



# Acquisition of the Laminaria-Corallina oil fields and *Northern Endeavour* FPSO

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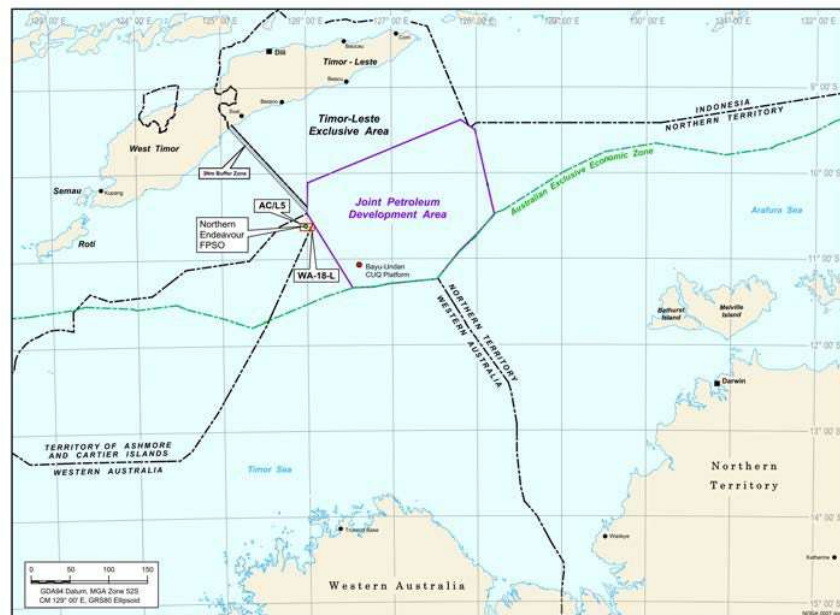
Northern Oil & Gas Australia Pty Limited (NOGA) is pleased to announce the successful completion of the acquisition of Production Licences AC/L5 and WA-18-L. The effective date of the transaction is 1 July 2015. NOGA, through its wholly owned subsidiary Timor Sea Oil & Gas Australia Pty Ltd (TOGA), is now the 100% equity and Titleholder in both Production Licences.

The Production Licences contain the producing Laminaria and Corallina oil fields, associated subsea infrastructure and the *Northern Endeavour* Floating Production, Storage and Offloading (NE FPSO) vessel (collectively referred to as the Asset). The Asset is located in the Timor Sea approximately 550 km northwest of Darwin, in water depths ranging between 350 and 410 m.

## History

The Laminaria and Corallina fields were discovered in 1994 and 1995 respectively and were jointly developed, with production commencing in November 1999. The development consists of subsea wells tied back to the NE FPSO through a system of subsea manifolds, flowlines, umbilicals and dynamic risers. Oil, gas and water are separated on the FPSO and stabilised oil is offloaded to trading tankers for export. The NE FPSO has a design capacity of 180,000 barrels per day (bpd) and a storage capacity of 1.4 million barrels (MMbbl). The field is currently capable of producing about 5,000 bpd and to date has produced more than 205 MMbbl oil.

Woodside Energy Ltd (Woodside) has been the Operator through the exploration, development and production operations phases up until NOGA's recent acquisition of the Asset. Prior to NOGA's acquisition, Woodside had been planning to decommission the Asset. NOGA's plan is to extend the life of the fields and defer decommissioning by implementing operational efficiencies, optimising operating costs and delivering incremental production and reserve opportunities. TOGA, as the Title Operator under the *Offshore Petroleum and Greenhouse Gas Safety (OPGGs) Act 2006*, has nominated Upstream Petroleum Solutions (Upstream PS) to be the Operator of the NE FPSO facility and to hold the Safety Case under the OPGGS (Safety) Regulations 2009.



Location of the Laminaria and Corallina oil fields

## Operations

The NE FPSO is a 273 m-long permanently moored vessel that was purpose-built for the Laminaria-Corallina development. It is located at 10° 36' 52.56" South and 125° 59' 8.18" East.

The Laminaria-Corallina development consists of six production wells in the Laminaria field and two production wells and one gas reinjection well in the Corallina field. These wells are tied back to the NE FPSO via three subsea manifolds and associated flowlines. Currently two wells are producing in the Laminaria field, although a second shut-in Laminaria well is expected to be reinstated during 2016.



*The Northern Endeavour FPSO*

Crude oil, gas and water from the reservoir are separated on board the NE FPSO. Oil is stored on the facility in six pairs of tanks prior to export to trading tankers by way of an off-take hose. Under normal operations, surplus gas and Liquefied Petroleum Gas (LPG) are reinjected into the Corallina reservoir.

## Environment Management

An Environment Plan (EP) covering the operations of the Asset is in place. The scope of the EP includes the following:

- Production (receiving hydrocarbons from the reservoirs via subsea well infrastructure);
- On board processing and storage;
- Export of oil to trading tankers (while moored on- station; and
- Maintenance (regularly conducted on both the FPSO and subsea infrastructure to ensure safe and reliable operations).

The EP describes environmental risks and associated preventative and mitigation measures to demonstrate that the potential impacts and risks associated with the operation of the facility can be reduced to as low as reasonably practicable (ALARP) and will be of an acceptable level. Key commitments in the EP include:

- All routine marine discharges (produced formation water, cooling water and sewerage and grey water) will meet legal requirements.
- Unplanned flaring is minimised where possible.
- Procedures to keep emissions from combustion of fuel in line with design specifications will be followed. Emissions are reported in accordance with regulatory requirements.
- Procedures to minimise the potential for uncontrolled hydrocarbon releases are followed.
- Appropriate bunkering and oil off-take procedures and equipment are used to prevent spills to the marine environment.
- Appropriate spill response plans, equipment and materials are in place and maintained to manage any potential spill to the environment.
- Chemical use is managed in accordance with the chemical selection and approval procedure.
- Waste is managed in accordance with the waste management plan. Except for putrescible food waste, all waste is transported to shore for appropriate recycling or disposal by licensed waste contractors.
- Support vessels are assessed and managed as appropriate to prevent the introduction of invasive marine species.

Further detail about the facility's environmental management is available in the EP Summary for the *Northern Endeavour* FPSO operations, which is available on the NOPSEMA website (<https://www.nopsema.gov.au/environmental-management/activity-status-and-summaries/details/260>).

## Regulatory Approvals

A National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)-accepted Well Operations Management Plan (WOMP), EP, Oil Pollution Emergency Plan (OPEP), Operational and Scientific Monitoring Program (OSMP) and Facility Safety Case are in place.

NOGA is in the process of revising the EP, OPEP and OSMP for submission to and acceptance by NOPSEMA. The EP Summary currently available on the NOPSEMA website will be updated once the revised EP is accepted.

## Operations Transition

Upstream PS has been selected as the Nominated Operator of the NE FPSO facility on behalf of the asset owner and Titleholder TOGA. Upstream PS is a reputable provider of products and services to the Australian and international oil & gas industry and a Registered Operator Pursuant to s2.4(1)(b) of the OPGGS (Safety) Regulations 2009. Upstream PS has a well-established reputation for providing safe, innovative and sustainable services to the oil and gas industry, with an extensive track record in providing operations and maintenance, well management, packaged equipment and project management services.

The transition from Woodside operatorship of the NE FPSO to Upstream PS is in progress, with the expectation that transition to full control will take place during June 2016. NOGA is in ongoing discussions with NOPSEMA to ensure that the required regulatory documents are in place.

## Stakeholder Engagement

In updating the Asset's regulatory approvals documentation, NOGA is seeking to engage with government agencies and people and organisations whose functions, interests or activities may be affected by the Asset's operations. In July 2015, Woodside engaged with many of the Asset's stakeholders to inform them that the Asset was to be decommissioned. This plan is no longer the case now that NOGA has purchased the Asset.

The purpose of this information sheet is to inform stakeholders about the change of ownership and NOGA's plans to update the existing safety, well integrity and environmental approvals documentation, and to establish communications with existing and potentially new stakeholders as the new Asset owner. Stakeholders identified to date include various Commonwealth and State regulatory and referral agencies, fisheries associations, managers and operators, oil spill preparedness and response agencies, nearby oil and gas Operators and Titleholders and marine conservation organisations.

If you would like further information about NOGA's plans to continue production from the Laminaria and Corallina oil fields, would like to provide updated contact details for future consultation with NOGA, or you would like to provide feedback on how your functions, interests or activities may be affected by the Asset's operations, please contact us. Please distribute this information sheet to others you believe may be interested in this update.

### **Northern Oil & Gas Australia Pty Limited**

Level 5, 1101 Hay Street,  
West Perth, Western Australia 6005  
[www.northernoil.com.au](http://www.northernoil.com.au)

Katrina Bajars  
Asset Manager  
Phone: (08) 6109 3015  
Email: [kbajars@northernoil.com.au](mailto:kbajars@northernoil.com.au)