



**Independent Market Operator**

**Concept Paper**

**Title: Reserve Capacity**

**Timeframes: Further Consideration**

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## Contents

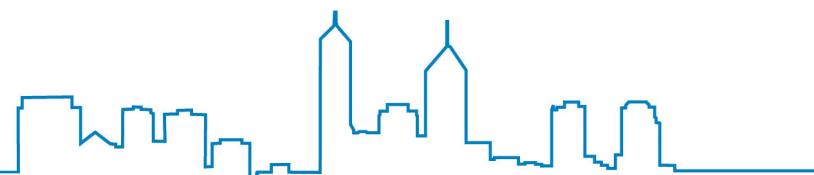
1.	INTRODUCTION AND BACKGROUND .....	3
2.	EXTENDING THE CAPACITY CREDIT TIMEFRAME .....	4
2.1.	Issue identification .....	4
2.2.	Further assessment of extending the Capacity Credit timeframe .....	4
2.3.	Conclusions .....	6
3.	WINDOW OF ENTRY INTO THE MARKET .....	6
3.1	Issue identification .....	6
3.2	Further assessment.....	7
3.2.1	Introducing a scaling mechanism for payment .....	7
3.2.2	The impact of early entry on other parts of the supply chain.....	12
3.2.3	Shortening the window of entry to 2 months .....	14
3.3	Conclusions .....	17
4.	RECOMMENDATIONS .....	18
	APPENDIX 1: Extending the Capacity Credit timeframe - Proposed Rule Changes and Flowchart..	19
	APPENDIX 2: Window of entry into the market – Sensitivity Analysis .....	22

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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 technical evaluation step is used 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.

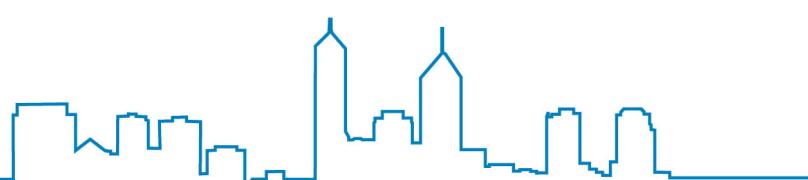
At the 10 December 2008 Market Advisory Committee (MAC) meeting, the IMO presented two concepts for consideration in response to various stakeholder discussions. These were as follows:

- Concept 1: extending the timeframe associated with building projects (current 28 months); and
- Concept 2: changing the timeframes in which a proponent can enter the market before it incurs capacity cost refunds.

MAC members were generally amenable to the IMO's recommendations. The MAC:

- Recommended that the IMO progress the proposed extension of the timeframe associated with building projects into a proposed rule change; and
- Suggested areas for further consideration with regards to changing the window of entry into the market. These were:
  - Potentially introducing a scaling mechanism for payment; and
  - Assessing the impact of early entry on other parts of the supply chain.

Additionally, following the December 2008 MAC meeting, members were also invited to provide additional comments regarding these concepts. The IMO received one submission from Alinta pertaining to both of these concepts.



In response to the comments provided in session and the submission received from Alinta, the IMO has undertaken a further assessment of the two originally proposed concepts. The results and subsequent recommendations are provided in this concept paper.

## **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.

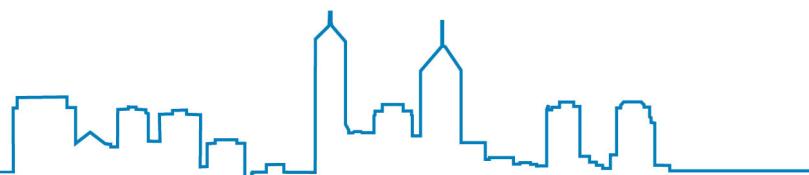
The concept of extending the capacity credit timeframe was first presented to the MAC at the December 2008 meeting. MAC members were amenable of the IMO's recommendations of extending the timeframes associates with applying for Certification of Reserve Capacity and Capacity Credits for new generation Facilities during the meeting. The IMO did however receive one submission from Alinta out of session which queried the value of removing conditional certification and replacing it with the concept of providing early certified reserve capacity and Capacity Credit assignment.

In its submission Alinta noted that currently, when the IMO determines an amount of Conditional Certified Reserve Capacity for a proposed facility, it gives certainty to the project's proponents with respect to the level of Capacity Credits that would be assigned to a facility assuming there were no changes to the project and whether the Facility was deemed by the IMO at least being 'under construction' at the time Capacity Credits are assigned.

As the original Concept Paper did not propose to alter the requirement for the facility to be 'under construction' at the time Capacity Credits are assigned by the IMO. Alinta submitted that it is not convinced that the proposed changes would provide financiers with any greater certainty than already exists under the existing arrangements.

### **2.2. Further assessment of extending the Capacity Credit timeframe**

In light of the submission received from Alinta the IMO held informal discussions with potentially affected investors around the benefits of Conditional Certified Reserve Capacity and potentially replacing it with the concept of early certified reserve capacity. These discussions indicated that it was preferred to keep the Conditional Certification provisions in



the Market Rules, also advocated by Alinta. The IMO has modified the original concept in-line with the submission received and retained Conditional Certified Reserve Capacity in the Market Rules.

While retaining the Conditional Certification provisions it is proposed to still extend the timeframes associated with applying for Certification of Reserve Capacity and Capacity Credits for new generation Facilities. It is expected that this change will allow projects with long lead times to secure Capacity Credits earlier and will provide greater certainty for investors.

Since these longer lead times are mostly relevant for new plant 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.

To distinguish this option from the normal certification process in the Rules, the IMO proposes to introduce a new concept of Early Certified Reserve Capacity in conjunction with the current Conditional Certification provisions.

The main difference will be that Early Certified Reserve Capacity and subsequently assigned Capacity Credits will be guaranteed from the applicable Capacity Year. No further application is required to the IMO. Currently, Facilities assigned Conditional Certified Capacity need to apply for CRC in Year 1.

The criteria for being assigned Early Certified Reserve Capacity will be more stringent than for Conditional Certification.

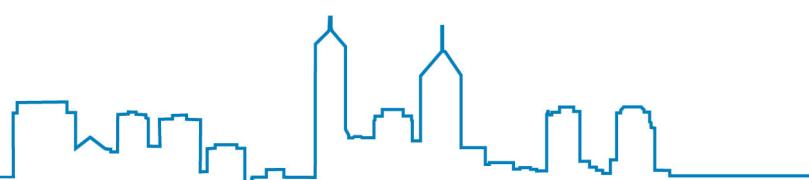
### **Costs and Benefits of extending the Capacity Credit Timeframe and maintaining Conditional Certification**

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

As proposed, with the addition of the new concept of Early Certified Reserve Capacity, there will be around 15-20 changes to the Market Rules. The main identified amendments are outlined in the table and in the flow chart presented in Appendix 1.

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. However, there may be system changes required to assign Capacity Credits ahead of the normal timeframe windows and the IMO will incur additional costs associated with running both of these processes. These costs would be quantified prior to any Rule Change Proposal being submitted.

As noted, improved transparency, particularly around the publication of data and information, would promote efficient investment decisions by the market as a whole.



Currently the application fee for Conditional Certification of Reserve Capacity is \$550.00 (inclusive of GST). The IMO is intending to review and assess the cost of processing Certified Reserve Capacity applications and as such, this application fee may be amended to reflect the cost of processing.

Additionally, as stated in the concept paper presented to the December MAC meeting, there will be a process fee charged to a Market Participant who makes multiple applications for the same facility for the same Capacity Year for Early Certified Reserve Capacity. It is proposed to that the reapplication fee will be in the vicinity of \$5,000.

### **2.3. Conclusions**

After considering the submission from Alinta, and subsequent discussions with potentially affected investors the IMO concludes that the concept of new facilities being allowed to apply for early certification be added to the Market Rules (as agreed at the December MAC meeting) while still retaining the concept of Conditional Certification (this differs from what was agreed at the December MAC meeting).

## **3. WINDOW OF ENTRY INTO THE MARKET**

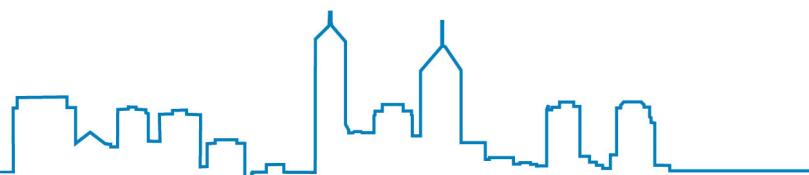
### **3.1 Issue identification**

Currently the timeframe for new capacity to enter the market is a four-month window centralised around 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.

The concept of extending the window of entry of new capacity into the market was first presented to the MAC at the December 2008 meeting. The IMO presented three scenarios for extending the window of entry along with their associated costs to the market. These included retaining the window of entry at four months but bringing the start date forward to 1 June, and extending the window of entry to six and nine months, with all capacity to be fully available no later than 1 October each year.



The IMO expects that making changes to the window of entry for new entrant generators 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 the peak demand period throughout summer. Consequently, the IMO recommended a shift of the entry window to the four months between 1 June and 1 October. This scenario preserves the current four month timeframe and will encourage new entrant generators to enter the market earlier.

At the December 2008 MAC meeting the IMO noted that it perceives that shifting the window of entry to between 1 June and 1 October presents the lowest monetary exposure to be borne by the market, whilst still providing incentives for new entrant generators to enter early. MAC members were amenable of the IMO's recommendation to alter the window of entry to require all capacity to be fully available no later than 1 October each year, but, so as to minimise the costs borne by the market, also asked the IMO to further consider the following points:

- Potentially introducing a scaling mechanism for payment; and
- Assessing the impact of early entry on other parts of the supply chain.

Following the December 2008 MAC meeting, members were invited to provide additional comments regarding the IMO's proposal to extend the window of entry. The IMO received one submission from Alinta. In their submission Alinta recommended the IMO consider shortening the window of entry to two months between 1 August and 1 October.

### **3.2 Further assessment**

In light of the MAC's recommendations for further analysis and consideration of additional details and options for shifting the window of entry, the IMO has undertaken an assessment of:

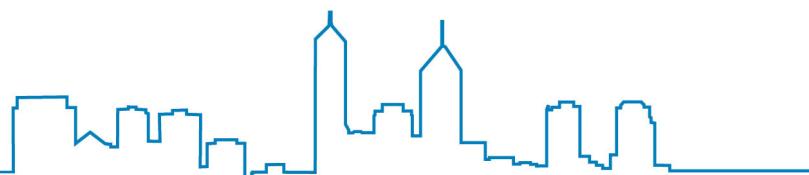
- the scenarios for introducing a scaling mechanism for payment over the period between 1 June and 1 October;
- the impact of earlier entry on other parts of the supply chain; and
- changing the timeframe of entry from four months to two months, between 1 August and 1 October.

The results of this additional analysis are provided below.

#### ***3.2.1 Introducing a scaling mechanism for payment***

The introduction of a scaling mechanism for payment to new entrant generators would potentially reduce the cost associated with participants entering the market early.

The IMO investigated three scenarios for introducing a scaling mechanism for payments to early entrant generators for the proposed shifted window of entry. These are as follows:



- Scenario 1 – Multiplier of 80% of the base case value<sup>1</sup> (80% multiplier);
- Scenario 2 – Stepped scaling option. 80% of the base case value for the first half of the entry period and then 100% for the final months of entry (stepped scale); and
- Scenario 3 – Linearly increasing value of payment (linear).

The current situation (1 August to 1 October), the base case (1 June to 1 October), and the three scaling scenarios for payments under the shifted window of entry, have been assessed to determine the average quantifiable cost the market will be exposed to, for the low, mid and high cases of exposure. The costs have been updated to reflect the most recent capacity values for the 2011/12 capacity year. The possible exposure to the market is summarised in Table 1 for the high, mid and low cases.

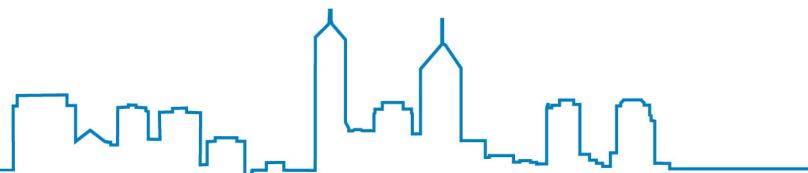
**Table 1: Possible Average Market Exposures**

2011/12 Year	Scenarios for implementing a scaling mechanism		
	Low Case	Mid Case	High Case
Current Case	-\$1,952,790	\$1,952,790	\$3,905,580
Base Case	\$0	\$3,905,580	\$7,811,160
80% multiplier	\$0	\$3,124,464	\$6,248,928
Stepped scale	\$0	\$3,515,022	\$7,030,044
Linear	\$0	\$2,643,042	\$3,905,580

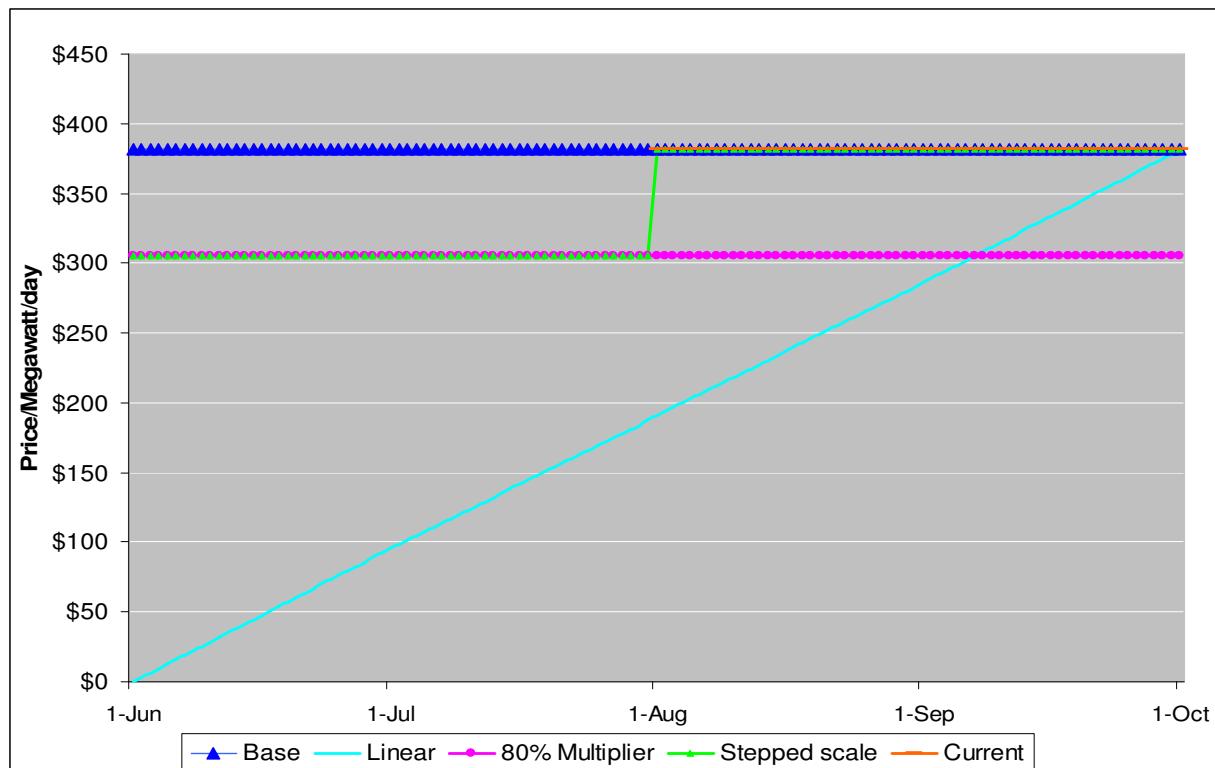
The daily cost to the market for each megawatt of new capacity that enters the market at the beginning of the window for the 2011/12 capacity year is presented in Graph 1.

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<sup>1</sup> See Appendix 2 for details of the sensitivity analysis undertaken to determine this value. A range of multipliers were analysed).



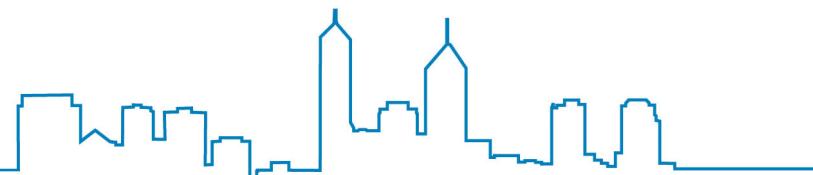
**Graph 1: Capacity Credit Cost to the Market 2011/12 (High Case)**



The cost per kilowatt hour to the market based on the energy consumption forecasts for the 2011/12 year is presented in Table 2.

**Table 2: Cost per Kilowatt hour to the Market**

2011/12 Year	Scenarios for implementing a scaling mechanism					
	Low Case		Mid Case		High Case	
	Expected	Low	Expected	Low	Expected	Low
Current Case	\$-0.0001	\$-0.0001	\$0.0001	\$0.0001	\$0.0002	\$0.0002
Base Case	\$0	\$0	\$0.0002	\$0.0002	\$0.0004	\$0.0004
80% multiplier	\$0	\$0	\$0.0001	\$0.0001	\$0.0003	\$0.0003
Stepped scale	\$0	\$0	\$0.0002	\$0.0002	\$0.0003	\$0.0003
Linear	\$0	\$0	\$0.0001	\$0.0001	\$0.0001	\$0.0001



- The expected economic growth scenario forecasts energy consumption to grow by approximately 3.9% on average per annum over the LTPASA Study Horizon to 2017/18.
- The low economic growth scenario forecasts energy consumption to increase at 3.2% per annum on average over the LTPASA Study Horizon to 2017/18.

## 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 final report.
- 168 MW of capacity has been included, being the generation growth required 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. There has been no adjustment for excess capacity made to these figures.
- 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 scenarios 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.

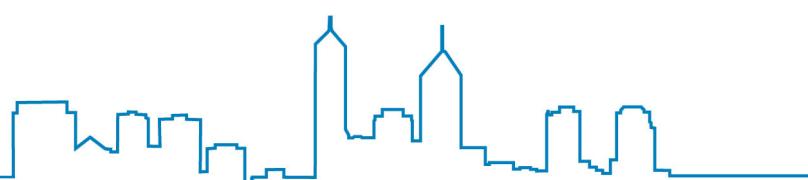
All cases presented above incentivise early entry for new capacity whilst reducing the costs borne by the market. However it is important to note that providing capacity cost refunds under the base case and the three scaling scenarios will have only a small effect on the forecast costs per kilowatt of energy during the 2011/12 year, as presented in Table 3. A further summary of the outcomes of the IMO's analysis of introducing a scaling mechanism for payment of capacity credits to new entrant generators is provided below.

### Base Case

This scenario provides new entrant generators with the full amount of capacity credit payments, as provided for under the current scheme. It provides incentives to enter the market, but will potentially cost the market up to two additional months of capacity credit payments than the current situation. For the mid case this represents a 100% increase in the cost to the market (as presented in Table 1).

### Scenario 1: 80% Multiplier

This scenario provides new entrant generators with 80% of the base case amount. It reduces the incentive to enter the market when compared to the base case, but further lowers the cost of early entry for new capacity to the market. The shifted window will have a cost to the market of 60% more than under the current scheme for the mid case (as presented in Table 1).



### **Scenario 2: Stepped Scaling**

This scenario provides new entrant generators with 80% of the base case for the first half of the entry period and then 100% for the final months of entry. Scenario 2 provides reasonable incentives to enter the market early, but at a reduced cost which is 10% lower than the base case (as presented in Table 1). There would be an 80% increase in costs when compared to the current situation, if all capacity was to enter the market evenly over the period. This scenario offers the greatest incentives for early entry but has the highest cost to the market of the three scaling options.

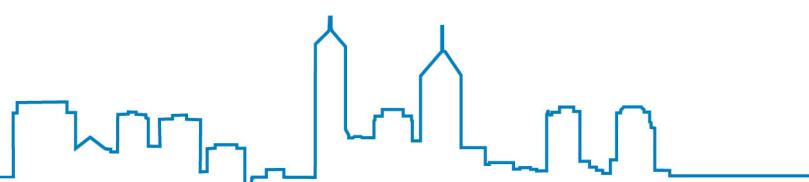
### **Scenario 3: Linear**

This scenario presents the lowest monetary exposure borne by the market by providing new entrant generators with a linearly increasing value of payment. However, whilst the cost to the market is 50% lower than the base case and represents only an increase of 35% when compared to the current situation (for the mid case presented in Table 1), this scenario would appear not to incentivise new capacity entering the market early in the way the base case and the other two scenarios do.

For the linear case, if the new entrant generators enter the market on day one (1 June) then they are exactly as well off as under the current situation. New entrant generators who enter the market on a date later than 1 June would receive a larger total amount from capacity payments under this option than the current case, where they would not be able to enter until 1 August. However, they would have to be in operation for two months longer to receive this benefit due to the nature of the linear scaling option. This is because capacity credits would be paid for a greater length of time at a lower rate than under the current system.

### **Costs and Benefits of implementing a Scaling Mechanism**

Table 3 presents the expected costs and benefits to generators, market customers, and the WEM of introducing an earlier window of entry for new entrant generators and implementing a scaling scenario for payment. The three scaling scenarios and the base case have been ranked from greatest to least affected by each of these perceived costs and benefits.



**Table 3: Costs and Benefits**

	<b>Benefits</b>	<b>Costs</b>
Generators	Earlier income stream (B,2,1,3) Reduced potential for capacity cost refunds (B=2=1=3)	Fuel storage (B=2=1=3) Greater complexity (3,2,1,B)
Market Customers	Increased Reliability (B,2,1,3)	Higher amounts of capacity credit payments (B,2,1,3) Increased complexity (3,2,1,B) Ensuring earlier connection to the network (B=2=1=3)
WEM	Earlier entry of new entrant generators to the market (B,2,1,3) Improvement in capacity available for summer period (B,2,1,3) Reduced risk premiums associated with new projects (B=2=1=3) Greater investment in new projects(B=2=1=3)	IT cost to IMO (3,2,1,B) IMO Staffing – no cost if automated
<b>Key: B = Base Case, 1 = 80% multiplier, 2 = Stepped scale, 3 = Linear</b>		

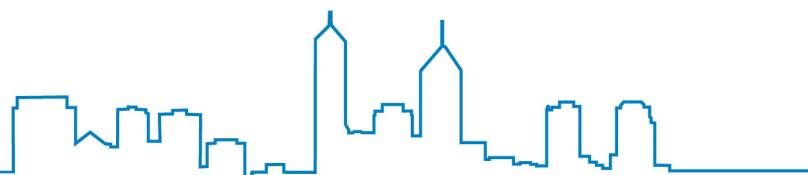
After considering the options identified for scaling the value of capacity credit payments, the IMO believes there is little net benefit in implementing a scaling system of payment as the increased complexity may outweigh any benefit. Additionally, the introduction of a scaling option may reduce the incentives for early entry and provide little overall financial benefit to the market.

### **3.2.2 The impact of early entry on other parts of the supply chain**

Efforts by new entrant generators to enter into the market earlier could be potentially hampered by network and fuel issues. This could levy additional costs on the market; exacerbate current issues associated with fuel availability and storage; and create timing problems for connecting to the network.

#### **Network Issues**

The Reserve Capacity Mechanism impacts on the connection process for new generators. This is because new generators are only entitled to be assigned capacity credits if they have a network access offer. This potentially encourages developers to apply for access in the very early stages of development. Whilst, the IMO acknowledges that the current situation can



result in Western Power having a large number of applications to assess, it notes that this problem will exist in any event. There will, however, be realignment problems associated with the earlier connection of new Facilities that will continue until the end of the planning horizon. In particular, new entrant generators who applied for Capacity Credit access based on the current dates for entry to the market may not be able to take advantage of the shifted window of entry and the associated income stream during the implementation phase. However, they may still be financially better off than under the current system because until 30 November they will be refunding the Capacity Credit Payments they have received at a lower rate than they were paid for them between 1 October and 30 November (this is discussed in more detail in section 2.2.3).

Western Power estimates that shifting the window of entry into the market by 2 months would increase connection costs by approximately \$1 million per year. Currently costs are approximately \$100 million per year given the network development under consideration at present. However, transmission connection costs are already considered in the determination of MRCP so have already been accounted for in the analysis already presented.

### Fuel Issues

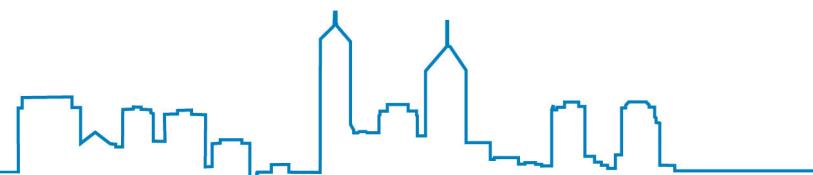
There are also apparent impacts of extending the window of entry into the market on the supply of some forms of fuel stocks for new Facilities. In particular, early entry by a generator will result in increased operating costs associated with storing diesel for the extended time. However, because new entrant generators would be receiving capacity credits during this period they should not have any problems funding these operating costs. In addition, infrastructure and operating costs associated with fuel prices are already contained within the cost estimate for a liquid fuelled peaking plan when calculating the Maximum Reserve Capacity Price (MRCP), and so consequently the IMO does not believe that new entrant generators would be any worse off than under the current situation.

Those new entrant generators, who have already negotiated gas supply contracts and are waiting for their window of entry to open, may potentially have difficulty negotiating additional supply for the extra two months. This may potentially exert upward pressure on gas prices and therefore impact on those new entrant generators' costs of production. The IMO does not however consider that this would be either a large scale or continual problem as new entrant generators who had not negotiated gas contracts already would simply be able to extend the lengths of their contracts to cover the additional two months. To the extent that the costs are covered in MRCP, they would be no worse off than under the current situation as they would be receiving capacity credit payments for these extra two months.

The IMO considers that there would be very little impact on coal-fired generators due to the excess supply of coal in Western Australia.

### Timing Issues

The discussion of network and fuel issues presented above assumes that the proposed changes associated with shifting the window of entry could be implemented immediately following an approved rule change.



The potential impact on projects currently underway, which were financed under a different reserve capacity structure and set of assumptions, needs to be explored.

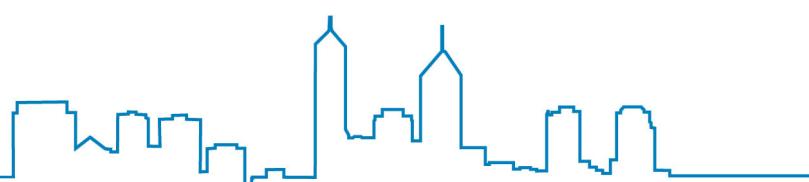
If this concept were to proceed to the next stage of development, it is unlikely that a Rule Change Proposal would be implemented in time for this capacity year. However, there is the potential that the rules could commence during the 2010 calendar year. To that end Facilities already in the Reserve Capacity Mechanism for the 10/11 year may be targeting 30 November 2010 as their commissioning date. If the Rule Change has commenced that plant would be required by 1 October 2010. Failure to do so would expose the facility to Capacity Cost Refunds. This represents a regulatory risk. There may be a similar effect for the 11/12 cycle, noting that this Concept Paper send signals to investors and developers for that cycle.

The IMO would like the MAC to discuss these timing issues and provide guidance.

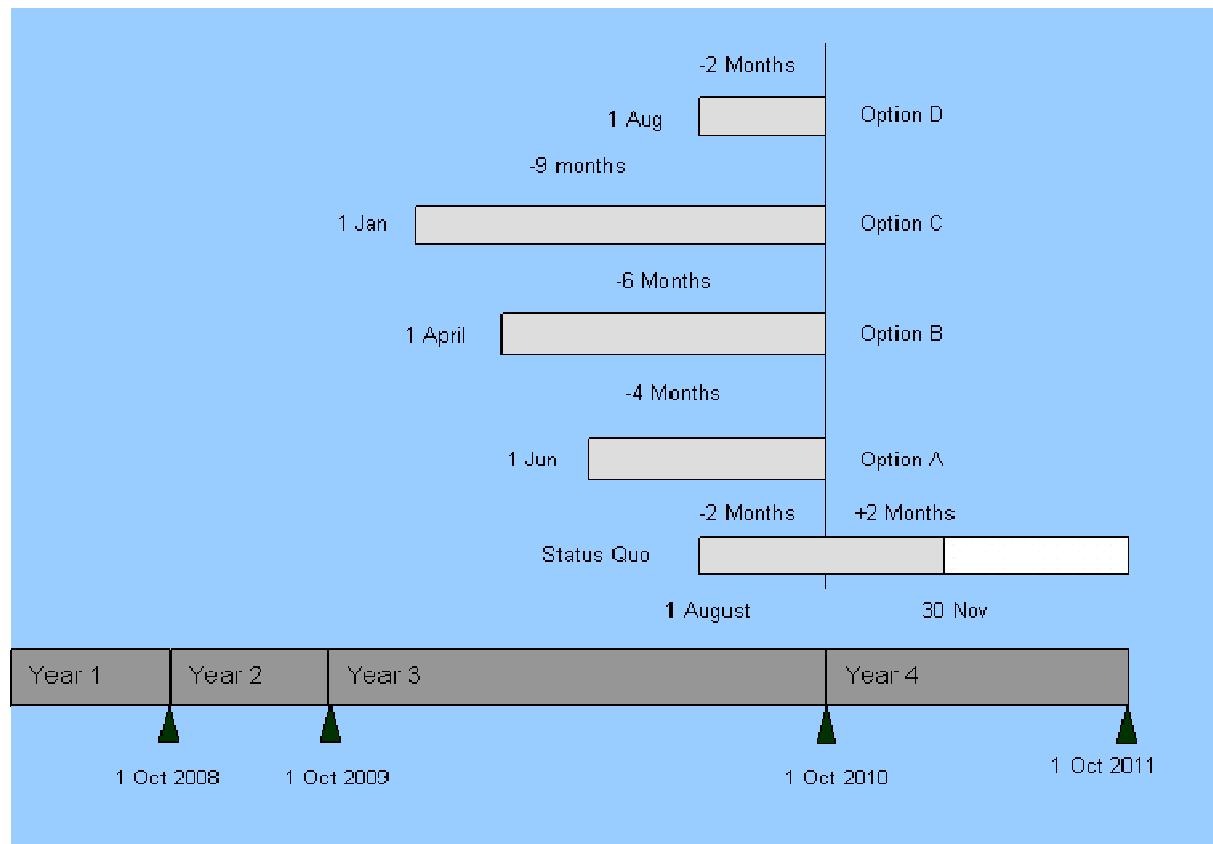
### ***3.2.3 Shortening the window of entry to 2 months***

In their submission, Alinta expressed concern that all three options originally presented by the IMO to extend the window of entry were designed to provide increasingly greater flexibility and financial incentives for new Facilities, at a material cost to Market Participants. Furthermore Alinta purported that only under Option C would there be a possibility that the capacity from a new Facility might be available during the peak summer months of February and March, where it might prove to have value. In response to their concerns, Alinta suggested analysing an alternative option of shortening the current reserve capacity entry window to two months, from 1 August to 30 September (hereafter referred to as Option D). Alinta believes that Option D would reduce the potential exposure for Market Participants with new Facilities to the cost of capacity refunds should there be unplanned outages immediately following commissioning as the refund multipliers are lower in October and November.

In response to Alinta's suggestion, the IMO has undertaken further analysis of the associated costs to the market and impact on the incentives for early entry for new entrant generators. The three original options along with the new suggested option are shown in Figure 1 for comparative purposes and detailed below. Each option assumes that new capacity must be fully available by the 1 October.



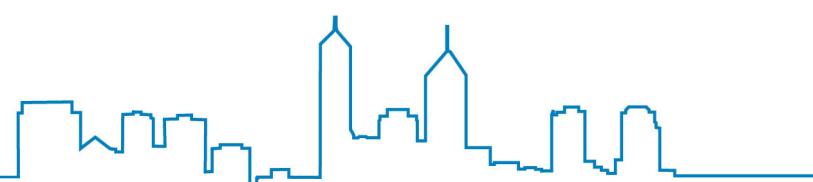
**Figure 1 Window of Entry Options to the Reserve Capacity Mechanism**



The 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; and
- Option D – Two month window between 1 August and 1 October (new option).

The exposure to the market is summarised in Table 4 below showing high, mid and low cases. The current situation is also presented for comparative purposes.



**Table 4: Possible Market Exposures**

2011/12 Year	Opening Date for Entry Window				
	Current Situation	Option A 1 June	Option B 1 April	Option C 1 Jan	Option D 1 Aug
Low Case	-\$1,952,790	\$0	\$0	\$0	\$0
Mid Case	\$1,952,790	\$3,905,580	\$5,858,370	\$8,787,555	\$1,952,790
High Case	\$3,905,580	\$7,811,160	\$11,716,740	\$17,575,110	\$3,905,580

- The low case shows the additional costs that would be borne by the market if all capacity was 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 was to enter the market at the beginning of the window.

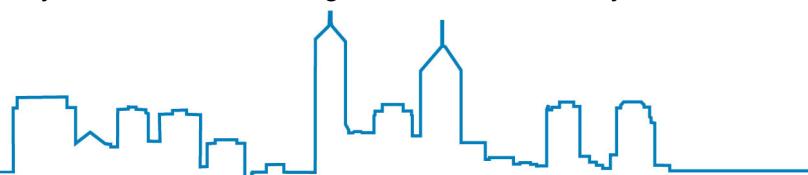
Note that the same assumptions apply as presented in section 2.2.1 of this paper.

All options presented increase transparency around summer readiness by ensuring capacity is available by 1 October. Each of the original options (presented in the December 2008 concept paper) adds a quantifiable cost that must be absorbed by the market.

Option D, as proposed by Alinta, would not appear to add an additional cost to the market before 1 October when compared to the current situation. It is however less flexible when compared to the other options and fails to incentivise earlier entry to the market any more than under the current situation. Shortening the window of entry also introduces a potential commissioning risk which could increase the barriers to entry for new entrant generators.

Under the present situation Facilities are not subject to capacity cost refunds until 30 November, unless they decide to enter the Reserve capacity Mechanism early. However, all of the options for amending the window of entry presented above will result in Facilities being exposed to capacity cost refunds from 1 October. As the refund rate applicable to Market Participant who does not comply with its Reserve Capacity obligations during the interval between 1 October and 30 November is less than 1, there is a reduced incentive through this mechanism to ensure that Facilities are available on time. This is because they will be making capacity cost refunds at a lower rate than they were originally paid.

While all of the proposed options provide some incentives for late entry created by the lower refund rate between 1 October and 30 November, the options of extending or shifting the window of entry that were originally presented by the IMO will outweigh these incentives by



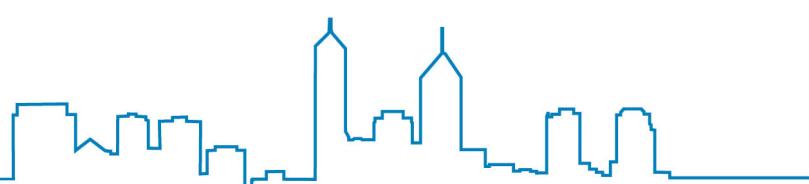
offering payment over a longer time period. The smaller monetary incentive to new entrant generators associated with early entry under Option D could be potentially outweighed by the incentives associated with making capacity cost refunds at a lower rate than they were originally paid. This may incentivise later entry which would be detrimental to ensuring summer readiness.

### 3.3 Conclusions

After considering the options identified for scaling the value of capacity credit payments, the IMO believes there may not be sufficient benefit considering the added complexity such a mechanism brings. Additionally, the introduction of a scaling option would reduce the incentives for early entry and provide little overall financial benefit to the market. This is inconsistent with overall objectives of extending the window of entry which is to encourage earlier entry to the market so as to ensure summer readiness. Given the trade off between the higher costs of exposure and incentivising earlier entry of new entrant generators, maintaining the status quo provides the best outcome for the market.

The IMO does not believe there will be any significant costs to the market associated with fuel supply or network connection issues outside of the implementation period which are not already accounted for in the calculation of MRCP. The IMO considers that any extra costs associated with network connection or fuel storage will only occur during the implementation phase of the proposed changes to the window of entry. Consequently, the IMO does not propose to mitigate fuel or network connection costs associated with shifting the window of entry to between 1 June and 1 October.

At this stage the IMO does not support the amendment of the window of entry to 2 months due to the reduction in flexibility this would create and the failure to incentivise earlier entry associated with the lower refund rates for capacity credits between 1 October and 30 November. The IMO maintains its original recommendation of shifting the window of entry to four months between 1 June and 1 October, as presented at the 10 December MAC meeting.



## 4. RECOMMENDATIONS

### Concept 1: Extending the Capacity Credit timeframe

The IMO recommends that the MAC:

1. **Discuss** the IMO's proposal to extend the Capacity Credit timeframe while still retaining the concept of Conditional Certification; and
2. **Note** that, if agreed, the IMO will develop this into a rule change proposal for either the March or April MAC meeting.

### Concept 2: Window of entry into the market

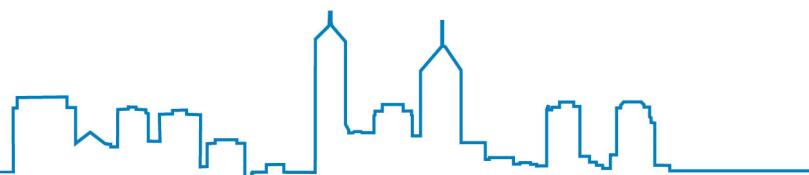
The IMO recommends that the MAC:

3. **Note** the IMO's analysis around introducing a scaling option;
4. **Discuss** the IMO's proposal to maintain the status quo for capacity credit payments during the shifted window of entry to the market as presented in the base case scenario;
5. **Discuss** the IMO's proposal to maintain its original recommendation of shifting the window of entry to four months between 1 June and 1 October, as presented at the 10 December MAC meeting;
6. **Discuss** further the timing issues for implementation of any necessary Market Rule changes; and
7. **Note** that, if agreed, the IMO will develop this into a rule change proposal for either the April or May MAC meeting.

## APPENDIX 1: Extending the Capacity Credit timeframe - Proposed Rule Changes and Flowchart

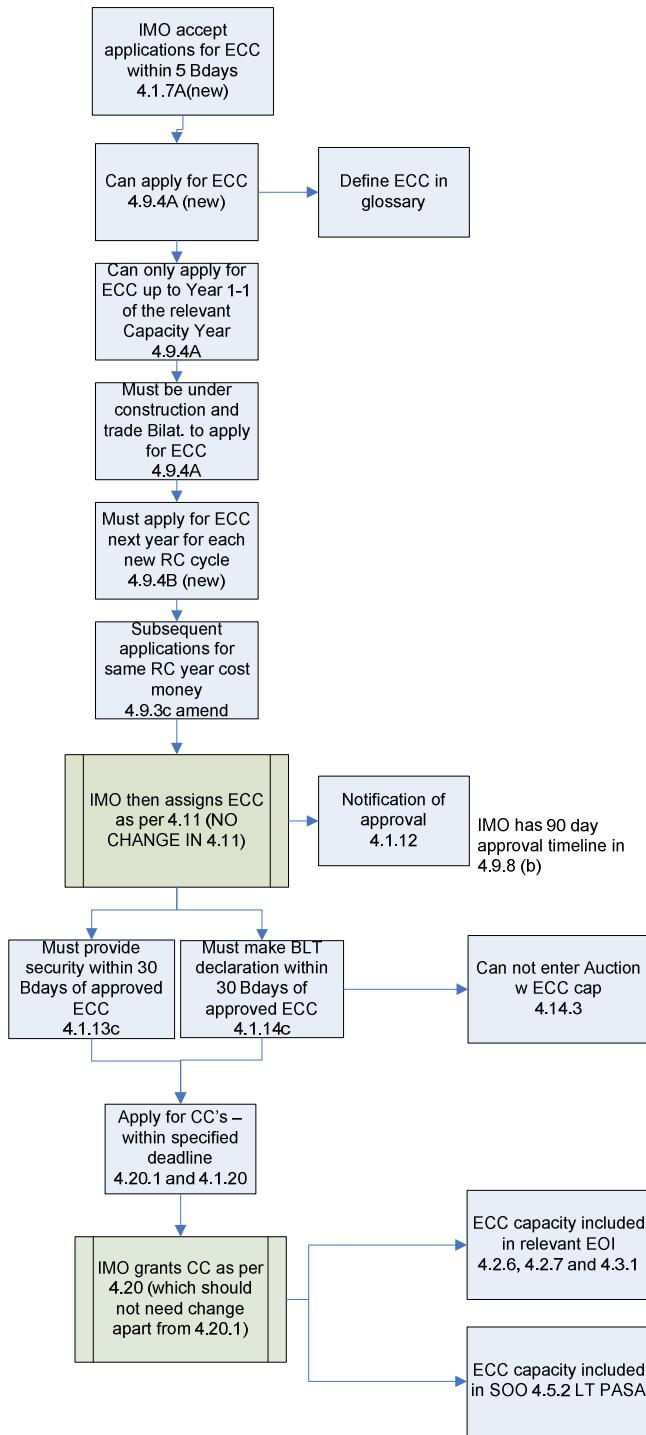
Note: the abbreviation ECC is used in respect of CRC assigned early.

Proposed Rules	Current Rules	Proposed rule changes
New plant can apply from any year prior to Year 1 of the Capacity Cycle. Upgrades to existing plant and DSM can still only apply from Year 1, using the normal application timeframes.	Plant can only apply for certification Year 1 of the Capacity Year (where Year 3 is the commencement year).	<ul style="list-style-type: none"> <li>• Add new 4.1.7A for IMO's acknowledgement of lodgement of ECC</li> <li>• 4.9.4A Introduce a new concept "Early Certified Reserve Capacity"-<b>ECC</b></li> <li>• 4.1.12 Notification upon approval of an ECC application, outside of the timeframes in the rule</li> <li>• Glossary: "<b>Early Certified Reserve Capacity:</b> Reserve Capacity assigned to a new facility by the IMO before Year 1 of the relevant Capacity Cycle....."</li> </ul>
ECC applications should be limited up to 1/1 Year 1 of the Capacity Year for which it will enter. From 1/1 Year 1 they have to enter the normal certification cycle	N/A	<ul style="list-style-type: none"> <li>• Part of 4.9.4A-X new clauses</li> </ul>
A Facility must be under construction in order to apply for ECC	N/A	<ul style="list-style-type: none"> <li>• Must oblige to all provisions in 4.10.1</li> <li>• New 4.9.4A-X</li> </ul>
Must declare intention to trade bilaterally to be assigned Capacity Credits (CC) early	Can choose to declare or not. This affects where you end up in the allocation order for CC assignment in year 1	<ul style="list-style-type: none"> <li>• New 4.9.4A-X specifying this.</li> </ul>
A Market Participant will not have the option of entering a Reserve Capacity Auction if it gets ECC/CC's assigned early.	N/A	<ul style="list-style-type: none"> <li>• Include ECC as exemption in clause 4.14.3</li> </ul>
A Facility must apply each year for early certification for subsequent RC cycles and can only apply for one year at a time per year.	N/A	<ul style="list-style-type: none"> <li>• New clause (4.9.4A-X) explaining ECC is only valid for one cycle. Must apply next year for subsequent cycle and the year after for next one.</li> </ul>
Subsequent ECC applications for the same RC year will cost money	N/A	<ul style="list-style-type: none"> <li>• New clauses around 4.9.4A and 4.9.3 (c)</li> </ul>
Must provide RC Security within 30 B-Days from approval of ECC and before applying for CC's.	N/A	<ul style="list-style-type: none"> <li>• Amend 4.1.13 c) ECC must provide security within 30 bdys after being informed of</li> </ul>



<b>Proposed Rules</b>	<b>Current Rules</b>	<b>Proposed rule changes</b>
Must make a BLT declaration within 30 B-Days from approval of ECC, and before applying for CC's.	N/A	<p>ECC by IMO under 4.9.8</p> <ul style="list-style-type: none"> <li>• New 4.1.14c. ECC must make a BLT declaration within 30 bdys after being informed of CRC by IMO under 4.9.8</li> <li>• Also amend 4.1.15 of the IMO's acceptance of the declaration in case of ECC</li> </ul>
Must apply for Capacity Credits within 10 days after approved Security and Bilateral Trade declaration.	N/A	<ul style="list-style-type: none"> <li>• New 4.1.20A</li> </ul>

A graphical flow of potential changes to the Market Rules to accommodate the proposed concept of early capacity credits.



## APPENDIX 2: Window of entry into the market – Sensitivity Analysis

Tables A1 and A2 present the results of the sensitivity analysis of the effects of the multiplier on the cost to the market in Scenario 1. Due to the trade off between the costs the market would be exposed to and incentivising entry to the market the IMO decided that a multiplier of 0.8 represented a reasonable compromise. A payment of 80% of the status quo value of capacity credits would still provide sufficient incentives to new entrant generators to enter the market earlier but would do so at a 20% reduction in the cost to the market.

**Table A1: Analysis of Multiplier on Scenario 1 (High Case)**

	<b>0.85</b>	<b>0.8</b>	<b>0.75</b>	<b>0.7</b>	<b>0.65</b>	<b>0.6</b>
9/10	\$ 13,121,731	\$ 12,349,865	\$ 11,577,998	\$ 10,806,132	\$ 10,034,265	\$ 9,262,399
10/11	\$ 4,577,057	\$ 4,307,819	\$ 4,038,580	\$ 3,769,341	\$ 3,500,103	\$ 3,230,864
11/12	\$ 6,639,486	\$ 6,248,928	\$ 5,858,370	\$ 5,467,812	\$ 5,077,254	\$ 4,686,696
12/13	\$ 6,763,976	\$ 6,366,095	\$ 5,968,214	\$ 5,570,333	\$ 5,172,453	\$ 4,774,572

**Table A2: Analysis of Multiplier on Scenario 1(Mid Case)**

	<b>0.85</b>	<b>0.8</b>	<b>0.75</b>	<b>0.7</b>	<b>0.65</b>	<b>0.6</b>
9/10	\$ 6,560,866	\$ 6,174,932	\$ 5,788,999	\$ 5,403,066	\$ 5,017,133	\$ 4,631,199
10/11	\$ 2,288,529	\$ 2,153,909	\$ 2,019,290	\$ 1,884,671	\$ 1,750,051	\$ 1,615,432
11/12	\$ 3,319,743	\$ 3,124,464	\$ 2,929,185	\$ 2,733,906	\$ 2,538,627	\$ 2,343,348
12/13	\$ 3,381,988	\$ 3,183,048	\$ 2,984,107	\$ 2,785,167	\$ 2,586,226	\$ 2,387,286