

## **Executive Summary**

### **The Proponent**

Nexus Energy Limited (Nexus) has the production licence VIC/L29 for the Longtom Field and is also the licence holder for the Longtom pipeline.

Nexus is an international oil and gas company with its headquarters in Melbourne, and was publicly listed on the Australian Stock Exchange and began trading in August 2001. The core business of the company is oil and gas exploration and production. Nexus also has exploration and production interests in the Northern Territory and Western Australia.

### **The Project**

Nexus Energy Limited (Nexus) produces gas from the Longtom Field, which is located approximately 31km offshore from Orbost on Victoria's eastern coast. The Longtom field lies approximately 28km east-northeast of the Snapper field, 12.5km northwest of the Tuna field, 17km northeast of the Marlin field and 16km southwest of the Patricia Baleen field, in the exploration permit VIC/P54 (Figure ES1).

The Longtom gas field was discovered in June 1995. A conditional gas contract has been negotiated with Santos. Nexus has booked 350 PJ of sales gas and 4 MMbbls of condensate as reserves for the Longtom Field.

The Longtom Field Development is shown schematically in Figure ES2. The development consists of the following main components:

- Two subsea production wells, with facilities to allow the tie in of a future third well and production trees in water depths of approximately 51–57m.
- A 17 km 300mm nominal diameter pipeline originating at the Longtom 3 well and connecting into the offshore end of the Patricia-Baleen pipeline..
- High integrity pressure protection system (HIPPS) to protect the Patricia Baleen pipeline against overpressure from the new higher pressure Longtom wells.
- A subsea umbilical extension connected to the existing Patricia Baleen umbilical line that provided electrical, hydraulic and chemical services to the Longtom wells and Longtom and Patricia Baleen pipelines.

Longtom gas flows to shore via a high-pressure pipeline tied back into the existing, lower pressure Patricia Baleen (PB) offshore gas pipeline and then to the Patricia Baleen gas plant operated by Santos. The Patricia-2 and Baleen-4 wells are now shut in.



Figure ES2: Surrounding features

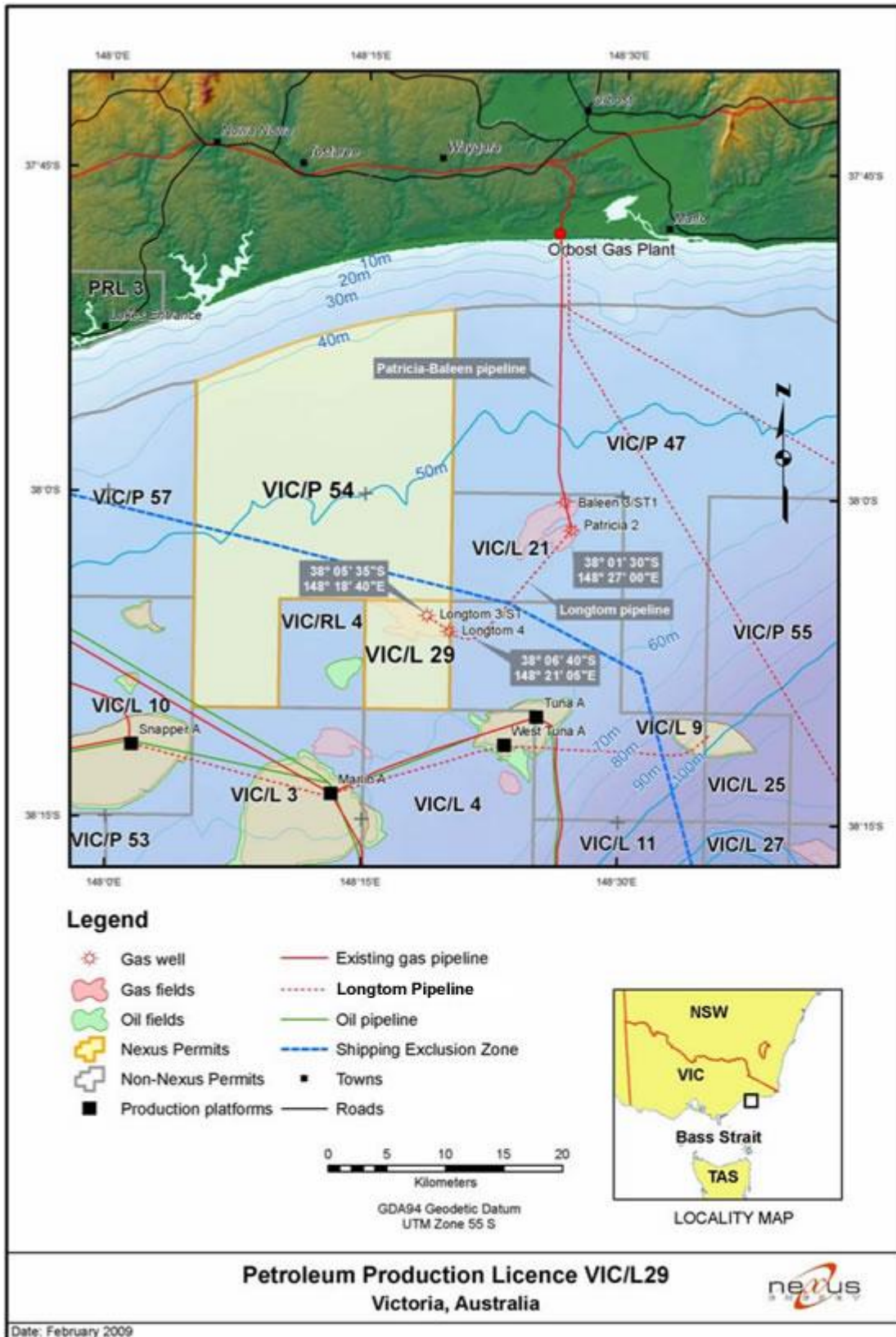
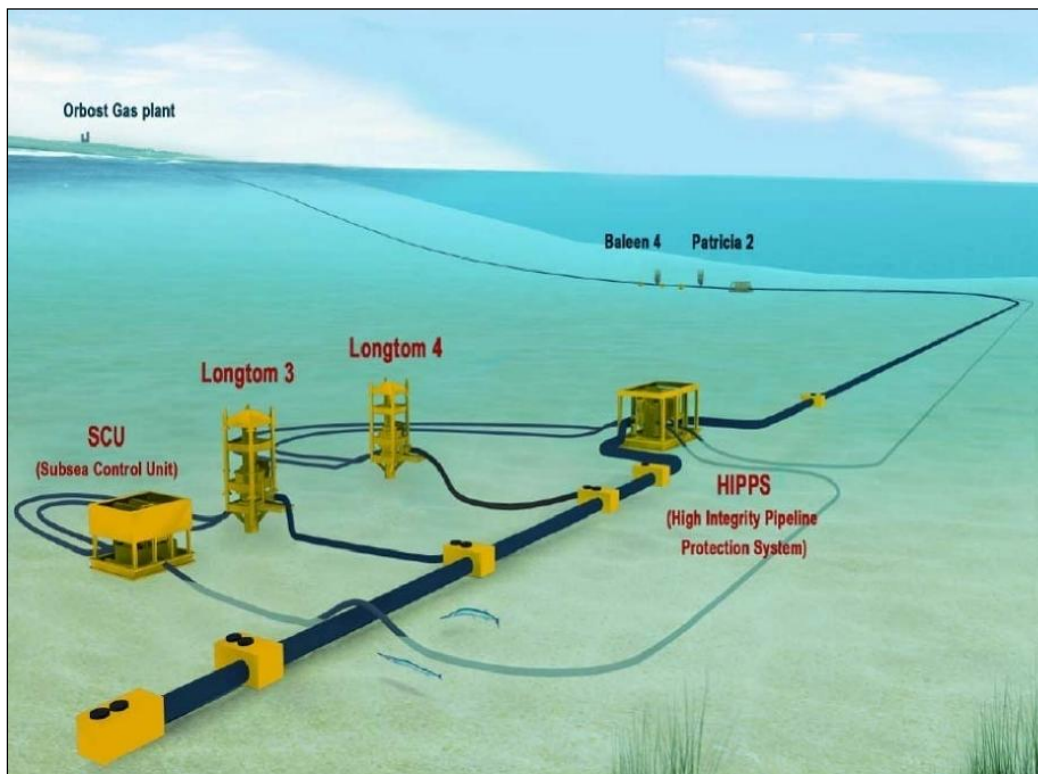


Figure ES3: Longtom Field Development schematic



Santos upgraded the Patricia Baleen Gas Plant to extract the condensate from Longtom gas and meet gas pipeline specifications prior to purchasing the gas from Nexus and for on-sale via the Eastern Gas Pipeline. Approvals and issues associated with the onshore plant are addressed by Santos and are not part of this Environment Plan.

The scope of work for the initial project was divided into the offshore works (Nexus responsibility) and the Patricia Baleen Gas Plant upgrade works (Santos responsibility).

The offshore works addressed in the original Longtom Field Development Environment Plan CR 1237\_3\_v6 prepared by Enesar in May 2007 included:

- Installation of a 19 km DN300 carbon steel pipeline from the Longtom wells to the upstream end of the existing Patricia Baleen pipeline.
- Installation of a HIPPS system to protect the PB pipeline against overpressure from the new Longtom wells.
- Installation of a 20 km umbilical to extend the existing hydraulic, electrical and chemical services to the new Longtom wells.

The Longtom pipeline was installed by the pipeline lay barge “Aussie 1”, operated by Trident Australasia Pty Ltd and offshore construction vessels. First gas was produced on 23<sup>rd</sup> October 2009.

### **Stakeholder Consultation**

Nexus has, either directly or through their specialist consultants, undertaken consultation with relevant stakeholders to identify potential environmental issues and management requirements. Stakeholders consulted have included:

- Commonwealth Government:
  - Australian Fisheries Management Authority.
  - Department of Environment and Heritage (Referrals section).
  - Department of Industry, Tourism and Resources.
  - Department of Transport and Regional Services.
  - National Offshore Petroleum Safety Authority.
- Victorian Government:
  - Department of Primary Industries.
  - Fisheries Division (Melbourne).
  - Minerals and Petroleum Division (Melbourne).
  - Regional Office (Bairnsdale).
- Commercial Fishing:
  - Commonwealth Fisheries Association.
  - Lakes Entrance Fishermens’ Coop.
  - Lakes Entrance Scallop Fishing Industry Association.
  - Victorian Scallops Industry Association.
  - San Remo Fishermen’s Coop.
  - South East Fishery Association.
  - South East Trawl Fishing Association.
  - Seafood Industry Victoria.
  - Tasmanian Fish Industry Council.
- Recreational fishing:
  - Victorian Recreational Fishing.

None of the organisations or persons consulted raised any significant issues regarding the project.



## **Environmental Impact Assessment, Management and Mitigation**

Referral and assessment of the Longtom Field Development under the EPBC Act by the then DEH determined on 23 October 2006 that the project was not a 'controlled action'.

The following impacts were identified for the construction and operation of the project:

- Physical effects to marine ecological communities and habitat.
- Chemical effects from discharges during construction / intervention and operation.
- Increased underwater noise levels.
- Disturbance to commercial fishing activity.
- Hydrocarbon spills during construction, intervention and operations

This Environment Plan (EP) is based on a review of the previously identified environmental risks but focuses on the operations phase of the project with consideration to intervention and maintenance activities in particular. The salient points of the assessment and management and mitigation measures are summarised below.

### **Operations**

#### ***Impact Assessment***

- Potential for rupture of pipeline is extremely low.
- Potential for accidental hydrocarbon spill is very low, with a low potential of beaching of any spilled oil on the Victorian coastline.
- Small volumes of hydraulic valve fluid are discharged, but are non-toxic and will rapidly disperse and decompose.
- Exclusion of commercial fishing around wellheads equates to a total area of approximately 1.6 km<sup>2</sup>.

#### ***Management and Mitigation***

- A high integrity pressure protection system protects the Patricia Baleen pipeline from overpressure.
- The Longtom pipeline has been designed to ensure it is not at risk from fishing activities.
- The location of wellheads is remote from shore.
- Most of the 19 km pipeline seabed route is sand, with limited emergent fauna and flora.
- Some colonisation of exposed hard surfaces of wellheads and structures by epifauna such as sponges, hydrozoans, bryozoans and algae is likely.

- Critical function testing of the subsurface safety valve and pipeline pressure protection system is undertaken regularly.
- A 500-m permanent exclusion zone is established around each well head and marked on maritime charts, with positions also made available electronically to fishing vessel owners/operators.
- The as built pipeline and umbilical locations has been advised to the maritime authorities and is available electronically to fishing vessel owners/operators.
- Consultation with commercial fishing groups will re-occur before major intervention and maintenance activities.

In summary, the operation of the Longtom Field by Nexus will not result in detrimental impacts to populations of marine fauna or commercial fisheries in the vicinity of the project area. Detailed management and mitigation measures that are followed are provided in this EP.

### **Maintenance and intervention activities**

#### ***Impact Assessment***

- Maintenance activities will be restricted to small areas of operation and are likely to be of short durations.
- Impacts to the seabed and epifauna are very unlikely, localised and will be transient. The extent of impact on seabed will be limited to work areas along the pipeline route, at the wellhead and underneath anchors and anchor wires on the seabed as required.
- No direct impacts will occur to fish and other mobile fauna.
- There may be a very small, localised and temporary increase in nutrient content in the water column due to discharge of sewage and putrescible wastes from vessels.
- Small volumes of solid and hazardous wastes will be appropriately disposed onshore with minimal environmental risk.
- There may be temporary and localised low noise risk to marine animals.
- There is a very low risk of oil / fuel spills from vessel activities.

#### ***Management and Mitigation***

- Procedures will be put in place to ensure very low risk of significant hydrocarbon spill during any intervention and maintenance works.
- The project area is located in an area of low to medium trawl fishing activity.

- Vessels involved in maintenance activities will be selected and managed in accordance standard vessel requirements.
- Temporary exclusion zones from commercial fishing activity around dive support vessels  
Note that all diving is anticipated to occur with existing exclusion zones.
- Any chemicals that may be discharged to the marine environment such as dyes used to detect the source of any hydrocarbon leaks will be subjected to the same assessment as that applied for construction and commissioning activities with environmental considerations assessed and reviewed.
- All hazardous materials will be stored in appropriately bunded areas (and away from exposure to rain and deck wash) and Material Safety Data Sheets for all these chemicals will be stored at a known location on the vessel.
- Hazardous wastes will be segregated and stored in sealed storage areas and transferred to onshore licensed hazardous material handlers for disposal to a licensed depot.
- Solid wastes will either be disposed of onshore or incinerated in purpose built incinerators in accordance with MARPOL Annex VI Regulation 16 *Shipboard Incineration*.
- Dropped objects will be reported and an equipment check / survey will be undertaken at the completion of intervention and maintenance works to ensure no junk or debris is left on the seabed.
- Offshore refueling only if essential, and only in compliance with refuelling and operations procedures and with dry break couplings.
- All spills will be recorded in a wastes and emissions log, reported to Nexus and regulatory authorities will be advised in accordance with regulatory requirements.
- The risk of translocation of invasive marine species on vessel hulls and in ballast water will be assessed on a case by case basis.
- Vessel contractors and aircraft will be required to adopt Commonwealth guideline separation distances when in proximity to cetaceans.