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Submissions
Electricity Authority
PO Box 10041
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By email: submissions@ea.govt.nz

Efficient Procurement of Extended Reserves, Second consultation

We appreciate the opportunity to comment on the Electricity Authority's (Authority) consultation paper *Efficient Procurement of Extended Reserves, Second consultation,* published 21 January 2014.

We support the Authority's work to improve the technical and economic efficiency of Extended Reserves (ER), referred to as Automatic Under Frequency Load Shedding (AUFLS) in the consultation paper.

A two stage implementation of AUFLS reform is possible

The current AUFLS regime provides the requirements of a last resort security mechanism, comprised of two x 16% blocks in each island. The System Operator produced a technical report in October 2012[1] outlining a new technical design that changes the current AUFLs scheme.

We consider that there are significant reliability and efficiency benefits in moving to this improved technical design, irrespective of the delivery methodology. The interests of consumers may be better served by the Authority adopting a staged approach to AUFLS reform – splitting implementation of the technical change from detailed design and implementation of any new procurement process.

This approach would ensure that the increased reliability benefits and allocative efficiency gains obtained by the revised technical solution to be achieved sooner. It also reduces the risk that those benefits are further delayed if the detailed design and implementation of the procurement process takes longer than anticipated (or of exacerbating risk to that aspect of the reform by rushing the design and implementation work). We consider it would be helpful to analyse stage two options in isolation from the stage one changes. This will ensure the relative costs and benefits of these options are transparent.

[1] Transpower NZ Ltd (August 2013) *AUFLS Scheme Design Technical Summary* available at http://www.systemoperator.co.nz/sites/default/files/bulk-upload/documents/20130807%20AUFLS%20Scheme%20Design%20Report.pdf

Timeline for development of preferred option appears challenging

The Authority has identified that there are many aspects still to be resolved and these aspects do not seem trivial. This suggests that the timetable proposed may be optimistic and we suspect that the transaction costs of the development steps in the 'optimisation' options may be understated. The subsequent Code drafting will be better informed by the substantive policy and design decisions yet to be made.

Other matters

The optimisation tool requires specification and transparency

It appears that re-optimisations may be triggered by a variety of events and that any re-optimisation could require all AUFLS providers to participate. We consider that EDBs need to be able to re-allocate cleared quantities amongst its feeders without triggering the need for another optimisation to manage concurrent obligations (e.g. the implementation rolling outage plans or as a lifeline utility).

The consultation paper doesn't elaborate on how the optimisation tool will be specified, who will be responsible for its development or its output, and the requirement for any third party audit. Given the importance of the last resort security mechanism we suggest that the model should be specified, developed, and audited in a similar manner to the modelling system used to provide the schedule of quantities and prices (SPD).

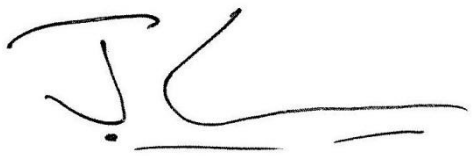
Coherence of AUFLS with Participant Rolling Outage Plan (PROP) mechanism

Although the intent of the new policy for AUFLs provision is to improve its efficiency it must not be at the expense of the resilience of either the AUFLS regime or the rolling outage mechanism – both of which are last resort measures to enhance the resilience of the New Zealand power system.

Currently there are dual obligations on electricity distribution businesses (EDBs) and direct connects to maintain under-frequency load shedding capability (AUFLS regime) **and** to maintain an operable rolling outage plan[2]. We agree with the Authority that the integrity of the system to withstand an AUFLs event should not be compromised if rolling outage events occur and we consider that load providers should maintain load for both purposes concurrently as now.

We have responded to the questions at Appendix A. Please contact me directly on (04) 590 7544 to discuss in the first instance.

Yours sincerely



Jeremy Cain
Chief Regulatory Advisor

[2] The Participant Rolling Outage Plan (PROPs)

Appendix A – Responses to Consultation Questions

No.	Question	Response
1	*Please provide reasons if you agree that lines companies UoSA do not grant them the rights to place their customers' load under AUFLS as part of a voluntary commercial agreement. Please also provide reasons if you disagree.*	No comment.
2	*Please provide reasons if you agree that it is not practical to change the UoSAs within the timeframe required to implement the new AUFLS arrangements. Please also provide reasons if you disagree.*	No comment.
3	*Please provide reasons if you agree that lines companies will likely face weak commercial incentives to enter into bilateral commercial arrangements to vary their level of AUFLS provision. Please also provide reasons if you disagree.*	No comment.
4	*Please provide reasons if you agree that excluding direct connects from the obligation to providing AUFLS would be inappropriate. Please also provide reasons if you disagree.*	We consider that direct connects should be included in the scope.
5	*Please provide reasons if you agree that a beneficiary pays approach to recovering the cost of any compensation payments is likely to deliver more efficient outcomes than a causer-pays approach. Please also provide reasons if you disagree.*	We support a cost-recovery approach that has the objective of creating the right incentives on AUFLs providers with respect to AUFLS pricing.
6	*Do you have any comments about the preferred approach to determining the VoLL of lines company feeders?*	No.

7	*Please provide reasons if you agree that issues with lines companies' incentives and contractual ability are likely to severely reduce the potential effectiveness of a voluntary AUFLS tender. Please also provide reasons if you disagree*	The issues that may arise from a direct step to a voluntary AUFLS tender is more to do with an ability to provide certainty of AUFLS availability than the incentives and contractual ability of EDBs. The potential and consequences of an AUFLS availability shortfall needs to be understood before this option is explored further, both from the perspective of system security and the potential influence on energy price.
8	*Do you have any comments on relative ranking of the options?*	We found the options assessment and CBA difficult to reconcile. For example, "base benefits" do not appear to be recognized in the options assessment. With reference to tables 4 and 8 in the paper ('option scoring table') we consider it would be helpful to analyse stage two options in isolation from the stage one changes. This will ensure the relative costs and benefits of these options are transparent. We are conscious that an indicative analysis such as this is particularly susceptible to assumptions. It is very easy to underweight costs and overweight benefits – especially where complex solutions are involved. We encourage the Authority to be mindful of this optimism bias.
9	*Do you have any comments on the proposed timetable?*	Given the number of operational policy decisions still to be made we have reservations about whether the timetable is achievable.
10	*Do you need any more information to help you plan your resource availability to meet the requirements set out in paragraph 4.1.9*	In broad terms it would appear that the steps to complete the programme include: 1. conclude the conceptual design 2. draft, consult on, conclude, and gazette Code changes – including the objective function for the optimisation tool 3. engage the System Operator to build the tool and identify the information requirements 4. gather information 5. identify the initial optimal solution 6. identify the relay capability and settings for each grid connected party 7. identify a transition plan to step from the

		status quo to the requirements identified in 6 (without jeopardizing system security) and 8. implement the plan identified in 7. The System Operator's resource planning will be better informed by understanding the detail of steps 3 – 8.
11	*Do you have any issues with the potential use of timers for arming AUFLS load?*	Conceptually, no.
12	*Do you have comments on the indicative implementation costs used in the CBA?*	The implementation costs outlined imply that it will be the same cost to implement any change. However as little detail has been provided about the starting point for the optimisation process (is it based on existing capability or a "green fields" approach), it is difficult to identify and quantify implementation costs. We consider implementation costs of the procurement options are likely to be significantly higher than indicated.
13	*Do you have comments on the indicative on-going costs assumed in the CBA?*	We consider on-going costs are likely to be significantly higher for the 'optimisation' options. By way of example, the lack of detail available at this time around the preferred procurement option means it is not clear how often re-optimisations and consequential re-setting and or requirement for new relay capability will occur. The cost of re-setting and re-commissioning relays and the cost of installing and commissioning new relays could mount quite quickly.
14	*Do you have comments on the indicative base level and future benefits assumed in the CBA?*	The improved technical scheme on its own seems to deliver largest gains in reliability and allocative benefits.
15	*Do you have any other comments on the CBA?*	No.
16	*Do you have comments on the proposed compensation payment mechanism?*	No.
17	*Please provide reasons if you agree that, in an arrangement where different stakeholders are*	No comment.

	required to provide different proportions of their load as AUFLS based on their relative suitability, it is appropriate to compensate stakeholders for the costs they incur in providing AUFLS. Please also provide reasons if you disagree.	
18	*Based on your experiences of the existing AUFLS and PROPS arrangements do you have any views on the appropriate approach to ensure consistency of the two arrangements?*	We agree with the Authority that the integrity of the system to withstand an event that triggers AUFLS should not be compromised if system security situations require rolling outages. The existing relationship between AUFLS and PROP arrangements should be retained.
19	*Do you have any comments/suggestions about the historical load information requirements on stakeholders?*	In developing the revised AUFLs design the System Operator has identified an increase in the information requirements to assist it in implementing its technical proposal. In addition to these requirements any further information will largely be driven by the details of the selection process and the parameters of any "optimisation model" that needs to be developed. This means the 'information requirements' for load data may need to wait until the tool parameters and inputs have been developed.
20	*Are there any other technical reasons (other than load shape, or the VoLL of customers connected to it) why a feeder may not be suitable for AUFLS?*	No comment.
21	*Do you have any other comments?*	No.