

The background of the lower section is a photograph of a landscape featuring several large wind turbines and high-voltage electrical transmission towers. The entire image is covered with a semi-transparent blue overlay. The wind turbines are positioned on the left side, and the power lines stretch across the right side of the frame.

Independent Market Operator

Concept Paper - 1

**Title: Reserve Capacity
Timeframes**

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1. INTRODUCTION AND BACKGROUND

A key objective for the Wholesale Electricity Market (WEM) is to ensure that electricity and related services are provided reliably and economically. This is a significant issue in Western Australia because the electricity system is isolated and supplies cannot be drawn from neighbouring systems during times of system peak demand.

The provision of capacity in Western Australia is achieved through the Reserve Capacity Mechanism. This is a set of processes through which the Independent Market Operator (IMO) determines the amount of generation and Demand Side Management capacity required to meet future demand and reliability requirements. Key to this process are the investors themselves and investor sentiment around entry into the market.

Under the current provisions, the Reserve Capacity Mechanism operates on a cycle which sees all capacity first certified and then assigned Capacity Credits, either through a bilateral trade declaration or auction process. The process of receiving Certified Reserve Capacity is the first significant step in receiving Capacity Credits. This is technical evaluation step completed to determine what capacity capability can be provided by a Facility. Capacity Credits are then assigned first through the bilateral trade declaration process and then if needed through a Reserve Capacity Auction.

Under normal conditions, the current timeframes allow for up to 28 months between when a Facility commits to provide capacity and when it needs to deliver that capacity. A Market Participant may enter the market as early as 1 August and receive the benefit of Capacity Credits and any associated income stream.

In response to various stakeholder discussions, the IMO has been made aware of an interest in:

- extending the timeframe associated with building projects (currently 28 months); and
- changing the timeframes in which a proponent can enter the market before it incurs capacity cost refunds.

2. EXTENDING THE CAPACITY CREDIT TIMEFRAME

2.1. *Issue identification*

A number of Market Participants and potential developers have put forward the view that the 28-month reserve capacity cycle does not adequately accommodate projects which are subject to long lead times. Financiers are unlikely to finance projects based solely on Conditional Certified Reserve Capacity.

Conditional Certified Reserve Capacity may be obtained in advance but does not guarantee that Capacity Credits will be subsequently assigned to the Facility.

Certainty is only available if the Facility is considered by the IMO to be under construction when bilateral trade declarations are submitted around 10 August each year.

The IMO believes there may be merit in providing additional security to project developers who can demonstrate commitment to the project beyond the current 28 month timeframe.

These issues are important for facilitating new entry to the market and therefore promoting competition. These changes will also accommodate technology options with longer lead times.

2.2. Identification of all reasonably practicable options

It is proposed that timeframes associated with applying for Certification of Reserve Capacity and Capacity Credits for new generation Facilities be extended. This change will allow long lead time projects to secure Capacity Credits earlier.

It is proposed that this new timeframe be initially limited to new entrant generation Facilities and exclude upgrades to generation Facilities and Demand Side Programmes.

Under this part of the proposal, Market Participants could apply first for Certified Reserve Capacity and then for Capacity Credits at any stage prior to the normal Reserve Capacity Cycle. As much as is possible, certification and assignment of Capacity Credits would follow the pathways that already exist in the current mechanism.

2.3. Proposed Conditions

A number of conditions should apply to the concept discussed above. These include:

- Bilateral Trades
- Under Construction
- Certification and Assignment of Capacity Credits
- Time Limitations and Charges
- Publication of Information.

Bilateral Trades

Applications for Capacity Credits will only be accepted on the basis that the Market Participant intends to bilaterally trade the Capacity Credits. This will promote the alignment between the entry of new generation capacity and expectations about load growth.

This concept will require that Facilities assigned Capacity Credits early submit a bilateral trade declaration indicating the Market Participant intends to trade the Capacity Credits bilaterally.

This means a Market Participant will not have the option of entering a Reserve Capacity Auction and will be a price taker in the market in the event it cannot secure a bilateral contract for capacity. Similar provisions already exist for all Capacity Credits in the market.

Under Construction

The Facility must be Under Construction before an application for Capacity Credits will be accepted by the IMO

Similar to the current provisions, a Facility must be Under Construction prior to being awarded Capacity Credits. It could be argued that proposed Facilities should have access to these provisions, however the complexity of designing Capacity Credit retraction mechanisms for failing to deliver does not support this approach at this stage.

Certification and Assignment of Capacity Credits

Certification and Assignment of Certified Reserve Capacity and Capacity Credits can only be assigned early up to the first year in which the Facility can enter the normal mechanism.

New Facilities will only be able to apply under these provisions while the project is being developed prior to the normal certification and Capacity Credit assignment windows. For each year thereafter, the normal windows and provisions would apply.

Time Limitations and Charges

The Market Participant must convert from Certified Reserve Capacity to Capacity Credits within appropriate timeframe (eg 30 Days) and fees will be charged for re-application

Time limitations should be placed on a proponent who applies for Certified Reserve Capacity and then fails to apply for the assignment of Capacity Credits. This will ensure that proponents progress applications only when they are confident it will be successful.

Assessing applications should be covered by the IMO's existing resource base, however Market Participants should be charged a reasonable processing fee for multiple applications of the same Facility. It is expected this should be in the order of \$5,000 to account for time and effort expended, and to discourage abuse of these provisions.

Publication of Information

To encourage the provision of information flows to the market and to improve transparency, it is proposed that details be published about projects that have applied for, and received, Certified Reserve Capacity and Capacity Credits through this part of the process.

This publication will provide a valuable investment signal to the market.

2.4. Costs and benefits

Both the qualitative and quantitative effects of this change must be explored.

This part of the proposal will facilitate the entry of new generation Facilities with long lead times as it will add certainty to the income stream around Capacity Credits. This will have a positive effect on the ability for a Market Participant to secure financing for a new generation Facility.

The monetary effect on the market is expected to be minimal as the processes and timelines being changed are already built into the Reserve Capacity Mechanism. Improved transparency, particularly around the publication of data and information, would promote efficient investment decisions by the market as a whole.

The issue of oversupply of capacity may be raised, but these provisions simply strengthen the existing provisions and provide more clarity to investors.

2.5. Preferred option

Only one option has been provided in this part of the proposal. The proposal will provide added confidence to the financiers of power station developments while having a minimal impact to the operation of the market and the Reserve Capacity Mechanism.

The IMO believes that the monetary costs to the market will be minimal as the mechanism already allows for a similar process in the form of conditional certification. Although the timeframes are being increased for new generation Facilities, they will still be required to adhere to the stringent and prudent requirements of the existing processes. It is anticipated that the current clauses surrounding Conditional Certified Reserve Capacity could be removed as a result of this proposal. This will result in a simplification of the mechanism.

At this preliminary stage, the IMO is of the view that there will be minimal impact on the IT systems currently in place and that any additional workload as a consequence of this change can be addressed by current IMO resources.

3. WINDOW OF ENTRY INTO THE MARKET

3.1. Issue identification

Currently the timeframe for new capacity to enter the market is a four-month window centralised around the 1 October (between 1 August and 30 November). This timeframe allows new Facilities to enter the market and receive Capacity Credits from 1 August. Market Participants are encouraged to enter the market as early as possible so that any delays do not affect the power system at critical times over summer. Market Participants have the ability to nominate new dates of entry into the market (between 1 August and 30 November) and revise these dates as the project nears completion. Once the Facility is fully capable of meeting its obligations and has completed commissioning, or after 30 November, the Facility will be subject to Capacity Cost Refunds for unapproved outages.

The dates for entry of new capacity may encourage risk taking, for example a developer may take an optimistic view and progress a project forward to meet the timeframe. This may especially be the case when the alternative is to delay the project to the next yearly cycle.

Developers taking risk around project completion timeframes, (for example nominating unreasonable project completion timelines) can place the whole power system at risk if the capacity is not delivered on time.

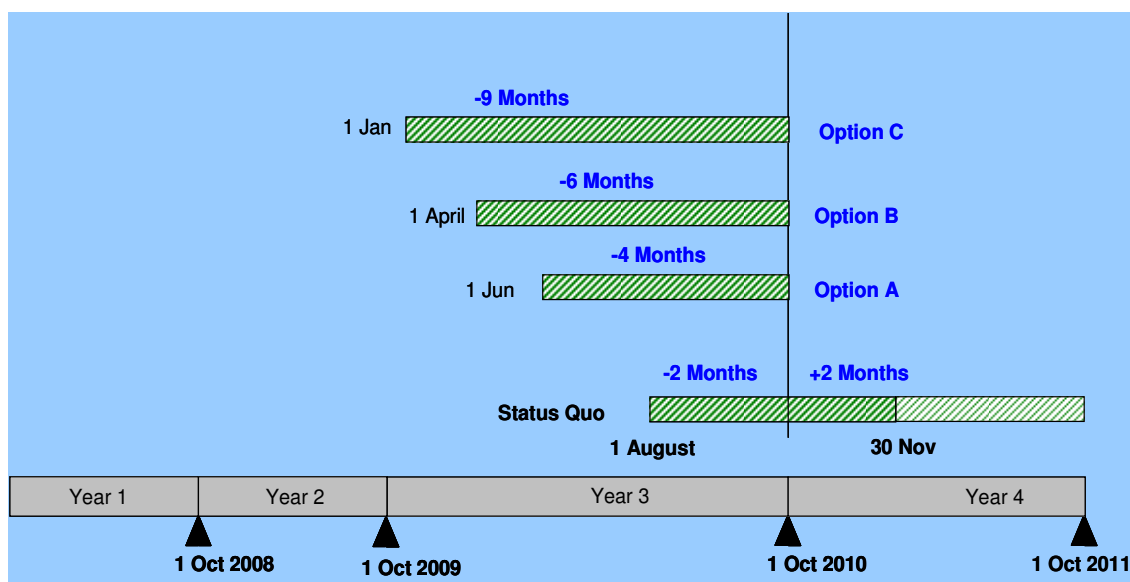
3.2. Identification of all reasonably practicable options

It is proposed that the window of entry into the market be altered so as to require all capacity to be fully available no later than 1 October each year. A number of options are considered in the subsequent analyses to quantify the potential costs to the market.

The IMO is of the view that making changes to the associated windows will have a net benefit to the market by minimising the risk associated with bringing new capacity into service so that it is available during peak demand periods throughout summer.

Three potential solutions have been identified to address the issues identified. These options are shown in Figure 1 and detailed below. Each option assumes that new capacity must be fully available at the beginning of the relevant Reserve Capacity Year, that is, by 1 October.

Figure 1 Window of Entry Options to the Reserve Capacity Mechanism



The three options shown above are:

- Option A – Four month window between 1 June and 1 October.
- Option B – Six month window between 1 April and 1 October.
- Option C – Nine month window between 1 January and 1 October.

3.3. Costs and benefits

The IMO believes that shifting the window for entry into the market will, on the whole, result in a reduction of the risk associated with these new generators not being available during the summer peak period of December through March in the relevant Reserve Capacity Year.

Each timeline adds a quantifiable cost that must be absorbed by the market. This exposure is summarised in Table 1 below showing high, mid and low cases.

Table 1: Possible Market Exposures

2011/12 Year	Opening Date for Entry Window		
	Option A 1 June	Option B 1 April	Option C 1 Jan
Low Case	\$0	\$0	\$0
Mid Case	\$4,648,140	\$6,972,210	\$10,458,315
High Case	\$9,296,280	\$13,944,420	\$20,916,630

- The low case shows no additional costs would be borne by the market if all capacity were to enter on 1 October.
- The mid case assumes that capacity enters the market evenly throughout the window.
- The high case considers the additional cost borne by Market Customers if all new capacity were to enter the market at the beginning of the window.

It is noted that there will be a consistent cost borne by the market because of the assumption that the window closes on 1 October. The additional cost that should be added to the options above would be up to \$4.6M if all capacity were to enter the market on 30 November. Alternatively, if all capacity were to enter the market on 1 August, the cost would be \$4.6M less.

Assumptions

The following assumptions underpin the above analysis:

- Costs are based on 85% of the Maximum Reserve Capacity Price for the 2011/12 Reserve Capacity Year as published in the 2008 draft report.
- 168 MW of capacity has been included, being the load growth from 2010/11 to 2011/12 as identified in the 2008 Statement of Opportunities Report. Oversupply of capacity would reduce the reserve capacity price but would increase the volume of capacity.
- The cost of funding Supplementary Reserve Capacity (SRC) has not been considered. Potentially, this would negate some of the costs shown above.
- The analysis does not consider time delay of money. This is considered to be a secondary effect.

All options have the effect of reducing the potential exposure to capacity cost refunds in the event of outages immediately following entry to service. This occurs because the refund rates are lower in October and November.

The options presented above should incentivise early entry for new capacity, which is important to minimise risk to the power system over the summer period.

All options will also increase transparency around summer readiness and there will be a potential reduction in the need to call for SRC as any project delivery delays will have a smaller impact on the system.

Option A- 1 June

This option preserves the current timeframe which allows the entry of new generators over a period of four months. It presents the lowest monetary exposure borne by the market. This still provides the incentives for new entrant generators to enter early, while not having to levy a significant financial burden on the market in comparison to the other two options.

Option B - 1 April

The 1 April option extends the timeframe beyond the current four month period to a period of six months. This extension is more flexible in its approach in allowing new generators to enter the market early. However, this option fails to incentivise new capacity entering the market early for the previous summer in the way Option C does.

Option C - 1 January

The option for capacity to enter the market as early as 1 January is developed on the basis that plant available early could be used to assist the capacity position in the hot season immediately prior to the one in which it is actually required. This would help reduce the likelihood that SRC provisions would be initiated. However it does present a significant cost that must be carried within the market each year. Furthermore, there is a chance that Market Participants aiming to enter the market at 1 January would resist from formally entering the market in the hope that the capacity could be offered into the SRC process. Controls would be required to mitigate the gaming effect.

3.4. Preferred option

The IMO proposes that the window be shifted to open on 1 June and close on 1 October. This is an appropriate alternative to the current timeframe which extends between 1 August and 30 November.

After assessing the possible exposures, the IMO believes that this option provides the lowest increase in exposure to the Market, while still decreasing the risk of new entrant generators not being available to provide capacity through the peak demand period.

4. PROCESS FROM HERE

Following discussion at the Market Advisory Committee, there may be three outcomes:

- 1 The concepts discussed in this paper are progressed through the Market Rule Change process;
- 2 Further analysis may be required based on additional information or alternative viewpoints expressed within the Market Advisory Committee;
- 3 The concepts discussed in this paper are not supported and will not be progressed further at this time.