Emissions and Discharges

ConocoPhillips Australia is planning to undertake exploration activities in offshore permits VIC/P79 and T/49P located in Commonwealth waters. The proposed activities are a continuation of ConocoPhillips Australia's exploration program in the offshore Otway Basin which aims to identify commercially viable natural gas reserves to help meet Australia's energy needs.

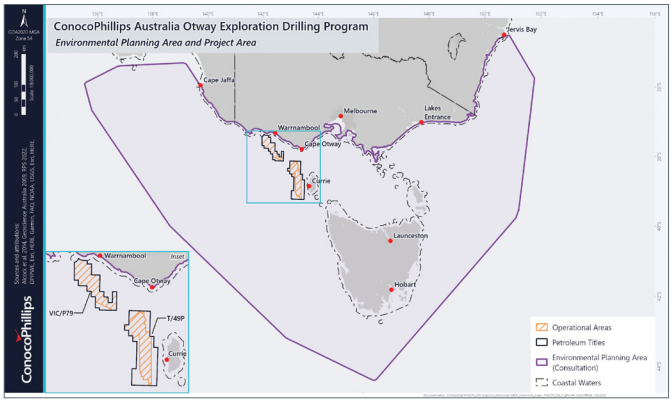
About the Otway Exploration Program

ConocoPhillips Australia is proposing to undertake an exploration program that consists of seabed surveys and the drilling of up to six exploration wells in exploration permits VIC/P79 and T/49P located in Commonwealth waters offshore of Victoria and King Island, Tasmania.

ConocoPhillips Australia has commenced preparation of an Environment Plan (EP) that will seek approval for this exploration drilling program to be undertaken. Drilling commencement is dependent on regulatory approval and drilling rig availability. The initial activity will be seabed assessments which will commence no earlier than January 2024.

This information sheet summarises the ongoing assessment of potential impacts and risks arising from air emissions and planned discharges associated with the Otway exploration drilling program. Figure 1 below shows the permit areas, within which exploration activities may occur, and the Environmental Planning Area that has been applied to ensure that far ranging environmental values and sensitivities are appropriately identified and considered.

Environmental Planning Area Map



KEY INFORMATION

- ConocoPhillips Australia is planning to undertake an exploration program in the Otway Basin and is preparing an Environment Plan which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for public comment and assessment. Any decision to proceed to development will be dependent on a conducive investment environment.
- The EP will include a detailed assessment of potential impacts and risks arising from the air emissions and planned discharges associated with the Otway exploration drilling program.
- A preliminary assessment of potential impacts associated with emissions and discharges has identified:
  - Air emissions from seabed survey vessels, the drilling rig and support vessels have the potential to result in localised changes in air quality.
  - Planned discharges from survey vessels, the drilling rig and support vessels have the potential to result in localised changes to water quality that will quickly dissipate in the water column.
  - Discharges from drilling operations, including drilling fluids and rock cuttings, cement, and small volumes of hydraulic fluid from testing subsea equipment, have the potential to result in localised changes to water and sediment quality.
- If you would like to ask questions or give feedback, see the contact details at the end of the document.

Emissions and Discharges Assessment

Activities conducted as part of the Otway Exploration Drilling Program will result in emissions to the atmosphere, as well as discharges to the marine environment. The detailed Emissions and Discharfes Assessment will be available online in the Impact and Risk Assment report which is currently being finalised.

Air Emissions

Air emissions are generated from the combustion of fuels to power the drilling rig, vessels and onboard equipment. Emissions are generally made up of a variety of different gases, some of which are classified as greenhouse gases (GHG). In the event that exploration drilling activities result in the discovery of hydrocarbons, well testing may be conducted which results in additional air emissions associated with short duration flaring.

Type	Potential impact	Assessment
Air Emissions	Operational activities and flaring involve the combustion of fuel which will primarily emit nitrogen dioxide, sulphur dioxide and carbon dioxide. These emissions will result in a localised reduction in air quality around the emission source and represent a source of greenhouse gases (GHGs).	These emissions are predicted to be small on a state, national and global scale, representing a minute contribution to the local airshed and overall GHG emissions, and will dissipate rapidly. Impacts from a reduction in air quality are expected to be short-term and limited to the immediate vicinity of the emission source, well within 2 km of each drilling area or vessel. Long-term impacts from the increase of GHGs in the atmosphere have been shown to contribute to the global impacts of climate change which has numerous direct and indirect impacts on various sensitive receptors.

Discharges

Operational activities conducted during the **Otway Exploration Drilling Program** will result in discharges to the marine environment including:

- Planned discharges from survey vessels, the drilling rig and support vessels which include (but are not limited to) treated sewage, grey water, oily water, food waste, bilge water, water treatment brine and cooling water.
- Drilling discharges to the seabed and sea surface including drilling fluids and rock cuttings, cement, and small volumes of hydraulic fluid diluted in potable water from testing subsea equipment.

Type	Potential impact	Assessment
Planned Discharges	Planned discharges will cause temporary and localised changes in water quality in the immediate environment surrounding the source. This change has the potential to affect fauna behaviour (e.g. increase scavenging behaviour) but is unlikely to cause injury or mortality to fauna.	Routine discharges are required to be treated to meet the International Convention for the Prevention of Pollution from Ships (known as MARPOL). Consequently, impacts will be highly localised and temporary, as the treated discharges are quickly broken down by microbial activity and dispersed by wave action and local ocean currents.
Drilling Discharges	The release of drilling discharges to the seabed and sea surface will result in localised changes in water quality, sediment quality and habitat composition. These changes may cause injury or mortality to marine species through toxicity or smothering.	Drilling discharges will be of low toxicity and will quickly dissipate in the water column or disperse on the seafloor. Impacts are expected to be short-term and restricted to smaller areas within 2 km of each well.

Reducing Impact

The objectives of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations (2009) are to ensure that any petroleum activity is carried out in a manner that is consistent with the principles of ecologically sustainable development as set out in section 3A of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Additionally, these activities must be carried out in a manner that reduces the environmental impacts and risks associated with them to as low as reasonably practicable (ALARP), while also ensuring that any remaining environmental impacts and risks are at an acceptable level.

These objectives are critical to the protection of the marine environment and marine ecosystems from negative impacts associated with offshore petroleum activities. The principles of ecologically sustainable development promote the responsible use of natural resources and emphasise the need to consider the long-term impacts of human activities on the environment.

Reducing environmental impacts and risks associated with offshore petroleum activities to ALARP is an important aspect of responsible and sustainable business practices in the offshore petroleum industry. This involves identifying potential environmental impacts and risks associated with an activity, implementing measures to minimise those impacts and risks, and continually monitoring and evaluating the effectiveness of those measures.

Ensuring that any remaining environmental impacts and risks are at an acceptable level is also critical to protecting the marine environment and marine ecosystems. This involves establishing acceptable environmental standards and thresholds for specific activities and ensuring that the environmental impacts and risks associated with an activity do not exceed those standards and thresholds.

Through the development of the Environment Plan and during consultation, ConocoPhillips Australia will identify and evaluate mitigation and management measures to minimise potential impacts to protected species, particularly during periods of peak biological importance. However, given the diversity of biologically important activities with differing peak periods, there is no perfect window where exploration activities can occur without the potential for impact in the absence of effective controls.

Examples of mitigation measures and activity limitations that will be implemented are listed below:

- Vessels will comply with Marine Order 97: Marine Pollution Prevention – Air Pollution for emissions from combustion of fuel, including:
    - Holding a valid Air Pollution Prevention (APP) certification or equivalent in accordance with MARPOL Annex VI.
    - Using low sulphur fuel in accordance with Marine Order 97: Marine Pollution Prevent – Air Pollution (Division 7).
    - Complying with National (AMSA) and International (IMO / MARPOL) Emissions and Discharge Standards for vessels.
- Fuel use and flaring volumes will be recorded and reported in alignment with the National Greenhouse and Energy Reporting Act 2007.
- ConocoPhillips Australia will implement a chemical selections procedure which requires all chemicals used and discharged to the sea to be environmentally acceptable by national and international standards, including the World Bank (2015) Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development.
- ConocoPhillips Australia will implement a cuttings management system which reduces the volume of discharges that are release into the marine environment. The cuttings management system will be developed with adherence to international best practice standards, including the World Bank (2015) Environmental, Health and Safety Guidelines for Offshore Oil and Gas Development.
- Vessels will comply with Marine Orders 91, 95 and 96 which all deal with marine pollution prevention of different discharges i.e. oil, garbage and waste.
- Further, ConocoPhillips Australia has contracted a greenhouse gas (GHG) specialist to calculate the amount of GHG emissions that may be released from the various activities of the Otway exploration drilling program, so that these can be accounted for in both internal and external reporting.

Questions

and Answers

How will ConocoPhillips Australia determine when and where drilling will occur?

Drilling commencement is dependent on regulatory approval and drilling rig availability. The initial activity will involve seabed surveys and will commence no earlier than January 2024.

Specific locations for seabed surveys and exploration drilling are yet to be confirmed. ConocoPhillips Australia has undertaken to assess the environmental impacts and risks associated with seabed surveys and drilling activities that may occur anywhere within broader operational areas within petroleum titles T/49P and VIC/P79. This ensures that the impacts and risks associated with all potential survey and drilling locations are assessed.

ConocoPhillips Australia continues to interpret available data to prioritise and select final drilling locations with the highest likelihood of success. This process involves a careful balance of science, economics, and risk management to ensure that drilling efforts are safely executed with minimal impact to the environment.

Why can't drilling discharges be collected and disposed of onshore?

The process of collecting and transporting discharges to shore introduces a safety risk and would result in an increased offshore environmental impact due to additional vessel movements and their associated emissions.

Why do you need to flare?

The purpose of exploration drilling is to identify commercially viable natural gas reserves. To know whether a reservoir is suitable for development, the contents of the reservoir are tested onboard the drilling rig. Flaring is a high-temperature process used to burn waste gases containing combustible components such as natural gas. Flaring occurs from a remote and elevated location, using a specifically designed burner to promote clean and safe disposal of the combustible components. Flaring is the safest method to dispose of combustible components during a well test. In the event that a well test is conducted, flaring will occur up to a maximum flow rate of 40 MMscf for 120 hours per well over multiple short-term events and may be visible from shore depending on the drilling rig's location.

Will the air emissions or discharges impact wildlife?

Impacts from emissions and discharges produced during the activities are expected to cause short-term and localised reductions in air and water quality, which will be limited to the immediate vicinity of the release. The majority of the wildlife found within the area (e.g., seabirds, marine turtles, fish and marine mammals) are highly mobile and are not expected to remain near the source for long enough to be impacted. Impacts to plankton are expected to be localised and short-term and are not expected to result in impacts to foraging marine species, given the overall abundance of food resources within the region.

Can air emissions or discharges be harmful to humans?

The use of fuel to power drilling rig and vessel engines, generators and mobile and fixed plant will primarily result in emissions of carbon dioxide, nitrogen dioxide and sulphur dioxide. The inhalation of air emissions from the combustion of fuel could be harmful if a person was standing immediately downwind of the source or in a poorly ventilated area. However, emissions from the drilling rig and vessels are relatively small and will be emitted from well-ventilated areas to the environment, whereby they will be rapidly dispersed by moderate-strong winds typical of the Otway Basin. Petroleum activities are not expected to have any adverse impacts on the air quality of nearby coastal towns.

Discharges, such as drill cuttings (rock from the seabed) and drilling fluids from the drilling process, will be localised and will not reach the coastline. The extent of impact is predicted to be within 2 km of each well. The closest shoreline to the Otway exploration drilling program is 5.6 km away and therefore there is no predicted impact to coastal communities.

Questions

and Answers *continued*

What type of air emissions will the activities create?

Operation of the drilling rig and vessel engines, helicopters, generators and other equipment will release emissions to the atmosphere which include greenhouse gases (GHG) such as carbon dioxide (CO_2), methane (CH4) and nitrous oxide (N_2O), along with non-GHG, such as sulphur oxides (SO_X) and nitrogen oxides (NO_X). These emissions are typical for marine vessels when combusting hydrocarbons for power and will be short-term, for the duration of the activities.

Are drilling fluids harmful to the marine environment?

Drilling fluids that are discharged to the environment are considered to pose little or no risk to the environment, as assessed by the Oslo and Paris Conventions (OSPAR) and Offshore Chemical Notification Scheme (OCNS).

The OSPAR commission has identified substances considered to pose little or no risk to the environment based on their toxicity, biodegradation and potential to bioaccumulate. Drilling fluids are selected based on their low potential for toxic effects or bioaccumulation, and high biodegradation within the marine environment.

Contact us

ConocoPhillips Australia values consultation and feedback and invites consultation with individuals, groups and organisations potentially affected by the proposed activities to help inform the development of the EP.

You are invited to provide feedback, request a meeting and ask questions on the proposed activity by contacting us in one of the following ways:

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