



NEW STANDARD
ENERGY

NEW STANDARD ENERGY LTD

SUBMISSION TO THE ENVIRONMENT AND PUBLIC AFFAIRS COMMITTEE:

*"INQUIRY INTO THE IMPLICATIONS FOR WESTERN AUSTRALIA OF HYDRAULIC FRACTURING
FOR UNCONVENTIONAL GAS"*

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1. Company Background and Overview

New Standard Energy (**New Standard** or **the Company**) is an emerging oil and gas explorer, with a core focus on Western Australian onshore shale and tight gas projects.

With a gross acreage of 15.66 million acres (63,363km²) across Western Australia, New Standard is strategically positioned within the rapidly expanding tight gas industry in Australia. It operates in the onshore Canning Basin (Southern Canning Project and Laurel Project) and onshore Carnarvon Basin (Merlinleigh Project).

Over the past two years the Company has secured two global partners, ConocoPhillips and PetroChina, to fund, progress and provide technical support the company's Southern Canning Project (onshore Canning Basin).

New Standard has 100 per cent ownership of its emerging Merlinleigh Project (onshore Carnarvon Basin) which is focussed on exploration for shale and conventional gas and holds between 65 and 100 per cent of its permits in the Laurel Project (onshore Canning Basin).

The Company's early position in this rapidly emerging sector has positioned it to assess and participate in strategic exploration and corporate activity.

New Standard places a very high priority on conducting its activities in a healthy, safe and environmentally responsible manner, while respecting community interests. It aims to meet or exceed the standards expected of the industry by the community and government for conducting healthy, accident-free and environmentally responsible operations.

New Standard's Board and senior management has been expanded to reflect the growth and development of its exploration program so it possesses significant technical skills and expertise in hydrocarbon exploration, project development and corporate strategy.

New Standard has not employed hydraulic fracturing during any of its exploration activities and does not plan to do so in its 2014 exploration activities. However, in light of the tight gas and shale gas prospectivity apparent within the portfolio, the company may seek to safely use hydraulic fracturing at a future date.

New Standard is confident that any hydraulic fracturing, should it be required, will only be conducted safely in accordance with the applicable regulatory framework and after significant consultation with stakeholders.

2. Exploration Areas

Currently, New Standard holds acreage in two emerging basins onshore in Western Australia; the Canning Basin and the Carnarvon Basin.



New Standard's acreage areas in Western Australia

2.1 Canning Basin

The Canning Basin is located in the central north of Western Australia, spans a total area of approximately 530,000km² onshore and extends offshore for a total basin area of over 640,000km².

Petroleum exploration activity in the Basin began in the early 1920s with a major focus on the northern area of the Basin up until the 1980s, targeting the Devonian and Permian-Carboniferous strata. Since then, more than 250 wells have been drilled onshore, coupled with over 78,000 line kilometres of seismic data, providing a solid basis for the understanding of subsurface geology of the geological state of the Basin. The Basin is still relatively under-explored by Australian and international benchmarks and of the few wells in the Basin, the majority were concentrated on conventionally trapped hydrocarbons with no modern exploration efforts to date focused on the rapidly growing shale and tight gas areas.

The Basin is now emerging as a very exciting regional hydrocarbon province with substantial scale and strong technical prospectivity.

New Standard's exploration acreage in the Carnarvon Basin totals 5,500km². Recent exploration activity has been focussed in the southern end of the basin, which is located to the east of Port Hedland.

The Southern Canning Project

The Southern Canning Project is New Standard's flagship Australian project and spans the largest and some of the most prospective sections of the Goldwyer formation in the Canning Basin.

The Project consists of four exploration permits and three application areas as awarded, approved and regulated by the Department of Mines and Petroleum (**DMP**). New Standard has two world-class oil and gas joint venture partners in ConocoPhillips (46%) and PetroChina Company Limited (29%). New Standard (25%) is the operator of this project.

The Laurel Project

The Laurel Project is located in the northern Canning Basin in the Fitzroy Trough and comprises of between 65 and 100 per cent operated interest in EP417 and the Seven Lakes Special Prospecting Authority (**Seven Lakes SPA**). The Laurel Project provides a second substantial asset for New Standard in the Canning Basin and is emerging as an attractive regional play following the recent exploration success experienced by Buru Energy Limited and its joint venture partners in the region.

Acreage STP-EPA-0092

New Standard Energy increased its acreage position in Western Australia after being awarded a new exploration area in the northern Canning Basin by the DMP, following a successful bid submission for acreage release area L12-15. Exploration Permit Application STP-EPA-0092 covers an area of 3,305km². There are no work requirements for this area until Native Title and heritage negotiations are initiated and completed.

2.2 Carnarvon Basin

The onshore Carnarvon Basin is located approximately 1,000km north of Perth and comprises of two main depo-centres. The Merlinleigh Sub Basin in the north and the Byro and Coolcalalaya sub-Basins in the south are within New Standard's acreage holdings within the Merlinleigh sub-Basin.

The Merlinleigh Project

The Merlinleigh gas/condensate project is based around the 5,500km² (1.36 million acres) held by the Company in the onshore Carnarvon Basin. New Standard owns a 100 per cent operated interest in the project which is presently comprised of two exploration permits; EP481 and EP482. A significant milestone for the project's progression came in August 2012 with the signing and finalisation of Native Title agreements allowing for the application areas to be converted to exploration permits. The exploration permits are strategically located adjacent to the Dampier to Bunbury Natural Gas Pipeline (**DBNGP**), which supplies gas to a large number of industrial, mining and domestic customers in Western Australia.

3. Exploration History

To date, New Standard has drilled four vertical wells onshore in Western Australia. All four of these wells have been traditional, vertical wells aimed at gathering a comprehensive data suite of the local geology for where they were drilled.

Two of the wells (Lawford-1 and Lanagan-1) were drilled as part of the Laurel Project in the northern Canning Basin targeting conventional hydrocarbon traps. The other two wells (Nicolay-1 and Gibb Maitland-1) were drilled as part of the Southern Canning Project in the southern region of the Canning Basin, alongside joint venture partner ConocoPhillips and were focused on the data acquisition to better understand the regional resource potential of the tight gas and shale gas opportunities.

No hydraulic fracturing has been carried out to date. Having said this, the majority of New Standard's exploration activities are aimed at drilling exploration wells and testing and understanding shale and tight sand formations. Once initial logging and coring is complete, and if results were favourable, the source rock would need to be hydraulically fractured in order to confirm the volume of the natural gas or liquids rich hydrocarbons contained within the formation and the potential deliverability of the formation.

In the event that the Company intersects a conventional reservoir, the use of hydraulic fracturing technology would not necessarily need to be employed in order to allow for the flow of hydrocarbons.

4. Future Exploration Activities

New Standard announced in July 2013 it will resume drilling operations towards the end of 2013 after it signed a Drilling Services Agreement (**DSA**) for a two well program with the option for an additional two wells at New Standard's election. This arrangement will provide New Standard with flexibility as operator of all its joint venture and projects to allocate drilling slots as exploration programs firm over the coming six to twelve months.

Subject to final approvals, drilling will commence at the company's Merlinleigh Project in the onshore Carnarvon Basin in mid-November 2013, to be followed by up to three wells in the Canning Basin after the wet season from mid-2014.

New Standard has submitted an Environment Plan (**EP**) to the Department of Mines and Petroleum (**DMP**), which has been approved. The company continues to communicate with local landholders and traditional owners in the area.

Each well is a traditional vertical well with no hydraulic fracturing.

5. Terms of Reference

5.1 How hydraulic fracturing may impact on current and future uses of land

Onshore shale and tight gas wells require minimal surface disturbance and as such have minimal impact on the surrounding environment and community.

In fact, the horizontal drilling usually associated with hydraulic fracturing reduces surface disturbance compared to the surface footprint typically associated with the increased number of vertical wells which would be required to extract the same volume of gas.

Although New Standard has not hydraulically fractured a well, by way of reference the area of site disturbance for the well pad at the Nicolay-1 well was 1.7 hectares. Additional land clearance is required for ancillary areas such as airstrips (if required) and camp facilities.

Prior to conducting any land disturbance, environmental desktop and field survey must be undertaken to ensure that the proposed project footprint does not impact any significant fauna, flora or habitat value. The project scoping and EP are developed to ensure that the operation results in manageable impacts to the land.

It is a regulatory requirement to rehabilitate land once operations have been completed, and is the rehabilitation planning process must be approved and audited by the DMP.

5.2 The regulation of chemicals used in the hydraulic fracturing process

A range of chemicals are used during any standard drilling operation. Additionally, during the hydraulic fracturing process, minor quantities of chemicals are used to assist in various functions of the process.

To comply with *Regulation 15(9) of the PGER(E) Regulations*, details of all chemicals and other substances in, or added to, any drilling fluids, treatment fluids or introduced into a well are provided as part of a company's EP, as listed in a standalone chemical disclosure table. Relevant MSDSs associated with the down hole chemicals are also made available.

Therefore the use of chemicals during the entire drilling process, not simply those for hydraulic fracturing, is strictly and thoroughly managed both by the drilling operators and the DMP. Western



Australia's approach to chemical disclosure and management is one of the most strictly managed globally and provides a degree of transparency which, to our knowledge, is unrivalled.

The fluid used for hydraulic fracturing is predominantly made up of water and sand (approximately 99.5 per cent). The remainder is a mixture of chemical additives, which are added at very low concentrations and used to thicken the fluid to help carry the proppants, which hold open the rock fissures and allowing the gas to flow more easily into the well. The chemicals reduce friction, remove bacteria and prevent scale from building up in the well. Most of the chemical additives used are found in familiar household products including ice cream, vinegar, table salt, cosmetics and antiseptics.

5.3 The use of ground water in the hydraulic fracturing process and the potential for recycling of produced water

Groundwater is an important issue in many of the communities in which New Standard operates and is addressed in detail to reflect the nature of any concerns.

As the Company hasn't hydraulically fractured any of its wells, it is unable to comment specifically on the use of groundwater during the process. However, to drill a traditional vertical well, the use water is still an important issue for the local communities and stakeholders. On average, 20,000kL of water is used during drilling operations which includes the physical drilling of the well, water used for drilling muds, camp site use and other ancillary uses.

If a company seeks to draw water from an aquifer, for either drilling or hydraulic fracturing, it must first apply to the Department of Water for a water extraction licence.

Water management (including water use, minimisation and recycling) is covered in the relevant EP applicable to any drilling operation. For example, baseline aquifer studies are completed prior to drilling, during operations and post completion of the well. This way, operators can ensure they are protecting local surface aquifers from any possible contamination.

5.4 The reclamation (rehabilitation) of land that has been hydraulic fractured

As per the *Petroleum and Geothermal Energy Resources (Environment) Regulations 2011*, New Standard is committed to rehabilitating land used for drilling activities; such areas would include the drill pad and the campsite.

For example, New Standard must, and will, comply with the following rehabilitation requirements for its upcoming Condon-1 drill site.

Environment Plan: Condon-1 Drilling Program Merlinleigh Exploration Campaign EP 481 - Carnarvon Basin, July 2013

In accordance with Clause 638 of the Schedule of Onshore Petroleum Exploration and Production Requirements 1991, areas disturbed for the Condon-1 drilling program will be rehabilitated and restored as far as practicable to their original condition.

Rehabilitation activities for various surface infrastructures will be completed within two years of drilling or production activities, providing no plans for further drilling operations are planned by New Standard Onshore (**NSO** [a wholly owned subsidiary of New Standard Energy]).

Sites will be monitored for a minimum of two years after demobilisation/rehabilitation and until rehabilitation completion criteria have been met.

Complete rehabilitation of access tracks will not be initiated until exploration activities (including rehabilitation work and monitoring) have been finalised in the region.

Should NSO relinquish EP481 and abandon the tracks, these will be re-instated in line with stakeholder expectations and NSO's Rehabilitation procedures.

Rehabilitation procedures will be developed in line with industry standards and consultation with relevant authorities (notably the DMP and the DPAW), to ensure that acceptable completion criteria can be met at the project locations.

Completion criteria will include the following:

- Landforms are safe, stable and non-polluting; and blend with the surrounding landscape.
- No new weed species occur in the area.
- Native vegetation is regenerated on cleared or disturbed land.
- Hazardous materials and domestic wastes are removed from site and disposed of in accordance with local government requirements.
- Contaminated areas are reported and remediated in accordance with the Contaminated Sites Act 2003.
- Well sites are not a future management liability for the land manager/owner.

Where practicable, NSO will progressively rehabilitate disturbed land throughout EP481.

A Project Rehabilitation Plan will be prepared and submitted to the DMP and the DPAW for assessment and approval prior completion of the Condon-1 Drilling program.

6. APPEA Membership

As a member of APPEA, New Standard is extensively involved in the association's Western Australian activities. In addition to holding a membership with APPEA, New Standard is also an active member of the Onshore Gas Working Group, which meets to discuss issues relating to the developing onshore industry in WA, devising ways to appropriately engage with key industry and community stakeholders in order to correct misinformation and address public concerns.

One of the Onshore Gas Working Group's earliest action items was to create a code for hydraulic fracturing. New Standard helped develop and is a founding signatory to the *Western Australian Onshore Gas Code of Practice for Hydraulic Fracturing*.

The Code of Practice commits its signatories to high standards of work and environmental practice.

The code provides a best practice framework for the safe, responsible and environmentally sound production of shale gas and tight gas in Western Australia. New Standard is proud to be a signatory to The Code, and is committed to comply with all guidelines if/when hydraulic fracturing is employed during the advanced exploration and production phases of our operations into the future.

The Code of Practice sets out guidelines for:

- Community, landholder and stakeholder interaction
- Protection of aquifers
- Sourcing and use of water
- Use of chemicals in hydraulic fracturing
- Fluid flowback and produced fluids containment
- Fugitive emissions
- Continuous improvement

In addition to New Standard's submission to the Panel, the Company also fully supports the submission made by APPEA and was involved during the process.

7. Community Philosophy

New Standard is committed to openness, transparency and accountability to the communities in which we operate.

The company is committed to proactive, two-way engagement with our community stakeholders so they are equipped with the information they require about our operations and can raise any questions or concerns directly with the company.

New Standard is dedicated to delivering our projects with a core focus on safety, minimal environmental impact and community awareness. The company is focused on self-regulation and prides itself on maintaining a positive relationship with all governing bodies to ensure all activities meet high industry standards.

All of New Standard's exploration permits are covered by native title and New Standard is committed to protecting sites of significance while providing opportunities for traditional owners in return for access to their traditional lands. From the cultural awareness programs we have implemented to our ethos of fairness and respect, New Standard seeks to achieve mutually beneficial relationships with traditional owners.

One of the Company's main priorities is to fully and openly engage with all key stakeholders relating to any particular project. When (and if) the Company is required to hydraulically fracture a well at some future point in time, it will endeavour to provide all necessary information to any interested party so as to open the grounds for proactive two-way communication and engagement.