

The Value of VoLL, Market Price Cap and Floor (AIP/SEM/07/381)

Response by Airtricity

Introduction

Section 5.3 of the Consultation states that customers can benefit from negative prices at times of very low demand and that if they are not exposed to such prices then the efficiency benefits of changing demand patterns are lost. In reality of course, customers will almost universally be protected by their tariff/contract from Pool price spikes in either direction. If negative prices in particular are rare events, as the Regulators believe, then customers are unlikely to change their pattern of demand in any case and any argument for an efficient ex-ante demand response to an ex-post price incentive becomes unlikely. In the real world it is difficult to understand how the purportedly efficient price response can operate.

As we argue below, the case for a negative Pool floor price to be applied in circumstances where customers are unaffected, the cost of reserve is reduced and constrained renewable generation must pay for output not generated, is unfair. However, given that the designated version of the TSC requires PFLOOR to be applied to "Excessive Generation Events", the only solution to this is for the value of PFLOOR to be set to zero.

VoLL

We fully accept that it is difficult to establish the value of lost load; particularly where most customers are shielded by tariff from real-time prices. In the context of discussions held on this topic during MAE development, it was recognised that VoLL should decline with duration of outage and the current Consultation includes a number of additional parameters that suggest use of a single value is actually a simplification. The studies referenced also highlight value differences across customer groups and for varying outage durations; the Kariuki & Allan study introducing the new concept of a Customer Damage Function.

The difficulty of establishing VoLL on the basis of widely varying survey data, where understanding of the term straddles a number of concepts, is clear. However we find it difficult to understand why the RAs have decided to recommend a value based on BNE costs and current gas prices. BNE costs are a Regulatory estimate and, given that VoLL is only used in determining capacity payments, we believe it is wrong to use this as an implicit estimate of the value customers attach to the marginal unit of electricity.

Any suggestion that a value of VoLL based on the product of two RA-derived numbers represents an implicit value of lost load is to invest the calculation with an unwarranted level of authority. Customers were not significantly involved in deciding the generation security standard to justify its use as VoLL. We suggest that the RAs pick a value of VoLL that delivers an appropriately strong capacity price signal and perhaps rename the parameter as "Capacity Insufficiency Value". This will remove any confusion between its function in the market algebra and any separate requirement to establish the value of uninterrupted supply to customers.

It is not apparent why customers should place a higher value on their electricity supply when fuel prices rise, so we suggest that VoLL should be incremented by CPI for future years, rather by application of a methodology that has little to do with the algebraic objective of the parameter.

PCAP

If SMP is capped at PCAP, it would be reasonable to assume that VoLL should be higher than PCAP to capture the premium value of capacity when fuel prices spike and capacity is tight. In circumstances of extreme fuel price spikes and high availability, generators should not be forced to bid below cost, so any PCAP below VoLL is unfair on generators.

Based on argument set out in the Consultation, we believe that a reasonable approach would be to remove any price cap, and shed load when the market price reaches VoLL. This would ensure that customers are never required to pay more than they wish for their power and generators are not forced to bid below cost (placing them in breach of their Licence).

PFLOOR

We believe it is important to separate the issues of PFLOOR and the correct market price in the event of an Excessive Generation Event, since there is no logical connection between the two. They relate to different circumstances and our comments therefore consider each in turn.

bidding opportunity costs

Firstly, Generators may face opportunity costs if they fail to generate; for example loss of ROCs. PFLOOR should therefore allow bidding of opportunity costs, to ensure market dispatch correctly reflects generator costs.

"excessive generation events"

On the other hand an Excessive Generation Event has everything to do with flexibility of plant scheduled by the MSP software and nothing to do with economic dispatch. We have been told in correspondence that, *"this is the corollary of requiring a price (PCAP) in the event that (in the MSP Software) Schedule Demand cannot be met"*. This is clearly a flawed hypothesis as they have entirely different customer impacts. In terms of calculated excessive generation;

- customer impact of generation insufficiency will result in load shedding and loss of customer supply; a notional excess has no impact,
- asymmetry of system cost impacts means that equating PCAP and PFLOOR events may be theoretically attractive but it is commercially wrong and unfair. A notional excess of generation will displace reserve and will therefore reduce overall system costs,
- market rules should not incentivise behaviour that increases the system costs ultimately paid by customers. ie increasing the cost of reserve through withdrawal of available capacity in anticipation of negative Pool price,
- the proposal to use PFLOOR as an administered price proves there is regulatory concern over the compatibility of administered prices with renewable price-taker generation having priority access to dispatch and/or the MSP schedule; the administered price can be PFLOOR or some other,
- a price of zero is compatible with other aspects of the TSC, such as the decremental price of zero for price taker units and the Code objective of promoting the short-term and long-term interests of consumers.

constrained dispatch

In circumstances of notional excessive generation, it is quite likely that the SO will have dispatched variable price-taking generation down below its potential generation capability. In this case such generation is paid for its MSQ (the greater of actual output and average outturn availability) rather than metered output. If the administered price for excessive generation events is negative, then this will result in generators having to pay for energy they have not generated.

interlinking of TSC and reserve costs

Although we acknowledge that the SEM market covers only actual demand, any excess of price-taker generation deemed by the MSP engine will actually displace other, more expensive, generation from providing reserve and will genuinely save the system money. Whilst we appreciate the desirability of pursuing theoretical economic correctness, the fact remains that generation scheduled for reserve is paid for its output based on the same bidding process as generation that is actually scheduled by the MSP engine and excess market costs (such as reserve) are recovered through the TSC charging process. Reserve is therefore intrinsic to the TSC and it would be wrong to suggest that reserve issues are irrelevant to any discussion on the value of generation at times when the MSP engine cannot resolve a balance between generation and demand.

It is inequitable to penalise a group of generators by requiring them to pay for saving the system (and ultimately customers) money. Furthermore, the argument that some units should be paid for generation while others have to pay (on the basis of ex-post analysis) for generation output that they may or may not have produced, is untenable; particularly when the overall power system is fully balanced and there is no customer impact.

contractual protection?

It is suggested that generators may be contractually protected from negative Pool prices but, for renewable generators, that can only be true if their output is less than or equal to their counterparty's demand. If the counterparty's offtake agreement requires acceptance of any output greater than its demand then, although the generator may not be exposed to the negative price, it is the counterparty that will be penalised.

It is also highly unlikely that an offtake contract would require the counterparty to pay for energy not generated, but for which the generator is liable as a result of following the SO's dispatch instruction. In this case the generator would remain fully exposed to negative Pool prices.

If the SEM is to be effective in its aim of encouraging market entry, then it is to be expected that some new capacity will operate on a merchant basis. New capacity is needed to replace existing units, in addition to that required to meet demand growth. It is logical then, to encourage merchant generators to participate and not create disincentives. A merchant generator would not have a counterparty with which to balance and would be fully exposed to negative Pool prices, increasing their potential for risk.

PFLOOR Conclusion

It is Airtricity's firm belief that an Excessive Generation Event is not the corollary of a Generation Insufficiency Event and it should not be penalised as though it were. Given that the marginal output cost of renewable plant is effectively zero, its positive contribution to overall system costs and the total ineffectiveness of ex-post "incentives" the administered price for circumstances defined as "Excessive Generation Events" should be set to zero. Therefore, since the TSC requires PFLOOR to be applied to such events, the PFLOOR should be set at zero.