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Committee Secretary
Standing Committee on Primary Industries and Resources
PO Box 6021
House of Representatives
Parliament House
CANBERRA ACT 2600
AUSTRALIA

by email: pfr.reps@aph.gov.au

Dear Secretary

DRAFT OFFSHORE PETROLEUM AMENDMENT (GREENHOUSE GAS STORAGE) BILL 2008

Thank you for providing Woodside the opportunity to comment on the draft Offshore Petroleum Amendment (Greenhouse Gas Storage) Bill 2008, which we note has since been introduced to Parliament (**Bill**).

About Woodside

Woodside is one of Australia's top ten companies by market capitalisation, and the nation's largest publicly-traded oil and gas exploration and production company.

Based in Perth, Western Australia, Woodside has major operational assets and exploration and development interests in five continents including Australia and the United States.

In 50 years we have grown from a pioneer oil and gas explorer to Australia's largest independent producer of oil and gas and one of the world's largest producers of LNG.

Woodside operates Australia's largest resources project, the North West Shelf Venture in Western Australia, which produces about 40 per cent of Australia's oil and gas.

In 2010, Woodside will complete construction of its \$12 billion Pluto LNG Project near Karratha – the largest single investment by an Australian resources company. The proposed Sunrise LNG Development is expected to be ready for start-up as early as 2013, while the Browse LNG Development in northern Western Australia will potentially establish Australia's third LNG hub by 2015.

Woodside's goal is to be a global leader in LNG production by 2015, when global demand for LNG is expected to exceed supply.

With a proved plus probable reserves to production ratio of 25 years at 2007 production rates, Woodside is poised to help meet growing global demand for clean energy.

Woodside's interest in the Bill

Woodside has a particular interest in the greenhouse gas storage mechanisms proposed by the Bill. As a petroleum operator with extensive exploration and production interests in Commonwealth waters, Woodside wishes to minimise the risk of greenhouse gas storage activities having an adverse impact on those interests.

Woodside may also wish to pursue the opportunity presented by the Bill to undertake greenhouse gas storage activities as a part of its strategy to reduce its greenhouse gas emissions profile.

Our Submission

In summary, Woodside supports:

- the introduction of legislation to support greenhouse gas storage activities;
- that regime being included in the Offshore Petroleum Act given the synergies between the title systems and the need to manage the potential for conflict between petroleum activities and greenhouse gas storage activities; and
- the adoption of the proposed legislative model by States and Territories to ensure a nationally consistent framework in both offshore and onshore areas and to minimise regulatory burden.

However, Woodside has strong reservations about the impact this Bill has on its ability to develop some of the largest resource projects in Australia. As an example, the proposed Browse LNG Development (for which Key Terms Agreements to the value of A\$70-90 billion of sales revenue have been signed) will be restricted by this Bill in its ability and flexibility to dispose of CO₂ that is produced with the reservoir gas. In Woodside's view, the objective of this Bill should be to provide cost-effective CO₂ storage solutions without impeding the development of national hydrocarbon resources. It should not constrain the ability of a project to dispose of CO₂ that arises from an integrated, multiple field development, as would be the outcome of the current draft legislation which prohibits disposal within a petroleum production licence to CO₂ derived from outside the licence area.


The Bill introduces hurdles for accessing suitable low-cost disposal sites by making these subject to a new regime of GHG titles. Particularly recognising that geosequestration of CO₂ from flue gas is unlikely to be commercially viable in the coming 10 years, the ability of large gas development to dispose of reservoir CO₂ should not be compromised. Geosequestration projects such as that considered by Woodside should be recognised as fulfilling a crucial role in developing Australia's LNG potential while at the same time achieving the objective of large-scale CO₂ disposal in Australia.

Woodside is also concerned about the limited consultation on the Bill in the absence of associated regulations and guidelines. The Bill raises significant issues in relation to the sovereignty of existing petroleum operations as against the relative uncertainty posed by the entry of a new activity and supporting industry (for greenhouse gas storage) into the same areas. Given the significance of these issues, we recommend that the Bill be considered as a legislative regime in its entirety.

Our submission in relation to the Bill is attached and is in two parts. Part A is a summary of our main points under the Committee's Terms of Reference. Part B provides a more detailed submission in relation to each of those key points and some further comment on details of the Bill.

Please call Reinoud Blok on (08) 9348 6896 if you require further details relating to our submission.

Yours sincerely



Rob Cole
Executive Vice President Corporate Centre and General Counsel

Attached:

Part A: Summary of Woodside Energy Ltd's submission to the Draft Offshore Petroleum (Greenhouse Gas Storage) Bill 2008 under House Standing Committee on Primary Industries and Resources' Terms of Reference

Part B: Woodside Energy Ltd's submission to the Draft Offshore Petroleum (Greenhouse Gas Storage) Bill 2008

Part A

Summary of Woodside Energy Ltd's submission to the Draft Offshore Petroleum (Greenhouse Gas Storage) Bill 2008 under House Standing Committee on Primary Industries and Resources' Terms of Reference

A) Establishes legal certainty for access and property rights for the injection and long-term storage of greenhouse gases (GHGs) in offshore Commonwealth waters

Woodside raises a number of issues in its detailed submission in relation to the greenhouse gas activities under petroleum titles. In particular, the Bill does not clearly deliver on its stated intention that a petroleum operator can continue to do whatever is necessary to recover petroleum from a production licence area, including the ability to:

- explore for a CO₂ storage formation under a petroleum authorisation; or
- inject CO₂ into a storage formation in a PL associated with an integrated petroleum project.

B) Provides a regulatory regime which will enable management of GHG injection and storage activities in a manner which responds to community and industry concerns.

The Bill raises sovereignty issues for existing and future petroleum operations arising from the entry of a new activity (greenhouse gas storage) and supporting industry into the same areas, the nature of which is uncertain.

Woodside is concerned about the limited consultation on the Bill – particularly given much of the support for the proposed legislation is to be provided by way of (as yet) unpublished regulations and guidelines.

Woodside does support a timely introduction of this legislation provided:

- there is a proper level of industry consultation on these issues, and in particular how certain 'tests' nominated by the Bill may be applied, before the proposed first release of acreage at the end of 2008; and
- that the legislation is sufficiently flexible to provide for the injection of CO₂ into a storage formation in a PL associated with an integrated petroleum project, even if that CO₂ may have originated from a different formation that is being developed as part of an integrated project.

C) Provides a predictable and transparent system to manage the interaction between GHG injection and storage operators with pre-existing and co-existing rights, including, but not limited to, those of petroleum and fishing operators, should these come into conflict.

Woodside is concerned that the Minister may encumber a 'post-commencement' exploration permit after it is issued by way of 'declaration'. Woodside raises a number of concerns in its detailed submission in that regard.

In particular, there is potential for unforeseen delays in obtaining secondary approvals under exploration permits as a result of a later declaration process. This has the potential to reduce certainty for investment in petroleum exploration activities.

D) Promotes certainty for investment in injection and storage activities; and

Further the reasons set out under A) above, there is a potential lack of certainty for investment in injection and storage activities under petroleum titles. Woodside suggests some alternative measures to address that uncertainty in its detailed submission attached.

E) Establishes a legislative framework that provides a model that could be adopted on a national basis.

Woodside would support the proposed Commonwealth legislative framework being adopted on a national basis. A nationally consistent framework would assist in minimising regulatory burden for Woodside, which has its operations across multiple jurisdictions.

Part B

Woodside Energy Ltd's submission to the Offshore Petroleum (Greenhouse Gas Storage) Bill 2008

1. CO₂ disposal under a Production Licence (PL)

The Bill (item 124 p54/55) states that:

It is intended that holders of petroleum production licences will continue to have the ability that they currently have (subject to obtaining normal regulatory approvals) to do whatever is necessary in the licence area for the purpose of recovering petroleum in the licence area, including:

- (a) Injecting methane and/or CO₂ in the licence area for gas recycling or enhanced petroleum recovery; and*
- (b) (subject to approval) injecting for disposal in the licence area methane or CO₂ stripped from the petroleum stream that is recovered in the licence area.*

- **Dealing with CO₂ from different fields within an 'integrated project'**

Integrated petroleum developments such as the proposed Browse LNG Development of the Brecknock/Calliance/Torosa fields in the Browse basin is currently held under various Exploration Permits (EP) and Retention Leases (RL). This project is expected to be developed as a single integrated petroleum project but the gas will be derived from various PLs.

Although the Bill allows for CO₂ disposal under a PL if the CO₂ originates from within the PL, it does not allow for CO₂ from one PL to be stored in another PL, even though there is likely to be only a single disposal location for the integrated project.

Woodside submits that this could be addressed in the Bill by either:

- a. allowing for the disposal of CO₂ that is recovered from an 'integrated petroleum project area' (and not necessarily into the PL from which it was derived). That area could be defined as that which includes the relevant project PLs and associated processing facilities. This would allow reservoir CO₂ disposal from different PLs within the project but also CO₂ from the project combustion gases to be stored within the project area; or
- b. removing the proposed restriction on the origin of the CO₂ stripped from the petroleum stream being injected into a PL.

This would also address a situation where an operator of an integrated gas production and processing project processes third party gas with a high CO₂ content. This operator should be able to dispose of this CO₂ within its own PL area without having to participate in a competitive bid for an Injection Licence over its own PL area. Allowing other parties to bid for such an Injection Licence would only lead to unnecessary costs and delays. We therefore suggest that clause 249CR (c) be removed from the Bill.

- **Mechanism for exploration for GHG disposal formation within petroleum titles – Clause @249AC**

The Bill does not make clear whether a holder of a PL can explore for a suitable GHG disposal formation within the PL (for disposal of CO₂ that was produced from within that PL) without violating clause 249AC (Prohibition of unauthorised exploration for a greenhouse gas storage formation).

It should be clear that a production licensee must be able to explore for a CO₂ disposal location in order to undertake the injection activities specified in italics above. If that is not the case, it is unclear what process must be followed by a production licensee to explore for a disposal location.

In practice, exploration or appraisal for a CO₂ disposal location must occur before the application for the PL is lodged. Only then can the disposal option be included in the Field Development Plan (assuming that is the relevant authorisation to undertake injection activities under a PL). Hence, the exploration or appraisal for a CO₂ disposal formation must occur under the title preceding the PL (either an EP or an RL).

Woodside suggests that the Bill provides for exploration or appraisal of CO₂ disposal formations under an EP/RL/PL.

- **Potential for storage formation to be outside petroleum titles**

If the identified storage formation for disposal of CO₂ under a PL is slightly outside the EP/RL/PL boundary (for example a down-dip injection scheme), Woodside suggests that the Bill should allow for the:

- a. extension the PL boundaries to include the disposal area; or
- b. petroleum licensee to apply for an injection licence over the extended disposal area on a non-competitive basis.

- **Rights conferred by production licence – Clause 137(3)**

Despite that statement regarding existing petroleum rights, the Bill does not appear to provide that certainty.

Currently, a (petroleum) production licence (PL) authorises the licensee to “(d) *carry on such operations, and execute such works, in the licence area as are necessary for those purpose*”. In practice, this has included the authority to dispose of gas via re-injection into the production licence area, and to inject gas as a means of enhanced oil recovery (EOR) or enhanced gas recovery (EGR).

The Bill could be interpreted to prohibit such activities. Even if such activities can be permitted, it is then unclear under what authority such injection activities can be undertaken.

2. Ministerial Discretion

The Bill states that decisions relating to greenhouse gas titles and key petroleum activities will be made by the responsible Commonwealth Minister.

- **Guidelines for application of discretion**

The Bill raises sovereignty issues for existing and future petroleum operations arising from the entry of a new activity (greenhouse gas storage) and supporting industry into the same areas, the nature of which is uncertain.

Woodside is concerned about the limited consultation on the Bill – particularly given much of the support for the proposed legislation is to be provided by way of (as yet) unpublished regulations and guidelines.

In particular, Woodside is concerned that even if it objects to certain greenhouse gas activities being undertaken over petroleum titles (whether or not the title was pre-existing), the Minister may still approve those activities if the Minister forms the view that the two activities can co-exist. Woodside does not support the potential for such discretion to be applied against it where there is potential for its existing or future activities to be affected. In the absence of appropriate regulations and guidelines, it cannot endorse the 'significant risk' and 'significant impact' tests applied by the Minister being determinative of whether or not a greenhouse gas activity can be undertaken in the absence of approval from the petroleum permit holder.

- **Administration by single authority**

Woodside recommends that the proposed future Offshore Petroleum and Greenhouse Storage Act be administered by a Joint Authority comprising a member representing the State and the Commonwealth. The proposed administration under the Bill is at odds with the current administration of petroleum activities under the Petroleum (Submerged Lands) Act (and to be carried over to the Offshore Petroleum Act).

3. GHG Assessment Permit boundaries – Clause 249 AD (1)(a)

The Bill assumes that a GHG Assessment Permit will have fixed boundaries analogous with Petroleum Exploration Permits. However, petroleum exploration searches for static petroleum pools whilst GHG exploration searches for formations that allow potential dynamic trapping of a GHG.

Prior to commencement of data acquisition under a GHG Assessment Permit, it is unlikely that the permit boundaries have been appropriately defined to encompass a dynamic trap.

We propose that, if the permit boundary is later found to curtail a potential dynamic trap and the acreage on the other side of the boundary is not under title, the Assessment Permittee can be awarded on a non-competitive basis an extension of the Assessment Permit to include the dynamic trap (subject to other controls proposed in the Bill).

4. CO₂ plume extends beyond Injection Licence boundary – Clause 249CD(1)(b)

The Bill assumes that the stored greenhouse gas substance remains within the licence boundaries. However, that plume could migrate across a permit boundary, even if extensive migration predictions have demonstrated this to be unlikely.

Clause 249CZA of the Bill gives the Commonwealth Minister the power to deal with such 'serious situations'. Despite those powers of intervention, other than ceasing or suspending injection (if not already so), there are few practical (and cost effective) measures that can be implemented to stop migration of the plume across a licence boundary.

In determining what reasonable steps might be taken to address the 'serious situation', Woodside suggests that the Minister should be required to consider the consequences of CO₂ migration across licence boundaries against the effort and chance of success of implementing remediation measures.

Furthermore, if the acreage beyond the boundary is not under title, Woodside submits that the Bill could allow the licence boundary to be extended to accommodate the additional migration path as an alternative to issuing directions (subject to other controls proposed in the Bill).

5. Site Closure

• Time for issue of Site Closure Certificate

The site closing period is not time-bound. A key condition for issuing a site closure certificate is that "the responsible Commonwealth Minister should be satisfied that the greenhouse gas substance injected into the identified greenhouse gas storage formation is behaving as predicted in Part A of the approved site plan" (249CZF(4)(a)).

Predictive modelling is probabilistic by nature due to the uncertainties in subsurface parameters. Therefore the modelled plume will never exactly behave "as predicted". We recommend that a site closure certificate be issued upon satisfaction of conditions relating to plume behaviour falling within a predicted range and after a fixed time from the application for a site closing certificate.

• Rights afforded by Site Closure Certificate

The Bill does not state what rights a site closing certificate provides to the licensee. If the intent is that a site closing certificate allows the licensee to surrender the licence in good standing and therefore relieves the licensee of any statutory obligations, the Bill should state this.

We recommend that the site closing certificate indemnifies the Operator against future liability to the extent that the liability does not arise from negligence or deliberate misconduct.

6. Declaration process – Clause 79B

Woodside is concerned that the Minister may encumber a 'post-commencement' EP/RL/PL after it is issued by way of 'declaration'. We raise the following concerns in that regard:

- a. In bidding for exploration permits, there will be a lack of certainty around whether they might be Declared, which could impose significant costs in terms of special casing and special abandonment;
- b. Since the rules apply to exploration permits even if there is no current GHG licence, it is not clear on what basis the Minister would make a decision about whether a particular exploration permit might be a candidate for being Declared;
- c. It is not clear when the Minister would make this evaluation, what would trigger it, and how long it would take. If, for example, an evaluation was triggered upon an application to shoot seismic or drill a well, there could be severe adverse consequences to companies if there is a significant evaluation period following this application.
- d. If a declaration evaluation has to occur on every major (or even the first major) exploration activity after an exploration permit is granted, that this could interfere with operational approvals under those permits. If an exploration permit is 'declared', a broad range of activities, including seismic and CSEM, can be subject to Ministerial approval. This may introduce approval delays on activities because of the approval process, which is highly undesirable.
- e. Should there be a mechanism, at the time of acreage release, for the government to indicate whether the Exploration block will have or is likely to become declared, in part or in whole?
- f. For the Minister to have the right to declare an exploration permit, he needs to believe that there is "a significant risk of a significant adverse impact" on greenhouse gas operations.

Woodside cannot comment on that 'significant' test in the absence of guidelines which might specify the circumstances in which that discretion will be applied.

7. Well abandonment – Clause 316-311A(2)(b)

The remediation of previously abandoned or suspended wells to a standard suitable for CO₂ service can be either technically challenging or impossible. This is particularly the case for older wells that were abandoned with cement plugs that may only partially cover exposed formations. Therefore, it may be impossible to re-enter the borehole and perform remedial work. Woodside suggests a 'reasonable endeavours test' apply to well remediation directions.

8. Ranking of multiple applications for work-bid greenhouse gas assessment permit (Clause 249AL)

If multiple applications have been received for the grant of a greenhouse gas permit, the responsible Commonwealth Minister may offer the permit to the "most deserving" applicant. The criteria on which the ranking is to be made must be publicly available.

This parallels the process of granting work-bid petroleum permits, with the criteria published in a guideline in relation to the Australian Government's PSLA (Bid Assessment Criteria). We submit that similar guidelines should be produced in relation to greenhouse gas permits and look forward to participating in consultation on such guidelines. In the interim, we offer the following suggestions for bid criteria:

- a. an existing (named) CO₂ stream;
- b. the required timing of the CO₂ sequestration (proponent of a project requiring sequestration earlier than another proponent's project);
- c. priority to be given to the applicant with the project most affected economically by the grant of (or refusal to grant) the licence;
- d. priority to be given to the applicant with the largest work programme, as per petroleum criteria;
- e. if the proposed GHG block overlies a current petroleum title, the bid evaluation should take into account the items of petroleum investment that have been carried out by the petroleum licensees, where the greenhouse gas title applicant and petroleum licensee are the same.

9. Access regime - Clause 249CE(10), (11)

Woodside believes that third party access should be governed in the Bill. The OPA for petroleum, third party access is for pipelines only and is governed by the Offshore Petroleum Act (s.192). Woodside submits that third party access for greenhouse gas activities does not include access to:

- a. identified greenhouse gas storage formation;
- b. wells, equipment or structures for use in injecting greenhouse gas substances into identified greenhouse gas formations, or
- c. equipment or structures for use in the processing, compressing or storing of greenhouse gas substances prior to injection.

10. Injection Licence condition on origin of the greenhouse gas substance – Clause 249CE(3)(f)

It is unclear why a condition of a greenhouse gas injection licence is to specify the origin of the greenhouse gas substance. This does not appear to serve any purpose and leads to a requirement for a variation if a licensee changes the source of the GHG substance.

11. Site Plan

Woodside believes the term Site Plan is confusing and does not relate to the actual purpose of this plan. We recommend changing this to "Injection and Storage Plan".
