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Australian Energy market Commission
PO Box A2449
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By electronic submission

Thursday, 13 January 2011

Dear Sirs,

APPLICATION OF DUAL MARGINAL LOSS FACTORS; ERC0117

International Power (IPRA) appreciates the opportunity to comment on the proposed Rule change on the application of dual marginal loss factors.

IPRA agrees with the proponent, AEMO, that the current Rules have proved to be unduly restrictive and led to inefficient outcomes. We therefore support a change to the Rules. However, we consider the proposed Rule change itself and the practices foreshadowed by AEMO in the event that the Rule change were made are both too narrowly focussed on the computational difficulty that has emerged, and have consequently missed an opportunity to gain greater benefits in relation to the National Electricity Objective.

While we appreciate that the Commission has sought in its consultation paper to raise broader questions than those raised in the Rule change proposal, we suggest that more fundamental consideration should be given to the relevant issues.

1 A loss factor need not be identified with a connection point

A loss factor is applied in two different contexts, dispatch and settlement. Hence each loss factor needs to be identified with –

- The dispatchable entity or entities that it will apply to in dispatch if applicable (scheduled generator, scheduled load or scheduled network service); and/or
- The definition of the energy values to which it will apply in market settlement.

The situation that a single loss factor be associated with a connection point, while likely be the common case, is thus too restrictive to be justified as a mandatory requirement.

The case in point is pumped storage hydro with a single connection point, where there are clear efficiency benefits in providing separate loss factors, for example for net generation on the one hand and net consumption on the other.

Another, hypothetical, example would be a power station with one connection point but a mixture of base-load and peak-load units. Again there would be potential efficiency benefits from separate loss factors for the different unit types.

We therefore propose that the mandatory identification of a loss factor with a connection point be eliminated and replaced with a requirement that for each loss factor AEMO must provide a robust definition of its application in settlement and if relevant, in dispatch.

This would allow greater flexibility to apply loss factors as necessary to support dispatch efficiency.

2 Should intra-regional loss factors be dynamic?

The consultation paper raises the option of dynamic loss factors as an alternative to the recommended dual loss factors.

The underlying loss factors that the market loss factors seek to approximate can have significant variation over time. This is particularly the case where either the relevant production or consumption is highly variable, or else the network between the entity and the relevant Regional Reference Node is loaded by unrelated and variable flows (often of a "tidal" nature).

Where such variable underlying loss factors apply there is clearly a potential for more efficient dispatch by using dynamic loss factors.

However, the use of dynamic loss factors would also create a new source of uncertainty for participants, especially through the application in market settlement. The adverse effects of such uncertainty would require careful consideration, and hence we do not consider it to be a viable alternative at this time.

3 Time sculpted loss factors

If we exclude the option of dynamic loss factors, then we are left with choice between a single fixed value for each entity and a time varying value. Time varying values could be defined in advance with specified patterns based on, for example, the hour of the day, the day of the week etc.

Such a time sculpted loss factor regime could achieve greater dispatch efficiency than a single value where the variations in the actual loss factor exhibit some regular and predictable patterns.

However, this approach is not compatible with the current market framework, which strongly incentivises generators to "disorderly bid" in the case of network congestion. This activity requires the participant to set a price which after adjustment by the loss factor will precisely equal the market floor price when referred to the Regional Reference Node. This can be achieved only where the loss factor is uniform over a whole trading day and is known some hours prior to the start of the day.

In general it is expected that within-day variations would be the most effective part of the application of time-sculpted loss factors.

It therefore appears that the potential benefits of time sculpted loss factors are not available within the current market framework, and hence need to be eliminated from consideration in the current context.

4 Criteria for the application of dual (or multiple) loss factors

If we exclude the options of dynamic loss factors and time-sculpted loss factors, then it appears that the opportunity to improve dispatch efficiency through the definition of loss factors is limited to the application of two (or more) loss factors at a connection point.

In the application for this Rule change, the only criterion for the application of dual loss factors was one related to a calculation difficulty. While this calculation difficulty is clearly significant, we contend that the opportunity to improve dispatch accuracy should not be limited to this circumstance only.

We see the relevant consideration to be the principles that are set out in the Rules to guide the calculation of loss factors, which are given in 3.6.2(e)(2) and 3.6.2(e)(2A). Multiple loss factors should be applied where this is possible and also this application leads to a material improvement in compliance with these principles.

In summary we submit that –

- The concept of Net Energy Balance (NEB) should not be introduced into the Rules nor applied by AEMO

- AEMO should be authorised to apply multiple loss factors at a connection point if -

    - The application in both dispatch and market settlement is feasible, and
    - That application will lead to a material improvement in relation to the principles set out in 3.6.2(e)(2) and 3.6.2(e)(2A) when compared with the case of a single loss factor.

If you have any questions in relation to this submission please call Ken Secomb on 03 9617 8321.

Yours sincerely

Stephen Orr
Commercial Director

Appendix

Suggested changes to Rule change proposal

(2) will be a single static *intra-regional loss factor* that applies for a *financial year* derived in accordance with the methodology determined by *AEMO* pursuant to clause 3.6.2(d) for each *transmission network connection point*; and
will be either:

(i) ~~(i)~~ two or more *intra-regional loss factors* where ~~one *intra-regional loss factor* does not satisfactorily represent *transmission network* losses for the *active energy generation* and consumption at a *transmission network connection point* as determined by~~ AEMO reasonably determine in accordance with the methodology under clause 3.6.2(d) that
A; the application of multiple intra-regional loss factors is feasible in settlement and, if relevant, in dispatch, and
B the application of multiple intra-regional loss factors has the potential to lead to a material improvement in relation to compliance with the principles set out in 3.6.2(e)(2) and 3.6.2(e)(2A) or

(ii) one static *intra-regional loss factor* in all other circumstances.