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## Wholesale Electricity Market Pre Market Rule Change Discussion Paper

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### Change requested by

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<b>Address:</b>	
<b>Date submitted:</b>	17 <sup>th</sup> October 2007; Updated on 06 <sup>th</sup> May 2007
<b>Urgency:</b>	3-high
<b>Change Proposal title:</b>	LNG to be Added to Liquid Fuel Definition
<b>Market Rule(s) affected:</b>	Chapter 11 – Glossary: “Liquid Fuel” definition All rules affected by a change to the Liquid Fuel definition which are too many to list

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### Introduction

Market Rule 2.5.1 of the Wholesale Electricity Market Rules provides that any person (including the IMO) may make a Rule Change Proposal by completing a Rule Change Proposal Form that must be submitted to the Independent Market Operator.

This Change Proposal can be posted, faxed or emailed to:

**Independent Market Operator**

Attn: Dora Guzeleva, Manager Market Administration  
PO Box 7096  
Cloisters Square, Perth, WA 6850

Fax: (08) 9254 4339

Email: [marketadmin@imowa.com.au](mailto:marketadmin@imowa.com.au)

The Independent Market Operator will assess the proposal and, within 5 Business Days of receiving this Rule Change Proposal form, will notify you whether the Rule Change Proposal will be further progressed.

In order for the proposal to be progressed, all fields below must be completed and the change proposal must explain how it will enable the Market Rules to better contribute to the achievement of the wholesale electricity market objectives. The objectives of the market are:

- (a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system;
- (b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors;
- (c) to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;
- (d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system; and
- (e) to encourage the taking of measures to manage the amount of electricity used and when it is used.

## Details of the proposed Market Rule Change

### 1. Describe the concern with the existing Market Rules that is to be addressed by the proposed Market Rule change:

Under the present Market Rules, dispatch on Liquid Fuel as defined in Chapter 11 allows Generators to offer energy at up to the Alternative Maximum STEM Price. The definition of Liquid Fuel does not include Liquified Natural Gas (LNG) making it, by definition of Non-Liquid Fuels a Non-Liquid Fuel. With LNG spot prices comparable to spot prices of other Liquid Fuels (around \$20-\$120/MWh cheaper than the range of Liquid Fuels), and materially higher than other Non-Liquid Fuels, under the current market rules LNG fuelled generation is not economic to dispatch unless a generator can bid above the Maximum STEM Price. As such it is not economically viable for Generators to use the environmentally friendlier LNG as an alternate back-up to LPG, distillate, or fuel oil, given LNG's comparable price (particularly at call) to other Liquid Fuels. Pricing comparisons are set out in more detail in **Attachment 1**.

### 2. Explain the reason for the degree of urgency:

New facilities for the October 2009 reserve capacity year are presently under construction. Decisions with regard to their back-up fuel strategy will need to be made shortly to allow sufficient construction time. As such the market position on the use of LNG needs to be understood.

### 3. Provide any proposed specific changes to particular Rules: (for clarity, please use the current wording of the Rules and place a ~~strike through~~ where words are deleted and underline words added)

#### Chapter 11 – Glossary

**Liquid Fuel:** Means distillate, fuel oil ~~or~~ liquid petroleum gas, or liquified natural gas.

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#### 4. Describe how the proposed Market Rule change would allow the Market Rules to better address the Wholesale Market Objectives:

The objectives of the market are:

- (a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system;  
 Making another liquid fuel economically viable will increase potential fuel diversification which in turn may increase reliability.
  - (b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors;  
 No change, apart from introducing diversity into upstream fuel supply.
  - (c) to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions;  
 Greenhouse gas emissions associated with LNG are 11%-28% lower than emissions associated with the range of Liquid Fuels as presently defined. The proposed rule change will remove the current discrimination against using this cleaner fuel type by making it economic to use. Further details of the environmental credentials are set out in **Attachment 2**.
  - (d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system; and  
 LNG, while being comparably priced to Liquid Fuels as presently defined, is still \$20-\$120/MWh cheaper than the price range of existing Liquid Fuels. Further, adding an additional fuel option will promote further competition in the Liquid Fuel space reducing the cost of Liquid Fuel dispatch and ultimately reducing the cost of wholesale electricity during high-peak periods. Western Australia has significant gas resources and LNG production capability. The West Kimberley Project which has recently been commissioned by EDL represents the benefits of using LNG over diesel in Western Australia. Further details re pricing are set out in **Attachment 1**.
  - (e) to encourage the taking of measures to manage the amount of electricity used and when it is used.  
 No change.
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#### 5. Provide any identifiable costs and benefits of the change:

##### Benefits

- Diversification of economic liquid fuel types.
- Potential reduction in wholesale electricity costs during high peak periods by between \$20 & \$120/MWh.
- Reduced greenhouse gas emissions by 11-28%.

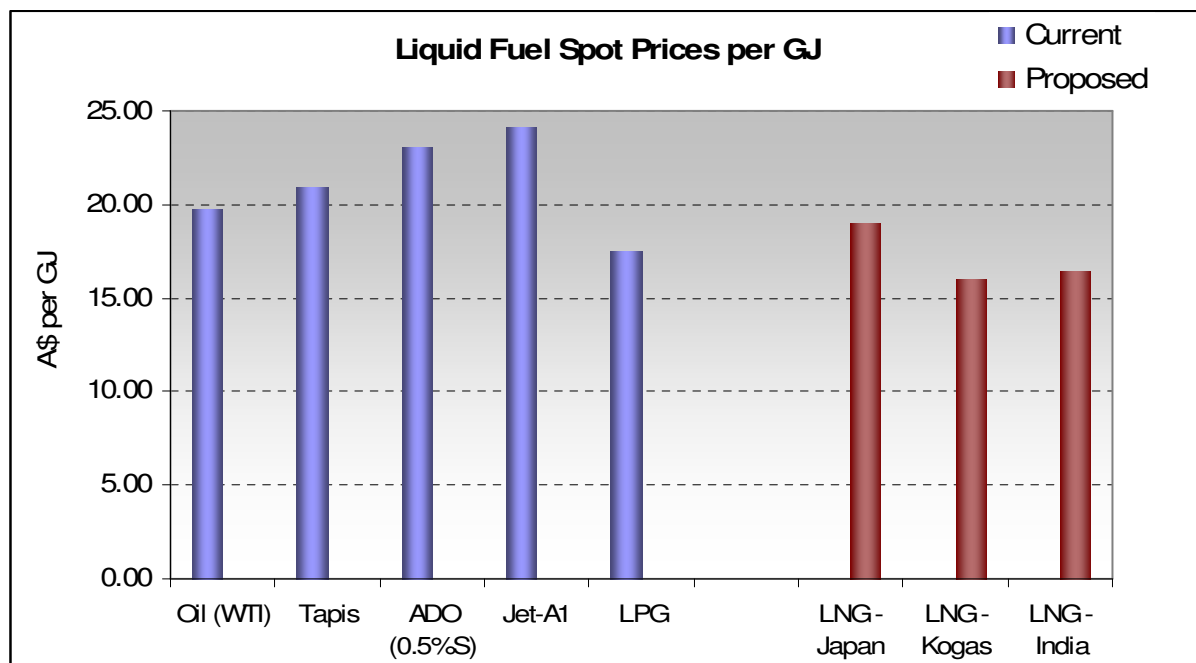
##### Costs

- No Costs

## ATTACHMENT 1 - PRICE COMPARISON OF DIFFERENT FUEL TYPES

An LNG spot market is now starting to develop in Asia providing some means of comparing LNG pricing to other fuels already classified as Liquid Fuels under the WEM Market Rules. Spot prices for Asia are set out both in the chart and the table below (with the exception of the first **Blue** bar which shows Oil WTI for reference). The middle **Blue** bar shows Gas Oil (0.5%S) which is the fuel type used to determine the Alternate Maximum STEM Price under the Market Rules.

LNG Spot Prices, shown in the **Red** bars, are comparable to the prices for the suite of existing Liquid Fuels. LNG contracts are now starting to be written with linkage to Tapis or Oil WTI (as are some Australian gas contracts interestingly). Further, domestic LNG sales are targeting markets traditionally fuelled the heavier liquid fuels; namely vehicles and other heavy equipment. Accordingly domestic LNG supply will be targeting domestic price parity with the other Liquid Fuels less a small margin to secure competitive advantage although arguably with LNG's superior greenhouse credentials in a carbon constrained economy, domestic LNG could be priced above other Liquid Fuels to account for its carbon benefit value.



Fuel Type	Spot Price
Oil (WTI)	A\$19.80/GJ
ADO (0.5%S) {Basis for Alternate Maximum STEM Price}	A\$23.00/GJ
LPG	A\$17.50/GJ
Jet-A1	A\$24.10/GJ
LNG	
Japan	A\$19.00/GJ
Kogas	A\$16.00/GJ
India	A\$16.50/GJ

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## ATTACHMENT 2 - PRICE VERSUS GREENHOUSE GAS EMISSIONS

While LNG is being priced comparatively to fuel types already included in the Liquid Fuel definition, it is nevertheless still trading more cheaply than the existing Liquid Fuels; the difference is between A\$1/GJ and A\$7/GJ or alternately between A\$20/MWh and A\$120/MWh (including heat rate benefit). Further, the greenhouse benefits are clear with only LPG coming close to LNG on a cost/emissions comparison.

For reference, the emission intensity of each of the fuel type has been calculated using the CO<sub>2</sub>-e methodology set out in the NSW Greenhouse Gas Abatement Scheme. This calculation, which is materially the same as that used under Kyoto, is shown in Attachment A.

