

9 May 2017

Nova Energy Limited
PO Box 10141, Wellington 6143
www.novaenergy.co.nz

Submissions
Electricity Authority
PO Box 10041
Wellington6143

Email: submissions@ea.govt.nz

Re: Normal Frequency Management – Strategic Review: information paper

Nova Energy (Nova) is pleased to see the quality of the analysis in the information paper. The paper largely covers the concerns that Nova expressed in its submission to the AOPO Consultation Paper issued in 2014.

There is a clear rationale for utilising governor response to manage frequency as long as it is available and lower cost than contracting for MFK services. That said, as per Nova's 2014 submission, mandated AOPO requirements are likely to either cause significant additional costs for some parties or place excessive requirements on some, while others may obtain exclusions that are not actually cost reflective.

Nova believes that with development, Option F: Tender-based procurement can be implemented and would provide the most cost effective solution. We suggest that the System Operator could develop a small set of performance envelopes each defining different dead-band and droop settings, or output-based benchmarks. Generators could then tender a price for the particular performance settings for each of their generation units. Parties could also be given an option over the length of the contract, as some parties may wish to amortise fixed set-up costs as part of their offer.

Price tendered could be either fixed, or linked by a fixed percentage to the cost of MFK assuming that MFK services are still acquired, and be subject to a minimum price.

The System Operator can then select the preferred providers on the basis of expected lowest total cost. Contracts could be re-tendered as they retire on a predetermined date each year, e.g. some parties may prefer a 5-year contract, while others may opt for an annual renewal, leaving their position open to competition at each renewal.

This methodology would be consistent with enabling services from new technologies such as grid-scale batteries to contribute to managing frequency.

While there is considerable complexity involved in determining the precise amount of governor response that should be acquired versus reliance on MFK, in practise, appropriate allowances and margins should provide an economically efficient 'good' solution without necessitating continuous monitoring or changes in allocations.

If there is concern that some participants may hold back from offering governor response in favour of contracting for MFK services, there could be a backstop provision that each different type of generation must provide some level of governor response within a prescribed envelope that is less onerous than the contracted version, i.e. effectively a liberal version of Option A as a back-up to the Tender-based procurement. The optimal mix of 'dead-band' and droop settings for governor response vs. MFK and associated pricing would be able to be fine-tuned over time.

Nova does not favour the Administered pricing approach, and agrees that Bid based procurement is impractical.

Further points in response to the questions in the information paper are appended to this letter. We would be pleased to have the opportunity to discuss our views further.

Yours sincerely



Paul Baker

Commercial & Regulatory Advisor

P +64 4 901 7338 E pbaker@novaenergy.co.nz

Question	Comment
<p>a) Do you have any comments on how governor availability costs availability costs wear and tear costs capacity carrying costs compare between MFK and governor response?</p>	<p>Nova had not actively participated in the MFK ancillary service.</p> <p>An 'administrative + competitive' model could applied to dead-band and droop settings should it become necessary to provide a mix of administered and market-based incentives to ensure there is adequate low-cost governor response within the 'dead-band' market (e.g. hydro generators excluded from partaking in the 'dead-band' frequency market unless they have a droop setting < 3%).</p>
<p>b) Do you have any comments on the extent to which MFK can be substituted by governor response?</p>	<p>We agree that some level of MFK can likely be substituted by governor response, though consideration should be given to the role of MFK (and the SO Dispatchers) in reducing the variability or inefficiencies that can be created in the dispatch of marginal plant within the half-hour trading period. Substituting MFK by governor response will reduce the availability of MFK to buffer the imbalances that occur between 5-min dispatch and ramp rates for some plant.</p> <p>For example, a lack of MFK can result in the dispatching on of fast-start thermal plant that has not been cleared in the half-hour forward schedules (i.e. at stand-still) for bridging short duration (i.e. 5-15 minutes). This can be due to the need to dispatch fast generation while slow ramping plant is dispatched to meet a rapid increase in net demand. This can create significant costs in starting thermal plant to meet short-term (and often unnecessary) situations.</p>
<p>c) Do you think that there are likely to be net benefits in progressing to a procured governor response service through tendering, given the technical challenges identified in this paper?</p>	<p>Yes. Nova expects there are net benefits in allowing generators to consider the various cost / benefits trade-offs through a tendering process; and on face value believe there should be workable solutions to any technical challenges.</p>
<p>d) Which option or options in section 5 do you agree with and which do you not, and why?</p>	<p>Nova favours Option F. The implementation process will help inform the pricing approach required, and even although the solution may require some simplification in terms of settings, it should be capable of providing a robust outcome.</p>
<p>e) Are there any other features or options you would like to suggest?</p>	<p>The Tender based approach provides a mechanism by which new technologies such as grid scale batteries can participate in the MFK market.</p>
<p>f) Do you have any comments on the indicative analysis of governor response</p>	<p>Nova agrees that 'the costs will vary by plant type and that plant owners are best placed to make such assessments', which is why Nova favours a market based solution where owners can</p>

Question	Comment
costs in Appendix E?	determine what settings they will offer in a tender.
g) Are there any other issues you wish to bring to the Authority's attention?	Further to our point in b) above, it would seem that there will be a continued roll for some frequency keeping service, albeit much reduced, for the purpose of time keeping and coping with periods of rapid ramp rates, even if governor response can largely cater for the very short term fluctuations.