TABLE OF CONTENTS

Vincent Phase 2a Wells Subsea Installation Environment Plan Bridging Document Summary

This summary of the Vincent Phase 2a Wells Subsea Installation Environment Plan Bridging Document has been submitted to comply with Regulation 11(7)(8) of the *Petroleum (Submerged Lands)(Management of Environment) Regulations 1999.*

1. INTRODUCTION

Woodside Energy Ltd (Woodside) is planning to extend the development of the Vincent area by drilling two new development wells, referred to as Vincent Phase 2a. The subsea scope involves the installation of two integrated rigid J spools and electric flying leads to tie back the two new wells to the existing A Manifold and pre-commissioning of components. The well is located in Production Licence WA-28-L.

Subsea installation activities will commence in November 2009 for an expected duration of approximately two weeks.

The Vincent Phase 2a Subsea Installation Environment Plan serves as a bridging Environment Plan to the *Vincent Development – Subsea Construction and Installation Environment Plan* and the *Vincent FPSO Environment Plan* and covers the subsea installation activities associated with this development. The drilling and completion activities have been covered by a separate Environment Plan.

2. DESCRIPTION OF ACTIVITY

The proposed Vincent Phase 2a development wells are situated in Production Licence WA-28-L, located approximately 50km north-west of the town of Exmouth; 18.5km north of the Ningaloo Marine Park (Commonwealth Waters) offshore boundary; and 26km north-west of the Muiron Islands Marine Management Area (Figure 1). Table 1 summarises the well details including surface coordinates, water depth, permit area and timing for the proposed wells.

Table 1: Well Co-ordinates, Water Depth and Timing (GDA 94, MGA zone 51)

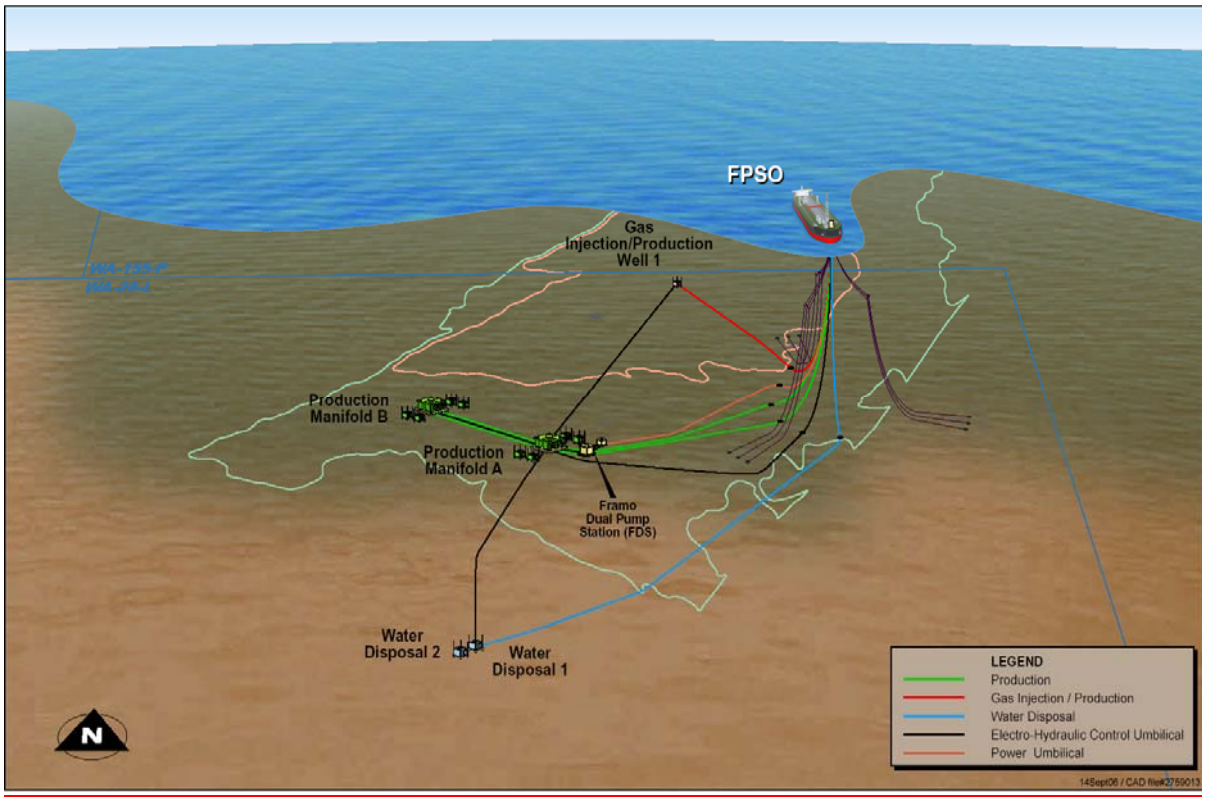
Well	Water Depth (m LAT)	Easting (Longitude)	Northing (Latitude)	Permit Area	Timing
VNA-H5	365	193 909.6 m E	7 626 324.1 m N	WA-28-L	Q4 2009
VNA-H6	365	193 850.8 m E	7 626 293.3 m N	WA-28-L	Q4 2009

The new production wells (VNA-H5 and VNA-H6) will be tied in to the existing manifold with rigid spools. The rigid production spool design will incorporate the hydraulic control and chemical injection lines and electrical flying leads.

The scope of work includes supply and installation of two rigid 6-inch production J-spools:

- Install rigid spool pieces. Spool pieces will be installed with guide wires.
- Tie-in spool pieces, using ROVCON equipment.
- Connect flying leads from manifold to spool and spool to flowbase/tree.
- Set valves on the manifolds and tree flowbases to allow production.
- Pre-commissioning and testing of spools.

Figure 1: Vincent Development Subsea Infrastructure Layout



3. DESCRIPTION OF THE ENVIRONMENT

3.1 Physical and Biological Environment

The seabed in the Vincent Development area is predominantly flat and featureless, sloping gently from south-east to north-west. The benthic biota at the location are characterised by a sparse seabed community, including larger species living on the seabed (mainly urchins, seastars and crustaceans) and smaller burrowing invertebrate species living within the seabed sediments. Resources of ecological significance in the surrounding surface waters typically include mobile species mostly occurring in low numbers and widely dispersed.

The closest sensitive environmental resource from the offshore location is the Ningaloo Marine Park (Commonwealth Waters) which is located approximately 18.5km from the Development location. A variety of cetaceans (whale and dolphin species) have been recorded during surveys of offshore waters in the vicinity of the

Vincent Development. This included several large whales, notably Humpback, Blue, Sperm, Minke, Pilot and False Killer Whales. Survey information indicates that Humpback Whales are the most abundant whale species recorded, present in the area between June and November. November is considered the end of the known southbound migration period for Humpback whales in the region.

3.2 Social Environment

The nearest town to the Vincent Development is Exmouth, located about 1,200 km north of Perth.

Tourism is one of the major industries of the town and contributes significantly to the local economy in terms of both income and employment. Tourist activities centre on recreational fishing, boating, and nature-based tourism. This is based around Ningaloo Reef, Cape Range National Park, and seasonal attractions such as the humpback whales, whale sharks and turtle nesting.

The main commercial activities associated with Exmouth include prawn fisheries, tourism and defence-related activities. Limited commercial fishing takes place in deepwater offshore regions, the most notable being a developing longline fishery.

Other significant socio-cultural features include the Ningaloo Marine Park (Commonwealth and State Waters), Muiron Islands Marine Management Area and Cape Range National Park.

4. ENVIRONMENTAL RISK ASSESSMENT

4.1 Methodology Description

A risk assessment was undertaken for the Vincent Phase 2a Wells subsea installation activities. The risk assessment process demonstrated that identified hazards/activities associated with the proposed Vincent Phase 2a Wells subsea installation were assessed as medium or low. There were no hazards identified above a medium risk level. The activity is also covered by the Woodside Carnarvon Basin Oil Spill Plan (ERP 3250). The proposed Vincent Phase 2a Wells subsea installation will not result in any additional environmental risks or changes to risks outlined in the Vincent FPSO Operations Environment Plan.

The environmental risks identified as medium for this campaign are related to loss of containment (fuel or chemical) during J spool installation and pre-commissioning activities, cetacean interactions, and introduction of invasive marine species from equipment and vessels during mobilisation.

Risk reduction and management actions (control and mitigation measures) will be implemented to ensure that the risk levels remain tolerable.

Small volumes of pre-commissioning chemicals (MEG, oxygen scavenger, biocide, corrosion inhibitor, dye) will be used during this campaign. The fluids displaced during flushing of the new J spools will be processed via the Vincent FPSO. Processing and management of these fluids within the production system is covered in the Vincent Operations EP. The volumes are not significant to impact on the

FPSO operations and will be preferentially disposed of into the produced formation water reinjection system. However for operational reasons there may be periods where discharge overboard is required. Hydraulic control fluid from the valve actuation at Manifold A will be discharged. This fluid is water soluble and small volumes are discharged to sea (by design) each time a remotely-operable valve is closed. The use of hydraulic fluid for subsea control equipment has been described and accepted in the Vincent Operations EP.

Due to the short duration of subsea installation activities, it is envisaged that there will be no vessel re-fuelling taking place offshore or within Exmouth Gulf.

The presence of vessels during the Phase 2a subsea installation in November/December is not expected to impact cetaceans. November is considered the end of the known southbound migration period for Humpback whales in the region. Should whales be encountered, the potential zone of impact will be small – any deviations to their migratory path will be slight and do not represent a significant change in migratory pathway. In the event that a whale is encountered, the vessel and personnel will comply with the 2005 Whale Watching Guidelines and Regulation 8 of the EPBC Act 1999.

An Invasive Marine Species (IMS) Risk Assessment will be conducted to determine the level of risk of activity by the Contractor's Installation Support Vessel (ISV). The IMS management measures will be implemented commensurate with the risk assessment outcomes. The vessel will comply with the AQIS Australian Ballast Water Management Requirements.

5. SUMMARY OF MANAGEMENT APPROACH

Woodside's environmental management strategies and procedures to be adopted during the subsea installation activities include responsibilities, training, reporting frameworks, mitigation and response activities, and monitoring procedures. Commitments associated with these will be used to reduce environmental risk to as low as reasonably practicable (ALARP).

The key management objectives and criteria to be applied during the subsea installation program are summarised in Table 5.1 below.

Table 5.1: Management Objectives and Criteria for Vincent Phase 2a Subsea Installation Activities

Management Objective	Criteria
Minimise disturbance to the seabed and benthic habitats.	• Recording and reporting of all items lost overboard. • No anchoring of vessels at Project Location. • Management procedures and commitments detailed in the Vincent FPSO Operations EP.
Minimise disruption to transient marine life.	• Compliance with EPBC Act Regulation 8 – Interacting with Cetaceans and Whale Watching. • Whale sighting reports completed and returned to WEL Environmental Adviser. • Briefing of all project personnel on environmental sensitivities, management procedures and commitments detailed in the EP.
Minimise impact of chemically treated	• Compliance with pre-commissioning procedures.

Management Objective	Criteria
water discharges on the environment.	• Verification that concentration and volume of chemicals used was consistent with EP. • All equipment inspected and operating correctly. • Pre-commissioning and commissioning discharges will be processed via Vincent FPSO.
Minimise impact of routine waste discharge on marine environment.	• MARPOL/OPGGSA waste management requirements followed. • Vessel Waste Log Form completed, indicating quantities of sewage and food waste discharged overboard.
Minimise potential impacts of solid and hazardous wastes on the environment.	• Segregation of solid and hazardous wastes in accordance with the Vessel Waste Management Plan (WMP). • A vessel Waste Log Form is kept detailing quantities of wastes transported ashore. • Procedures comply with MARPOL requirements.
Minimise occurrence and effects of hydrocarbon and chemical spills.	• Procedures comply with MARPOL 73/78 requirements. • MARPOL Oil Record Book kept up to date. • Fuel spill contingency procedures are in place and operational. • Sufficient spill response equipment on board. • Appropriate actions are taken to avoid pollution.
Minimise interference with commercial fishing and shipping.	• Consultation with WAFIC and Exmouth stakeholders. • Notification of AMSA via the Rescue Co-ordination Centre (RCC). • Issuing of standard warnings to shipping via RCC. • Radio contact with approaching vessels.

6. CONSULTATION

Woodside recognises stakeholder interest in the broader region, which is recognised for its high conservation values, as well as local stakeholder interest in the use by industry of Exmouth Gulf. Woodside is undertaking an ongoing consultation program commensurate with the activities covered in the WA-28-L EP, as outlined in Section 7.11 of the WA-28-L EP.

Following submission of Revision 0 of this EP bridging document to the government for assessment, Woodside provided stakeholders with a copy of the EP bridging document and invited comment on the document and proposed activity.

Comments were sought from a range of stakeholders including eNGO's, local government agencies, community members and fishing associations.

Consultation with the identified stakeholders, individual fisheries and other groups will continue prior to, and during the Program, as required.

7. CONTACT DETAILS

For further information about the Vincent Phase 2a Wells Subsea Installation Environment Plan Bridging Document please contact

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