

30 March 2007

Dr John Tamblyn
Chairman
Australian Energy Market Commission
PO Box H166
Australia Square NSW 1215

Dear John

Submission on National Electricity Amendment (Dispatch of Scheduled Network Services) Rule 2007

Thank you for the opportunity to make this submission on Hydro Tasmania's request for a Rule in relation to the dispatch of scheduled network services on the basis of dispatch offers and dispatch bids in the context of BassLink. The optimisation of the operation of BassLink in the context of the NEM is complex and has been the subject of much attention. The complexity is contributed to by the fact that BassLink can transport both Frequency Control Ancillary Services (FCAS) and energy and has operational limits of restricting operation in the range of -50MW to +50MW as well as requiring several minutes before the flow on BassLink can be reversed. In the context of these operational restrictions NEMMCO co-optimises both energy and FCAS for the entire NEM.

NEMMCO does not support Hydro Tasmania's request on the following grounds:

- Hydro Tasmania's interpretation of Clause 3.8.1(a) of the Rules is not considered correct;
- inconsistency with the optimisation objective in Clause 3.8.1(a) to maximise the value of spot market trading;
- the requirement for special treatment of scheduled network service providers in the optimisation process (as distinct from all other scheduled entities);
- technical limitations on implementing the request in the current formulation of the NEM optimisation process; and
- inconsistency with the market objective.

NEMMCO is developing a plan within the current Rules to improve the NEM optimisation in a manner that would be expected to largely address Hydro Tasmania's concerns over the dispatch of BassLink. Further details regarding the above issues and NEMMCO's plan are contained in the attached submission.

Carlisle Office
PO Box 3175
Telopea NSW 2117
Tel: (02) 8838 5100
Fax: (02) 8838 5200

Mansfield Office
PO Box 2516
Mansfield QLD 4122
Tel: (07) 3347 3100
Fax: (07) 3347 3200

Melbourne Office
Level 12
15 William Street
Melbourne VIC 3000
Tel: (03) 9648 8777
Fax: (03) 9648 8778

Sydney Office
Level 22, Norwich House
6-10 O'Connell Street
Sydney NSW 2000
Tel: (02) 9239 9199
Fax: (02) 9233 1965

NEMMCO

I would be pleased if you could have these matters considered by the AEMC. For further details, please contact John Wormald on (02) 9239 9107.

Yours faithfully,

Brian Spalding
Brian Spalding
Chief Operating Officer

1. Issues concerning the proposed rules

1.1 Interpretation of Clause 3.81(a) of the Rules

NEMMCO does not agree with Hydro Tasmania's assertion that dispatch has been contrary to the requirement of Rule 3.8.1(a):

NEMMCO must operate a central dispatch process to maximise the value of spot market trading on the basis of dispatch offers and dispatch bids.

This requirement is to maximise the value of spot market trading. The phrase "on the basis of *dispatch offers* and *dispatch bids*" is interpreted by NEMMCO as requiring the dispatch offers and bids to be key inputs and key components for evaluation in the optimisation process. Clauses 3.8.1(a) and (b) clearly contemplate that the optimisation is to be subject to the physical realities of the power system operation and the optimisation of dispatched ancillary services.

As a result of these requirements there is no obligation to dispatch in accordance with each of the bids and offers, even though this would be the natural outcome in the absence of system operation constraints and ancillary services.

1.2 Inconsistent with Clause 3.8.1(a) of the Rules

NEMMCO believes Hydro Tasmania's request is inconsistent with the objective of Central Dispatch described in Clause 3.8.1(a) of the Rules. To comply with Hydro's proposed Rule, the dispatch engine must select a market solution in which a Market Network Service Provider (MNSP) is dispatched in accordance with its offer.

If the optimal solution dispatches a MNSP against the offer, then under the Hydro's proposal an alternate market solution must be found which does match the MNSP's offer. The alternate solution must have a higher value of the optimisation or objective function, otherwise the first solution would not have been optimal. It follows that the aggregate cost to the entire market (including the net market payment to or from the MNSP) has increased. In other words, the rest of the market not only pays for the negative settlement residue that the MNSP would otherwise incur, but there is also a premium to be paid on top of that to cover the additional cost of the less efficient dispatch solution.

It follows that the proposal is inconsistent with Rule 3.8.1(a).

1.3 Special Treatment of Scheduled Network Services

The proposal seeks to reduce or remove the risk of counter-price dispatch for all MNSP participants while generators can also be subject to being constrained on or off (ie dispatched inconsistent with their particular dispatch bid).

Hydro Tasmania has given no reason for this special treatment, other than that of improving its own commercial results. There have been two other MNSPs operating in the NEM under the current dispatch arrangements, without the benefit of indemnity against counter-price flow. These MNSPs have accepted the risk and managed those situations when counter-price conditions have appeared.

1.4 Limitation on implementing the request in the NEM Dispatch Engine

Hydro Tasmania asserts that NEMMCO is contemplating making changes so that dispatch, in accordance with the offer, could generally be achieved. NEMMCO is planning to improve the optimisation process in the context of the complexity of BassLink's special operational requirements and agrees that operation in accordance with dispatch offers could be achieved in a larger percentage of dispatch cases (see section 2 of this submission). However, Hydro's proposed Rule change is fundamentally inconsistent with NEMMCO's alternative proposal and the linear programming principles of solving to maximise or minimise a specified objective function.

The NEM optimisation problem has been formulated into the NEM dispatch engine which is designed to find the market solution with the lowest cost (as determined by prices in bids and offers) within the set of possible solutions defined by constraint equations. Once dispatch is determined, prices at regional reference nodes can be calculated based on the cost of dispatch to meet an additional megawatt of load. Regional reference prices and regional reference price differences cannot be entered as input conditions or constraint equations. Therefore it is not possible to ensure that a dispatch outcome inconsistent with a particular bid, which may give rise to counter-price conditions, will not occur in the optimal dispatch solution.

1.5 Inconsistency with the NEM objective

Competition Considerations

Hydro Tasmania suggests that the current dispatch process is suppressing competition between Victorian and Tasmanian generation, based on the example from 8 November 2006.

NEMMCO disagrees with Hydro Tasmania's assessment of the operation at the time as it ignores the competition and contribution of Tasmanian generators towards the Frequency Control Ancillary Service (FCAS) raise requirement of the Mainland during that time. The FCAS price gradients were favourable in that the Tasmanian FCAS prices were less than the Mainland equivalents.

Accordingly, it is misleading to represent that the Tasmanian generators were denied the opportunity to compete in the supply to Victoria.

Effect of the Proposed Rule Change

Hydro's proposal attempts to distinguish Basslink's status as an energy and FCAS transporter from that of a generating unit which submits offers for both energy and FCAS.

The absence of a formal Basslink offer for FCAS transport does not extinguish the existence of its FCAS transport capability, which is effectively offered at \$0 /MW/hr in each direction. This is evident when it is realised that the cost to the mainland of FCAS offered from Tasmania is the same cost as those services offered towards the Tasmanian requirement. Therefore the premium for FCAS transport across Basslink, and hence the offer price, must be zero.

Having demonstrated that a Basslink offer price for FCAS exists, it follows that occasionally counter-price energy flows may be dispatched when greater benefits to the value of combined spot market trade accrue from the FCAS markets, as is the case with generating units.

Contribution to the NEM Objective

Hydro Tasmania states that the market objective will be enhanced by the elimination of the undue risk of dispatch counter to the MNSP energy offer.

However the risk cannot be eliminated due to the infeasibility of implementation in a linear programming solver. The risk can be significantly mitigated by allowing the solver to recognise alternative dispatch solutions which could have lower market cost (as measured by the value of spot market trade). In contrast, the Hydro's Rule change proposal mandates that the MNSP offer must be respected and could force a solution that has a higher market cost, detracting from rather than contributing to the NEM objective.

2. NEMMCO alternative proposal

NEMMCO and Hydro Tasmania have discussed the issues concerning the dispatch of BassLink at length. Out of those discussions and investigations, NEMMCO has developed a plan to augment the NEM dispatch engine processing within the current Rules.

The aim is to produce a second solution each dispatch interval assuming that the Basslink FCAS transfer facility is considered to be unavailable and Basslink is permitted to be dispatched within the dead zone of operation (ie between +50MW and 50MW). The second solution may have a lower market cost than the first as the benefit of dispatching Basslink in the dead zone (currently prohibited by constraints when FCAS transport is available) may outweigh the additional cost due to the temporary inability to transfer FCAS. If this is the case, then the second (lower cost) solution will be used for dispatch in accordance with Rule 3.8.1(a).

Analysis of selected historical periods indicates that the frequency of counter-price solutions should be significantly reduced by this approach. NEMMCO has formed the view that this augmentation to the dispatch process can be implemented within the Rules as they currently stand.

Further details of this proposal have been published on the NEMMCO website at <http://nemmco.com.au/dispatchandpricing/100-0040.htm>.