poor or corroded condition, ten have a risk rating of "very high".
- UPS stated that a "Vertech" inspector with rope access capability was going to the facility to inspect the failed pipe support; a structural engineer will assess the results of the inspection.
- There are no temporary pipe supports in place in the LP flare line.
- UPS claim that the pipe is safe because the supports on either side are "close together"; however a structural or piping engineer had not verified this claim at the time of the inspection.

In this instance, the failure of the pipe support due to corrosion is symptomatic of the current degraded condition of the facility, and may be indicative of potential future structural failures that could lead to one of the following threats:

1. Dropped object leading to a major injury or single fatality,
2. Pipe support failure leading to a pipe failure and hydrocarbon loss of containment (MAE 02),
3. Loss of structural integrity leading to a major accident event (MAE 03).

Potential Dropped Object – Corroded Pipe Support (NOPSEMA #6027)

On 4 July 2019, NOPSEMA recorded the following in relation to a dangerous occurrence at the Northern Endeavour-NOGA facility that also occurred on 4 July 2019 (NOPSEMA #6027)

'The OIM reported that a work crew were performing blasting activities in the area, where a redundant water pipe support bracket that was corroded dislodged and was hanging around 450mm from it's original position. The object did not drop but remain suspended. At no time personnel could have been impacted as a result the suspended bracket.'

- There was no actual dropped object associated with this incident.
- The approximate height of the pipe support was 2m, and would not have caused a fatality.
- A review of the photos show that it is unlikely that an individual could have been injured by the pipe support, had it fallen.
- The pipe support was on a redundant water pipe and would not have resulted in a hydrocarbon loss of containment had it failed.

However, the failure of a structural member due to corrosion is symptomatic of the current degraded condition of the facility, and may be indicative of potential future structural failures that could lead to one of the following threats:

1. Dropped object leading to a major injury or single fatality,
2. Pipe support failure leading to a pipe failure and hydrocarbon loss of containment (MAE 02), or
3. Loss of structural integrity leading to a major accident event (MAE 03)

Threat 1 – Potential fatality from a dropped object

- UPS has not restricted access to areas susceptible to potential dropped objects in response this incident.

In an email to NOPSEMA on 8 July 2019 (following the inspection at the regulated business premises), UPS described the following additional mitigating measures:

- *'Raised a CTR for 2x Rope Access Vertech inspectors to spend 3 weeks offshore and submit to NOGA for approval.*
- *Reviewed the current Potential Dropped Object register, update and remove any we know have been repaired/removed.*
- *Prioritise the outstanding Very High risk PDO's from the register for the inspectors to inspect and agree repair strategy.*
- *Once Very High PDO's have been inspected move to the High Risk category and complete the same.*
- *Repair/removal scope will be engineered for any Very High or High Risk PDO's where achievable and approved by NOGA for execution offshore.*
- *Once all the High Risk PDO's have been checked inspectors to move the medium risk areas, initially complete a sample (50%) of these to understand if any have become High or Very High risk since the last inspection – if these show sign of severe corrosion we will continue to inspect all medium risk areas.*
- *At this point we will review findings and evaluate whether to continue on the Low Risk PDO's.*

- *The inspectors should be reminded although they are concentrating on specific PDO's they should be looking for other potential problem areas during their inspection work and add to the PDO register.'*

The NOPSEMA inspectors note that at the time of the inspection, NOGA had not approved the inspection and repair activities described above.

Based on the evidence above, the inspectors have formed the conclusion that there is an immediate and credible threat to the health and safety of individuals at the facility, from potential dropped objects due to excessive corrosion at the facility. In the opinion of the NOPSEMA inspectors, UPS should take immediate action to eliminate or reduce to as low as reasonably practicable (ALARP) the risk of a dropped object leading to a fatality or major disabling injury, at the facility. This was communicated to UPS personnel during the inspection and the inspectors informed UPS of their intent to apply NOPSEMA processes in order to assess the need for enforcement to address the immediate threat. The NOPSEMA inspectors determined that a prohibition notice (#0755) was required to address this immediate risk.

Threat 2 & 3- Pipe support failure potentially leading to hydrocarbon loss of containment due to the failure of a pipe support for a flare line (MAE 02) or - Loss of structural integrity leading to a major accident event (MAE 03).

The failure of a pipe support or other structural failure, could result in a major accident event as described in the facility safety case for MAE 02 and MAE 03. NOPSEMA inspectors have described the risk of structural corrosion as a threat to the facility in NOPSEMA inspection reports 1489, 1742, 1826 and 1877. NOPSEMA issued the earliest report (1489) in December 2016 and raised multiple recommendations to identify, risk assess and address corrosion risks at the facility. In the most recent inspection report, the inspectors stated *'there is still substantial structural corrosion at the facility that UPS has not repaired after nearly three years of operation'* and concluded that there was the potential for enforcement.

The two corrosion related failures at the facility on 30 June 2019 and 4 July 2019 are evidence of the immediate threat to the health and safety of individuals at the facility. In the opinion of the NOPSEMA inspectors, UPS should take immediate action to eliminate or reduce to ALARP, the risk of structural corrosion leading to a MAE at the facility. As reported above this was communicated to UPS personnel and after application of NOPSEMA processes, a prohibition notice (#755) has been raised to address this.

4. Attachments

Attachment A – Inspection Meeting

NOPSEMA held an inspection meeting at the regulated business premises on 8 July 2019. The attendees of that meeting is attached below.

[illegible]