



## Improvement Notice

(paragraph 3.30(e))

*Offshore Petroleum and Greenhouse Gas Storage Act 2006  
Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009*

**Notice Number: 532**

### IMPROVEMENT NOTICE

To: Woodside Energy Limited

I, [REDACTED] an OHS Inspector appointed under section 680 of the Act, am satisfied that the person named above as the responsible person is contravening, or has contravened, and is likely to contravene:

clause 9(2)(c) of Schedule 3 to the Act

at:

#### CWLH Okha

The reasons for my opinion are:

The CWLH Okha facility suffered a loss of containment on the 27<sup>th</sup> July 2013, caused by a crack on the test separator pipework, as a result of vibration induced fatigue. During the NOPSEMA Planned Inspection of the facility on the 29<sup>th</sup> & 30<sup>th</sup> October 2013 I formed the view that the failure on the test separator pipework was indicative of a potential for further piping material failures from vibration induced fatigue. This opinion was based on:

1. The vibration induced fatigue failure on the test separator header
2. Several vibration induced fatigue failures observed downstream of the seawater lift pumps.
3. SVT steady state vibration survey report titled "File Note – Okha FPSO SBF/Piping Vibration Survey July 2013" SVT Document Number FN01-1022781.11 Rev. B.
4. Other poor geometry small bore fittings, susceptible to vibration induced fatigue that were observed in the vicinity of the failed test separator pipework and main production header pipework..

Vibration induced fatigue failures have the potential to result in a loss of hydrocarbon containment; such loss of containment is described as a Major Accident Event in the CWLH Okha Safety Case.

You are required to take the following actions within **130** days of the date of this notice to prevent further contravention or likely contravention of the clause or regulation. The required actions are:

- (a) Take all reasonably practicable steps to ensure that the CWLH Okha facility has appropriate technical and other controls implemented to ensure that hydrocarbon process pipework is safe and without risk to health due to a vibration induced fatigue failure in the interim; and
- (b) Undertake a risk assessment on the hydrocarbon process pipework on the CWLH Okha facility to ensure its continued integrity. This study should take into account the Energy Institute 'Guidance on Vibration Induced Fatigue', or other recognised industry good practice. Consideration should be given to steady-state operations (including process parameter changes), and to transient events including, but not limited to, shutdown and blowdown events; and
- (c) Submit a rectification action plan to NOPSEMA describing the Operator's plan to implement solutions in response to the recommendations resulting from the risk assessment described in (b) above.

Or, by any other suitable means comply with Clause 9(2) (c).

Signed: \_\_\_\_\_

**OHS inspector**

**Dated: 11/12/13**

NOTES: (Please see back of form)

This notice was delivered to: \_\_\_\_\_

in the office or position of \_\_\_\_\_

at: 14:50 am/pm on 11-12-13  
(insert time) (insert date)

(See notes on page 3)

When the required improvement has been completed, return this part of the notice to the following person at the address below:

Name: \_\_\_\_\_

Position: OHS Inspector

Address: **By Courier:**  
Submissions NOPSEMA  
Level 8 Alluvion Building  
58 Mounts Bay Road Perth WA 6000  
**By Post:**  
Submissions NOPSEMA  
GPO Box 2568 PERTH WA 6001

Telephone number: +61 8 6188 8700

Improvement Notice No. **532** has been complied with.

Signed: \_\_\_\_\_

Date: 17/4/14

**NOTES:**

1. Under clause 78 of Schedule 3 to the Act, a person who fails to ensure that this notice is complied with, to the extent that it relates to a matter over which the person has control, may be liable to a penalty of 100 penalty units.
- ✓ 2. This notice must be displayed in a prominent place at the workplace and, under clause 79 of Schedule 3 to the Act, must not be tampered with or removed before the notice has ceased to have effect.
3. Under subclause 78 (11) of Schedule 3 to the Act, an operator, or an employer of a member of the workforce to whom this notice is given must:
  - (a) give a copy of the notice to each health and safety representative for a designated workgroup having group members performing work that is affected by the notice; and
  - ✓ (b) display a copy of the notice in a prominent place at or near each workplace at which the work is being performed.
4. Under subclause 81 of Schedule 3 to the Act, any of the following persons may request Fair Work Australia to review the OHS inspector's decision:
  - the operator of the facility or an employer who is affected by the decision;
  - any person to whom an improvement notice has been issued;
  - the health and safety representative for a designated work group that includes a group member affected by the decision;
  - a workforce representative in relation to a designated work group that includes a group member affected by the decision;
  - if there is no designated work group — a workforce representative in relation to a member of the workforce affected by the decision;
  - the owner of any plant, substance or thing to which the OHS inspector's decision relates.
5. An improvement notice ceases to have effect when the responsible person takes the action specified in the notice, or if no action is specified, takes the action that is necessary to prevent the contravention, or likely contravention, with which the notice is concerned.