

# Consultation Fact Sheet

July 2013

## North Rankin Complex Operations

Carnavon Basin, north-west WA

Woodside is submitting a revision to the current North Rankin Complex Operations Environment Plan in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009*.

### Background

The North Rankin Complex (NRC) facility comprises the interconnected North Rankin A (NRA) and North Rankin B (NRB) platforms and associated subsea infrastructure, including two export trunklines (TL1 and TL2) which run between NRC and the onshore Karratha Gas Plant. The facility is located in Commonwealth waters about 135 km offshore from Dampier on the north-west coast of Western Australia in a water depth of about 125 metres.

The NRA and NRB platforms are located in Production Licence WA-1-L, with trunklines located in Pipeline Licences WA-1-PL and WA-10-PL.

The NWS Project participants are Woodside (Operator), BHP Billiton Petroleum, BP Developments Australia, Chevron Australia, Japan Australia LNG (MIMI) and Shell Development (Australia).

NRA has been in operation since 1984. NRB was installed in 2012 and is linked to NRA by two bridges. NRB is being commissioned and once operational, will have the primary function of providing gas compression and condensate pumping of fluids produced from the NRA wells and exported via the NRA export facilities.

NRB will also provide the personnel living quarters, power, control and a portion of the utilities for the combined NRC facility.

The current NRC Operations Environment Plan was approved in 2011, and included continued operation of NRA, commissioning activities for NRB, as well as integrated operation of the NRC.

As per the requirements of the *Petroleum (Submerged Lands) (Environment) Regulations 2012 (WA)* an Environment Plan is required for Petroleum Activities undertaken in State waters. This is the subject of a separate plan addressing the relevant activities (e.g. the trunklines to shore) and does not form part of the scope of the NRC Operations Environment Plan.

### Operations

The NRC facility produces dry gas and condensate from the North Rankin and Perseus fields. Gas and condensate from the reservoirs is processed on the facility then transported onshore via two trunklines to the onshore Karratha Gas Plant.

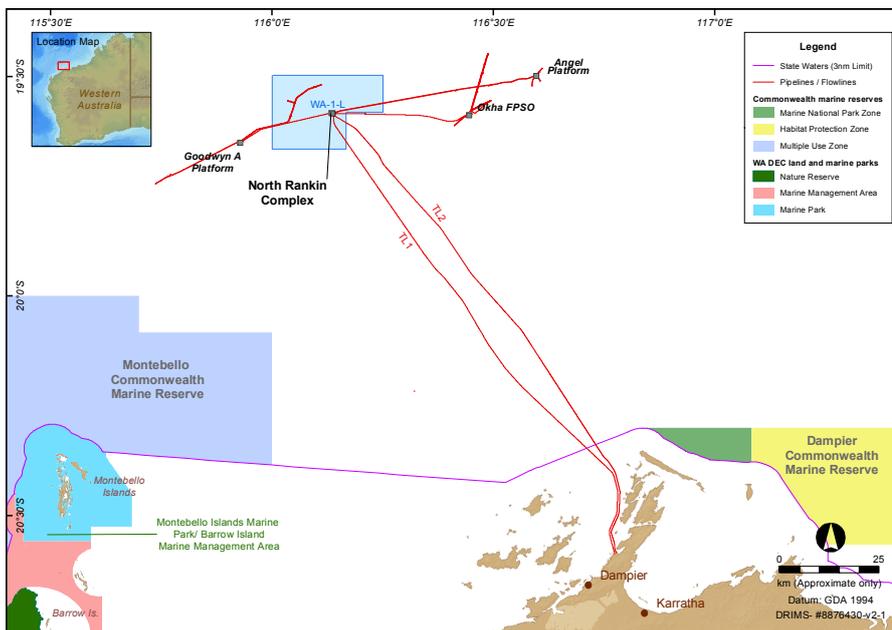


Figure 1: North Rankin Complex location.

The NRC facility is connected to the North West Shelf Project's Goodwyn A facility, Angel facility and Okha floating production storage and offloading (FPSO) facility. Connection of these facilities to NRC is via subsea tie-in assemblies to the first and second trunklines for direct export of product to the Karratha Gas Plant.

NRC has full remote control capability over the Angel facility (not normally manned) and remote monitoring capability of product export from the other interconnecting facilities. Operation of the connected facilities and their associated subsea pipelines and infrastructure (other than TL1 and TL2 trunklines) are the subject of separate Environment Plans.

The NRC facility is designed to export up to 66 kilotonnes per day of gas and 6 kilotonnes per day of condensate.

The facility is marked on nautical charts surrounded by a 500 metre exclusion zone to shipping.

## Activities

Activities undertaken at the NRC facility include:

### PRODUCTION AND MAINTENANCE

Production and maintenance involves receiving hydrocarbons from the reservoirs, processing and transport of hydrocarbons to the Karratha Gas Plant via two subsea trunklines. Inspection, maintenance and repairs are conducted to maintain safe and reliable production within the platform design constraints.

### PRODUCTION AND WELL MAINTENANCE

Maintenance of production wells may be required to safeguard well integrity. This activity involves well workovers or interventions concurrent with production. The platform-based workovers are typically performed utilising a Hydraulic Workover Unit (HWU) and involve the use of chemicals selected in accordance with Woodside's Chemical Assessment Procedure. The HWU must comply with applicable industry design and construction codes and standards.

### PRODUCTION AND MAJOR PROJECTS

Major projects involve the implementation of major changes to the facility to accommodate additional infrastructure.

### COMMISSIONING OF NRB

Commissioning activities related to the new NRB platform are in progress and will allow for full integration of the two platforms. Following required testing, gas will gradually be introduced to the NRB fuel system for power generation followed by the production trains for compression. Operational control and power supply will also transition from NRA to the NRB during the commissioning period.

## Environment management

The revised NRC Operations Environment Plan demonstrates that through implementation of mitigation and management measures, environmental risks and impacts associated with operation of the NRC facility, and remaining NRB related commissioning activities will be reduced to as low as reasonably practicable and will be of an acceptable level.

Key commitments in the Environment Plan include:

- All routine marine discharges (drainage water, produced formation water, cooling water, sewage/grey water etc) will meet legal requirements and be managed according to Woodside's Environmental Performance Standards;
- Waste generated on the facility will be managed in accordance with Woodside's Waste Management Plan. Except for putrescibles (such as sewage waste), all wastes will be transported onshore for appropriate recycling or disposal by a licensed waste contractor;
- Gas flaring will be managed to a level required for safe and reliable production. Unplanned flaring will be minimised where possible and managed in accordance with annual performance targets;
- Procedures to keep emissions from combustion of fuel (e.g. power generation) in line with design specifications will be followed. Emissions will be reported in accordance with Regulatory requirements;
- Procedures to reduce the potential for uncontrolled hydrocarbon releases will be followed;
- Appropriate fuel transfer procedures and equipment will be used to prevent spills to the marine environment;
- Appropriate spill response plans, equipment and materials will be in place and maintained to manage any potential spills to the environment;
- Chemical use will be managed in accordance with Woodside's Chemical Selection and Approval Procedure;
- Measures will be taken to protect marine fauna from vessel and helicopter activities; and
- All support vessels will be assessed and managed as appropriate to prevent the introduction or spread of invasive marine species.

## Environmental approvals

The revised NRC Operations Environment Plan will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for approval in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009*.

## Facility details

Location	135 km offshore from Dampier, Western Australia
Facility type	Gas and condensate production facility. Two fixed platforms connected by bridges.
No. of wells	29 wells
Estimated production capacity	66 kilotonne per day dry gas and 6 kilotonne per day condensate
Commissioned	NRA - 1984 NRB - in progress
Water depth	125 metres
Coordinates (GDA 94)	NRA: 19°35'08.02'S and 116°08'12.28'E NRB: 19°35'02.56'S and 116°08'11.22'E

## Feedback and further information:

If you would like to comment on the proposed activity outlined in this fact sheet or would like additional information, please contact Woodside before August 17 2013:

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*Please note that stakeholder feedback will be communicated to NOPSEMA as required under legislation. Woodside will communicate any material changes to the proposed activity to affected stakeholders as they arise. Proposed timing for the activity may be subject to change.*