Wholesale Electricity Market

Concept Paper Proposal Form

Concept Proposal No: *[to be filled in by the IMO]*
Received date: *[to be filled in by the IMO]*

Concept requested by

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Date submitted:	*30 July 2012*
Urgency:	*2-medium*
Concept proposal title:	Improving the cost benefit trade-off of early capacity payments
Market Rule(s) affected:	4.1.26 & 9.7.1

Introduction

The purpose of a Concept Paper is to foster analysis and discussion of complex issue(s) that can affect the Wholesale Electricity Market (Market), the Market Rules and 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;

(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.

This Concept Paper Proposal can be posted, faxed or emailed to:

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General Information about Concept Paper Proposals

This concept paper explores options for creating a better cost benefit trade-off to the market related to early capacity payment. Early capacity payments being the payment the IMO make to new capacity which becomes available within the four months window before the start of the relevant capacity year.

The early capacity payment is a mechanism which allows new generators to arrive before 1 October, being the start of the capacity year, and get a payment from the IMO as if it were credited for the previous capacity year. The reason for the early payment has modified over time but the current version which allows this early payment to commence from 1 June was an attempt to encourage generators to arrive early, well before 1 October, and so minimise the possibility of them still trying to resolve technical problems resulting in them being unavailable for their first summer peak period.

Details of the proposed Concept Paper

1. Identify the issue(s) with the existing Market and/or its Market Rules that are to be addressed by the proposed concept paper (including any examples):

The general question behind this concept paper is whether the market is getting value for money in making the early capacity payment or whether the cost benefit trade-off could be improved through product restructuring. Recently the market has paid a number of millions of dollars for early capacity and this is happened during a time when there is a significant surplus of capacity. One could argue that when the market is least likely to be at risk of suffering a capacity shortage, such as in times of surplus capacity, it should consider reducing or not making such a payment. On this basis it is worth the MAC reviewing the simplicity of the current mechanism to determine whether it can be designed better to account for changing capacity situations.

Background

For background a brief history of the early payment, its evolution and associated incentives are included.

The market rules have always allowed an early capacity payment, or better understood as an extended commissioning period, for new generation capacity. The initial design emerged from an understanding that not all new generation capacity could complete their commissioning and so be available for commercial operation on 1 October. Such a completion deadline would create difficulties not only for the generators but also for System Management having to catering to multiple commissioning demands all converging on a single day. The initial design also recognised that some generators, but not all, suffer commissioning and post commissioning difficulties which extends their time to commercial operation beyond that originally intended. The initial design therefore suggested a four month arrival window for new capacity from 1 August to 30 November to explore whether this relieved commissioning congestion and allowed sufficient commissioning time.

To ensure that this four month window did not simply move the congestion date, this time to 30 November, the reserve capacity refund factors were increased markedly from 1 December such that a late arriving generator would suffer a significant cost penalty. This window also allowed new capacity the option to be unavailable for October and November without suffering capacity refunds for those months.

Although new capacity could timetable its arrival anytime before 1 October this was not considered likely to occur on the assumption that all capacity would commence on 1 October to align with the start of the new capacity year. At the time it was considered that the capacity mechanism would be such a strong influencer on investment timeframes that it would also determine the arrival of capacity. So it was thought that a new generator would avoid arriving much before the 1 October because it would be sitting idle gaining no revenue stream. To counter this perceived negative a further incentive to encourage new generators to arrive between 1 August and 1 October was by making a capacity payment if available in August or September.

The market's view of early capacity payments incentive was shaken in late 2008 and early 2009 as a result of the late arrival of a base load generator missing its 30 November 2008 start and the IMO calling a supplementary reserve capacity auction to cover the expected shortfall. The IMO drafted two concept papers CP_2008_01 for the December 2008 MAC meeting and CP_2009_01 for the February 2009 MAC meeting suggesting two major changes to the market rules. The first area of change was to encourage new capacity to commence their investment cycle earlier by providing greater certainty around the volume of capacity credits which would be allocated to them. This proposal was a new incentive to encourage early arrival of capacity. The second was to modify the timing of the capacity window and the resulting payment and refund structure. This change was a modification to the existing incentive arrangements.

CP_2008_01 published for the December 2008 MAC introduced the concept of early certification of capacity which is now embodied in market rule 4.28C. The concept paper also proposed changing the current four month arrival window by offering three alternatives:

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

The IMO recommended the adoption of Option A given it retains the current 4 month window and provides the lowest additional cost exposure to the market of all the proposed options.

For the February 2009 MAC meetings the IMO presented a second concept paper CP_2009_01 which expanded the concept of early certification whilst suggesting a new option for the capacity window being, Option D, limiting the window to two months between 1 August and 1 October. The concept paper also introduced reduced payment scaling factors, as given in the following three scenarios, as a method to reduce the cost of to the market of at least four months of early capacity payments:

Scenario 1 – Pay 80% of the reserve capacity price (RCP)
Scenario 2 – Stepped scale, being a linear increase in paying each month starting at 80% of the RCP for the first month of the window and 100% for the last month of the window.
Scenario 3 – Linear increase each month

The April 2009 MAC meeting agreed to let the IMO draft the early certified reserve capacity RC_2009_10 now embodies in market rule 4.28C which became effective in February 2010. This rule change allowed for a capacity investor to know the volume of capacity credits they would receive for a future reserve capacity cycle. Before RC_2009_10 was approved certainty could only be given for the current reserve capacity cycle.

The February 2009 MAC agreed to allow the IMO to draft rule changes as proposed in Option A of CP-2008_01 which would change the capacity window between 1 August and 30 November to 1 June and 1 October. The scenarios presented in CP_2009_01 were not included in this rule change. RC_2009_11 was formulated proposing Option A and later became effective for the 2010 capacity cycle and operational on 1 June 2012.

In 2010 Alinta proposed a pre rule change questioning the worth of allowing early capacity payments to non-generator capacity types after discovering that curtailable loads were receiving the early capacity payment. To assist the MAC the IMO commissioned Marchment Hill to write a paper discussing early capacity payments.

In this paper Marchment Hill noted that the risk associated with a late arrival of a generator was the generator's (the constructor's) risk, being the party best able to manage the risk, and not one which a market would normally socialise to its members through an early capacity payment. The paper noted that conceptually the late arrival of generation could create more cost than provided via capacity refunds leaving the market short, but that the value to the market of early capacity is not fixed or not obviously related to the capacity price and that the marginal value of early capacity to the market diminishes the more capacity is commissioned. They also noted that the benefits of early capacity payments were conceptual lacking supporting analysis meaning a true optimum cost benefit trade-off had not been determined[1].

For the June 2012 MAC Synergy re-raised the Alinta rule change proposal questioning the scope of capacity types that an early payment should apply to. At this meeting a number of other views were expressed indicating further potential improvements to early capacity payments. These included:

[1] Marchment Hill also made a comment regarding discrimination which has more recently been refuted by external legal advice.

- A reversion to the capacity window arrangements pre-RC_2009_11 meaning the window between 1 August and 30 November.
- The removal of the early payment from all forms of capacity

After discussing this topic with a number of MAC members it was evident that there was interesting in pursuing discussions on early capacity payments in more detail.

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2. Outline the overall objective of the Concept Paper Proposal:

This concept paper proposes options which may provide for a better cost benefit trade-off for the early capacity payments.

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3. Identify any reasonably practicable options for achieving the objective:

Rule change RC_2012_10 was proposed as a way to provide a better cost benefit trade-off recognising that non-generator forms do not need an early arrival payment incentive to be available by 1 October. RC_2012_10 achieves this by only allowing only scheduled and non-scheduled generators to be eligible for early capacity payments as was the intention of rule change RC_2009_11. RC_2012_10 should not be seen as a complete fix because it is possible for the market to make further improvements to the early capacity payment rules. The following options are presented to the MAC for consideration as ways to further improve that cost benefit trade-off.

Option A – partial payment

Concept paper CP2009_01 suggested that capacity arriving between 1 June and 1 October could receive an early payment for capacity, but this would be set at a lower value than the reserve capacity price. A value of 80% of the prevailing reserve capacity price was suggested this representing Scenario 1. The reason this scenario was not further considered by the MAC was the suggestion that the increased complexity of implementing it may outweigh any benefits. This suggestion was not tested at the time and even a simple calculation would suggest it benefits were understates back in 2009.

A simple calculation: The arrival of a new 300 MW facility on 1 June would create an early payment cost of $15 million to the market, assuming a monthly reserve capacity of $12,500 per MW. Paid at 80% rather than the full reserve capacity price delivers a saving of $3 million. It is unlikely that $3 million would not be absorbed in implementing and operating an approach similar to Scenario 1.

CP_2009_01 also suggested that Scenario 1 reduced the incentive for capacity to arrive early by virtue of the reduced payment suggesting it reduced the benefit. This second point is also unlikely to be the case, given generators do not plan to arrive early as they do not plan to arrive late, but if construction and commissioning proceed well they are happy to accept an early capacity payment. Therefore the early payment appears to be more of a reward to

generators which because of circumstances can arrive early rather than something which causes the deliberate timetabling an early start. Therefore a reduction to 80% of the reserve capacity price is unlikely to change a generator's arrival behaviour.

Considerations with this option are:

- How capacity refunds would apply with a reduce capacity payment.
- Under this option from 1 June 2014 new capacity at 80% of the reserve capacity price could receive $11,900 per month per MW. From October 2014 given the reduced RCP they would receive only $10,000 per month per MW. Even at 80% of the RCP the early payment would be higher than the following year's RCP.
- Consider whether the early payment should never be more than the RCP for the following capacity year rather than using a simply fixed percentage.

Option B – revert to original capacity entry window

At the June 2012 MAC meeting Alinta commented that its preference was to revert to the pre_RC_2009_11 capacity window of 1 August to 30 November. The benefit of this original market approach is that it is 50% less expensive than the current approach whilst retaining a four month arrival window.

If RC_2009_11 were to be reversed then new capacity if arriving early could get two months of early payment or be allowed to arrive as late as 30 November without suffering a capacity refund. This approach maintains the incentive of an early payment, although for only two months, but reduces the cost to the generator if not available for the two months of October and November. Given both of these are non-peak months the need for capacity is considerably less than is needed for the following months and so making a delayed delivery acceptable without increasing the system reliability risk. This approach has been in operation since market commencement and only changed this year to a 1 June to 1 October window. The market has had more experience with the 1 August to 30 November window than the new window and apart from the one shock in 2008 appears to have been comfortable with this approach.

Option B1 – a two month window

This approach is similar to Option B except it there is no capacity refund grace period for October and November. All capacity must be available by 1 October. This option was originally proposed in CP_2009_01 as Option D but was not considered by the market.

Considerations with this option are:

- Whether two months is sufficient time to resolve commission and post commissioning.
- Whether two months may result in commissioning congestion for System Management a problem the market was designed to avoid.

Option C – yes/no payment for early capacity (Most *likely to be agreeable to MAC*)

There are times when an incentive payment to encourage generation capacity to arrive early is valued by the market meaning the benefits are high and times it is not valued meaning the

costs are high. Since 2008 the market has enjoyed a surplus of capacity above that targeted by the IMO. It may therefore be fair to consider during times of capacity surplus whether new capacity arriving early should be given an early capacity payment.

This option allows the IMO discretion to review the status of existing capacity, the need for capacity in the coming capacity year and so determine whether there is sufficient value to the market in offering an early capacity payment or not. The assessment the IMO would undertake is whether by it issuing early payments saves the market more by avoiding potential capacity shortage costs or is simply paying money for no improvement. The IMO would review and decide, say by June of year 2 of the relevant capacity cycle, if such a payment were or not to be offered. In this way the IMO is making a cost benefit trade-off assessment and deciding to pay for early capacity or not to pay. This decision is suggested as a binary pay/no pay rather than force the IMO into a complex process of determine a percentage of early payment which may be administratively costly.

To assist the IMO in coming to its decision specific criteria can be put in place. For instance: The IMO should consider the existing capacity already operational in October of year 3 of the capacity cycle as the main justification for cancelling early capacity payments, but may also consider the volume of new generation capacity arriving in October of year 3 and the likelihood that sufficient of this capacity will arrive in time.

Considerations with this option are:

- The conditions to trigger a no early payment
- Or if operated similar to SRC then the trigger to make an early payment
- Timing arrangements whichever approach adopted
- Consider the case of small benefit to market of early payments applying but large volume of capacity could request the payment leading to a negative outcome

Option D – remove early capacity payments

This option represents both the greatest cost reduction to the market given that it proposes the removal of the early capacity payment for all capacity types, but also represents the greatest potential change to system reliability for the same reason.

Alinta have indicated that the existence of an early arrival payment does not impact the timetable of a generator build or commissioning. When planning to build a generator the early capacity payments are not included in the projects timelines and only result if things go well. If a generator enjoys a problem free build it may decide to arrive earlier than its original completion date simply to gain the early payment, but then the availability of the generator was already assured and it is questionable the market is gaining from making the payment.

What we do know is that a generators times its arrival to avoid being exposed to capacity refunds, particularly the summer refunds. Capacity refunds if incurred are a direct cost to a new generator and the heightened summer refund factors amplify that exposure. It is likely that capacity refunds are the real incentive for generators to avoid a late arrival and not the early capacity payment.

If the above statements are correct then it would be difficult to justify the benefit the market gets from making any form of early capacity payments and the cost benefit trade-off should swing to no payment.
