ConocoPhillips

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The Chairman
Economic & Industry Standing Committee
Parliament House
PERTH WESTERN AUSTRALIA 6000

Dear Chairman

Requested Submission to the Western Australian Economics & Industry Standing Committee's (EISC) Inquiry into the Safety Implications of Floating Liquefied Natural Gas Operations

Thank you for the opportunity to respond to the inquiry into the safety-related matters of FLNG projects in Australia waters off the coast of Western Australia.

ConocoPhillips has a long history and experience in developing and operating both LNG and offshore facilities. This experience starts from the birth of the offshore industry in the Gulf of Mexico in the late 1940s, major developments in the North Sea in the 1970s and continues with our more recent developments in Australia, Indonesia, and China, among others.

ConocoPhillips is the licensor of one of the leading LNG liquefaction processes – the ConocoPhillips Optimized Cascade® Process. ConocoPhillips also has extensive LNG experience, including the first LNG developments providing LNG to the United Kingdom in the late 1950s and Japan in the late 1960s. Based on a combination of expertise and experience, ConocoPhillips recognises that floating LNG facilities are a worthwhile endeavour where economically appropriate. For approximately 10 years now, ConocoPhillips has been evaluating the evolutionary step of moving its LNG technology into a floating environment. More recently, the Company completed a series of technology development steps to prove to its satisfaction that the ConocoPhillips Optimized Cascade® Process technology can work in a marine environment and that the functional needs of a complete oil and gas development plus LNG can be safely integrated into a FLNG concept.

Based on the Company's LNG experience in Australia and worldwide, we offer the following views in relation to the safety of LNG technology in a floating development concept as outlined in the EISC's review.

1) *The measures taken by project proponents to ensure safety of workers on FLNG facilities, particularly in relation to extreme weather events and emergency evacuation preparedness.*

ConocoPhillips' FLNG evaluations and studies over the last 10 years have demonstrated to us that the range of hazards associated with FLNG facilities are commensurate with other traditional offshore oil and gas facilities of similar capacity and complexity.

The Company's experience worldwide with a range of floating facilities, including the "Liberdade" at the Bayu-Undan field (Joint Petroleum Development Area) and "Belanak" at the South Natuna Sea (Indonesia) has provided the Company with extensive knowledge to recognize potential risks and to ensure significant risk reduction measures are incorporated in fundamental design (inherently safer design). This inherently safer design includes factors such as:

- 10,000 year survival conditions as a design basis for extreme weather events such as cyclones; provide facility strength, fatigue and mooring capability to withstand the metocean forces predicted due to category 5 cyclones.
- Applying the full rigour of a Safety Case process in collaboration with NOPSEMA, starting with early field development efforts.
- FLNG facilities with turrets have the ability to weather vane, enabling the facility to self-orientate in the most favourable natural wind driven ventilation arrangement.
- Overall layout and arrangement of the vessel to place higher hazard areas more remotely from the accommodation area.
- Implementing a comprehensive EIS process resulting in an effective Offshore Project Proposal and subsequent Environmental Management Plans.
- Developing and implementing fail safes and effective Well Operation Plans.
- Identification and management of safety critical elements and their associated performance standards which reduce the risk from, and effects of, a major accident event.

Safety of personnel extends beyond inherent safe design and includes other measures to manage risk including:

- Conservative emergency flare and blow down philosophy with robust engineering design.
- Cryogenic spill management (prevention and protection) recognising LNG processes do include cryogenic materials that present unique risk.
- Effective emergency shutdown and isolation to minimise the effects of potential releases.
- Applying risk assessment and integrity management efforts to the vessel systems with the same rigour as the process systems.
- Extensive training and education for the workforce, both operational and emergency.
- Risk based inspection and asset integrity programs.
- Emergency and crisis response and management plans, that are tested, reviewed, and practiced on an ongoing basis.
- Continuous fostering of a "Safety First" culture and safety (personal and process) as a core company value.
- Multiple evacuation methods provided on offshore facilities.

2) *The adequacy of Western Australia's emergency capacity and preparedness to respond to a safety or environmental incident involving FLNG.*

Emergency capacity and preparedness for offshore facilities is fundamentally based upon recognising the types and magnitude of events that may occur and adequate preplanning for incident management and response by the operator and in collaboration with relevant authorities.

ConocoPhillips believes that FLNG facilities do not include any type or magnitude of hazards substantially different from those already in existence in Australia when considering: offshore subsea developments, offshore oil and gas treatment facilities, floating production and storage offshore (FPSOs), floating storage offshore (FSOs) and LNG Carriers.

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ConocoPhillips is an active member of the Australian Marine Oil Spill Centre (AMOSC) and supports the continuous improvement efforts focused on emergency response and incident management. AMOSC activities are fully integrated into "*The National Plan to Combat Pollution of the Sea by Oil and other Hazardous and Noxious Substances*" (National Plan). The National Plan is managed by the Australian Maritime Safety Authority on behalf of the federal, state and Northern Territory authorities, and the oil and shipping industries. The oil industry contributes to the equipment and running costs of the National Plan through the federal levy on shipping.

AMOSC and Oil Spill Response Limited (OSRL) established a Resources and Services Alliance in 2009, which allows AMOSC to directly call additional international resources to assist in an event. Western Australia would not stand alone in responding to an FLNG emergency.

Operators like ConocoPhillips would develop emergency response and management plans as part of the Safety Case process that include resources and capabilities provided by the Company, industry, and Government. Below are examples of how the various emergency response resources and capabilities can be applied to projects in Western Australia:

- ConocoPhillips is a co-founder and sponsor of the Subsea Well Response Project (SWRP), a non-profit joint initiative between several major oil and gas companies, working together to enhance the industry's capacity to respond to subsea well-control incidents.
- Mutual aid agreements are in place with peer operators.
- Frameworks are in place to collaborate and engage with State and National authorities.
- ConocoPhillips is on the Board of OSRL and is engaged with the Global Response Network providing for worldwide oil spill response collaboration.

3) *The role and responsibilities of the state and federal governments in relation to FLNG emergency situations.*

ConocoPhillips believes that FLNG emergency situations are not substantially different to other potential emergencies Australia currently faces in the offshore oil and gas industry and maritime industry. The role and responsibilities of the state and federal governments as currently defined are relevant and appropriate. This assessment is based on the ongoing commitment by all parties that these roles and responsibilities will be continuously tested, adjusted, and improved. A good example of an emergency situation that tested the role and responsibility of Western Australia was the Montara event (a well blow out event) in 2009. The *Australian Government's Montara Commission of Inquiry* report findings from that event have been instrumental in strengthening the integrity and safety of offshore operations.

Please do not hesitate to contact us with any further enquiries. Initial enquiries should be submitted to Robin Antrobus, General Manager Government and Public Affairs at

Yours sincerely

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