# MAJOR ELECTRICITY USERS' GROUP

29 November 2016

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NZX
By email to ermanager@nzx.com

Dear Jo

**Draft Extended Reserve Selection Methodology – Consultation feedback**

1. This is a submission by the Major Electricity Users' Group (MEUG) on the Extended Reserves Manager (ERM) consultation paper "Draft Extended Reserve Selection Methodology" dated 11 October 2016.[1] MEUG will not be making a submission on the parallel consultation by the System Operator (SO) on the extended reserves technical Requirements Schedule.

2. MEUG members have been consulted in the preparation of this submission. This submission is not confidential. Some members may make separate submissions.

3. MEUG appreciates the assistance of NZX as the ERM, the SO and Electricity Authority (EA) in answering a number of questions ahead of MEUG finalising this submission. We held two very good meetings. The first discussed the practical issues facing a direct connect consumer in implementing the new Extended Reserves (ER) scheme. The second meeting considered how Demand Units (DUs) selected for ER might affect Participant Rolling Outage Plan (PROP) requirements.

4. MEUG members in the North Island are beneficiaries of the existing Automatic Under-frequency Load Shedding (AUFLS) scheme and those connected to North Island Electricity Distribution Businesses (EDB) pay a share of the assets and operating costs incurred by EDB in providing that service.[2]

5. With ER the value of costs to be explicitly recovered increases, there are new implementation, operating and compliance costs and the incidence of net cost share across consumers in the North Island changes. Some MEUG members are materially affected with possible new net payments in many tens of thousands of dollars per annum and in some cases exceeding a hundred thousand dollars per annum. Paying costs to reflect services received is reasonable and accepted. The details of how costs are calculated and then allocated matter and we comment on those in questions 1, 4, 16 and 26 that follow.

[1] Refer http://nzxgroup.com/who-we-are/business-overview/nzx-energy/consultations-submissions/extended-reserve.
[2] This submission refers to the current regime as the AUFLS scheme and the new regime as the ER scheme even though the only approved ER scheme is still use of AUFLS.

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6. There is one other main theme to this submission. That is a need to remove uncertainties on implementation before proceeding. We comment on those on questions 7, 8, 10 and 11 in relation to data quality, then requirement to provide data on 60% of total load irrespective of Interruptible Load (IL), sympathetic DU load and relationship with Participant Rolling Outage Plan (PROP) requirements.

7. Responses to selected questions in the consultation paper follow:

| Question | | Yes/No | MEUG comments |
|---|---|---|---|
| 1. | Do you support the adoption of standard values for AUFLS provision costs in the selection process? | yes, but for EDB,<br><br>and no for direct connects | **<u>Yes, but for EDB</u>**<br><br>Yes for EDB subject to the treatment of cost and cost allocations (eg if an asset is used for non ER services also) is consistent with Part 4 of the Commerce Act and second consistent with outcomes expected in workably competitive markets.<br><br>For the latter an issue requiring analysis is the choice of discount rate used in the capital recovery factor (CRF). Under the existing AUFLS scheme EDB recover AUFLS related costs as part of their regulated monopoly services pursuant to Part 4 of the Commerce Act. Part 4 is a variation on the standard internationally used CPI-X ex ante incentive based regulation reset periodically for long-lived line monopoly businesses or services. The weighted average cost of capital (WACC) under such regulation is a highly contentious topic between monopolies and users of monopoly services. Many factors affect what the optimal regulated WACC should be. One of those is the long-lived nature of line investments and regulatory uncertainty between CPI-X resets including the long-term treatment of assets and networks that become stranded. The cost recovery of DU capital costs does not have this long-term risk. Accordingly the discount rate to be used in the CRF formula must be less than the Part 4 regulated WACC.<br><br>Another way of considering this is to note that the Statement of Extended Reserve Obligation is in effect a be-spoke contract between the System Operator and the participant of a selected DU to provide a service over 5 years with full recovery of capital invested within that contract term. There is no capital recovery risk and therefore this arrangement is more akin to a lease arrangement and the discount rate should be set using a relevant cost of debt benchmark rather than the Part 4 regulated WACC. |

| Question | | Yes/No | MEUG comments |
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| | | | **<u>And no for direct connects</u>**<br>EDB can recover implementation costs as part of their overall business of providing regulated monopoly services whereas direct connects cannot. This is a material issue as Beca assessed the capex cost at $19,850 per distributor but that has not been applied in the selection tool.[3]<br>By not including an implementation cost for direct connects the selection tool will, for example, be indifferent in selecting a DU submitted by an EDB and direct connect that in very aspect apart from consideration of implementation costs are identical. Yet from a NZ Inc. point of view if the direct connect were chosen then that will be a poor outcome because the direct connect will incur implementation costs and those will likely be higher because managing AUFLS relays is not a routine activity for that company whereas it is for an EDB. |
| 2. | Do you support the proposed set of cost categories? Please comment if you consider any cost categories that are not included should be included and why, and vice-versa. Specific comments on any cost categories are welcome. | - | See response to Q1. |
| 3. | Do you support the proposed cost values? Specific comments on any particular values are welcome. | - | See response to Q1. |
| 4. | Do you support the extended reserve manager's proposed method for calculating the interruption cost? | partly | Agree conceptually with using estimated Value of Lost Load (VoLL) for the DU Interruption Cost (DUIP) variable used in the selection tool. The challenge is how to estimate VoLL?<br>MEUG has asked the EA to consider updating the estimates of VoLL for households because at first glance they appear to be too high for an average household affected by an unexpected two hour disruption. |

[3] Consultation paper, cost item 7 in table 6-2, p24 and discussion section 6.1.4, p26.

| Question | | Yes/No | MEUG comments |
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| | | | Estimating VoLL for load data provided to the ERM by a direct connect is difficult. An average VoLL for a single site may differ from the marginal VoLL for load net of IL that must be provided to the ERM. If a direct connect has greater than 40% IL and for example IL load has a lower VoLL (and that is why it is offered as IL) than the remaining load that must be submitted as potential DU data to the ERM, the selection tool may incorrectly choose that load as a DU because the site average rather than marginal VoLL is used. |
| 5. | Do you support the extended reserve manager's proposal to adopt a generic value of $100,000 for the public health and safety customer class and to tighten the definition of public health and safety as set out in the data specification? | - | - |
| 6. | Do you support the proposal that demand units with 100% public health and safety customers on them are not eligible for submission? | - | - |
| 7. | Do you accept the provision of 4 years of data as the minimum quantity requirement for load profile information where it is available? | yes, but | MEUG agrees with the rationale for having as large a set of possible DU to select from and quality actual historic data and therefore using minima of 4 years. We do not agree with the requirement for providing the ERM with 60% of offtake net of interruptible load (IL) as commented on in response to Q8 below.<br><br>There will be cases where a participant does not have 4 years of data and methods to estimate missing data may still not result in a complete data set. We do not condone parties that have the data but do not provide it. Neither is there any point seeking such data when it does not exist. MEUG suggests the question of comprehensive and quality data is one of those transitional issues we need to be pragmatic about for the first 5 year selection period and work should start well ahead of the next selection period to ensure the data available is of better quality. |

| Question | | Yes/No | MEUG comments |
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| | | | The latter point raises the question of who should pay for improving data collection ahead of the next 5 year selection reset. For EDB collection of possible DU load data is either part of or closely related to their business and costs might be incurred anyway as part of their regulated line services. For some direct connects and EDB connected industrials with possible useful DU load the cost of acquiring new data for potential DU is not recoverable from their consumers in the same way that EDB can recover those costs. |
| 7a | Do you support the proposed method for estimating missing years of data and its inclusion in the extended reserve manager functional specification? | - | See response to Q7. |
| 8. | Do you support the requirement for asset owners to provide at least 60% of offtake (the 60% to be net of interruptible load) in demand units? | no for direct connects,<br><br>and yes for EDB | No in relation to direct connects and yes for EDB that have a more diverse range of end consumer connections, many smaller DU options with DU to meet the 60% requirement. The problem of direct connects having larger DU that can have interrelated and sympathetic loads and use of average site VoLL rather than marginal VoLL for net of IL load data that must be provided to the ERM are problems commented on in response to Q10 and Q4.<br><br>Some MEUG members will be making more detailed submissions on this question. |
| 9. | Does the data specification provide clear and achievable instructions that will promote a consistent and efficient response from asset owners? | - | - |
| 10. | Do you have any other feedback on the data specification? | yes on sympathetic DU and high degree of randomness of some industrial DU | The data specification assumes submitted DU loads are independent of any other DU being selected. This not always true for some direct connect submitted DU. Ideally the model should have a variable to allow such interdependencies to be signalled and considered in the optimisation process. In the absence of the model recognising such sympathetic DU participants will have to group potentially small discrete DU into a larger block DU. |

| Question | | Yes/No | MEUG comments |
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| | | | As the selection tool prefers large DU because of the lower unit cost there will be a bias towards selecting direct connect block DU even though the optimal solution may have been to select one or none of the component DU parts.<br><br>We understand the selection tool does consider the randomness of a particular DU but are unsure if it considers the uncertainty on a trading period to trading period basis. This is important because direct connect and EDB connected industrial load can often be highly random on a trading period to trading period basis, that is either at full load or completely turned off, though over a whole year have a very high load factor and good predictability to total NI demand relative to the household sector. If the selection tool does not adequately reflect the completely random and high variance that can occur between trading periods of some industrial loads then selection of such loads could in some events fail to avert system collapse. The latter risk is exacerbated if large DU, which are typical of industrial loads, are preferred by the selection tool. |
| 11. | Do you support the proposal to require interruptible load to be subtracted using the curtailable IL half-hourly profile on each demand unit? | yes, but | Yes, but the selection methodology needs to be clear on how PROP obligations can also be met. As noted in paragraph 3 of this submission we have had useful meetings on this topic that can be considered "work-in-progress" on this topic. |
| 12. | Do you support the data provision timeframes proposed for asset owners during the selection process of 40 business days for data provision and 10 business days for revision? | - | - |
| 13. | Do the proposed methods for estimating missing data and for customer class allocation promote a reasonable and attainable standard of accuracy? | - | - |

| Question | | Yes/No | MEUG comments |
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| 14. | Do you support the proposal to remove the information requirement for asset owners whose offtake is less than 1 MW on average per year? | yes | - |
| 15. | Do you agree that the use of averaged half-hourly historical information as a proxy to meet the 'at all times' technical requirement is appropriate given currently available technology? | - | - |
| 16. | Do you accept the proposal to select up to 60% of the average annual offtake from any asset owner is the most cost-effective selection? | no | The costs using a 60% cap compared to having no cap is $107,000 or ~2%.[4] In the total scheme for some this might be considered noise; but for consumers every dollar of costs needs to have at least a corresponding benefit. MEUG discounts the two benefits suggested on p53 of the consultation paper as follows:<br>~ The first point in the consultation paper is to give participants certainty they will not have more than 60% of DU chosen and therefore this will encourage them to provide data on more than 60% of load knowing selection will be capped at 60%. Participants must provide data on 60% of load but not more. A participant that wishes to constrain load that could be selected for ER to 60% need only supply data for 60%. A participant that was innovative and could supply in excess of 60% of load for ER would be hampered by this constraint. Therefore MEUG does not agree the 60% cap is a benefit.<br>~ The second point in the consultation paper notes parties have to balance ER and PROP obligations as a reason supporting a 60% cap. MEUG notes that the uncertainty between ER and PROP obligations needs clarified and is part of "work-in-progress" discussions as noted in response to Q11 above. Once that is clarified this reason for applying a 60% cap will not apply. |

[4] Consultation paper table 6-7, p54.

| Question | | Yes/No | MEUG comments |
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| 17. | Do you support the proposal to procure an additional 10-15% of extended reserve to be standby flexible demand units and to apply the minimum load buffer, to support flexibility in management of extended reserve? | yes | - |
| 18. | Do you agree that the methodology is aligned to the Code principles? | not considered | Have not considered because there remain many aspects of the selection methodology and implementation to be clarified. |
| 19. | Does the procurement schedule template include the information that you require? | - | - |
| 20. | Do you support the extended reserve manager's proposed process for managing commercially sensitive information? | - | - |
| 21. | Do you consider a 2-week consultation period for the draft procurement schedule to be sufficient for you to provide feedback? | - | - |
| 22. | Do you support the proposed operational design of the extended reserve scheme? | - | - |
| 23. | Do you have any comments on the flexible solve and limited selection processes described in sections 5.4 and 5.5? | - | - |
| 24. | Regarding Obligations 1 to 7: Do you have any comments or feedback, for example on the information requirements and proposed timeframes? | - | - |
| 25. | Regarding Obligation 8 (the proposal to require all relays to be set to and tested for as many AUFLS block settings as the relay can supply): | | |

| Question | | Yes/No | MEUG comments |
|---|---|---|---|
| 25a | Are the capability and cost assumptions correct? Please comment on any that are not. | - | - |
| 25b | Do you support the proposal to require all relays to be set to as many AUFLS block settings as they can hold and supply? | - | - |
| 25c | Do you support the proposal to require flexible demand units to switch between AUFLS blocks during an operational period, if necessary to improve flexibility? | - | - |
| 26. | Do you support the proposal to introduce a payment mechanism and why? | yes, but | There is a need (or demand) for ER and a cost of supplying an optimal level. A market of willing buyers and sellers for ER services is current not feasible and therefore costs need to be allocated.<br><br>The exacerbators of AUFLS events are NI generators and the owner of the HVDC and NI HVAC system. If feasible ER costs should be allocated to exacerbators first. The EA had decided not to implement that approach. MEUG, with a note from NZIER, disagreed with this approach.[5] MEUG remains of the view the EA should reconsider ER costs being allocated in whole or part to exacerbators.<br><br>The consultation paper lists 3 policy intents for a compensation payment mechanism:<br><br>~ First "to incentivise the provision of enhanced AUFLS services".<br><br>On this point the paper concludes "Thus the ability for the payment mechanism to incentivise enhanced services is at best limited, and not sufficient on its own to justify introduction of a payment mechanism"[6]<br><br>~ Second "to incentivise direct connect consumers to submit realistic Volls for the selection process."<br><br>The payment mechanism is also found wanting for this policy intent "Therefore |

[5] Refer NZIER note to MEUG, Extended Reserves proposal, 20 May 2014, tabled as part of MEUG submission to the EA of the same date, refer http://www.meug.co.nz/node/589
[6] Consultation paper, p78.

| Question | | Yes/No | MEUG comments |
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| | | | this reason on its ow is not sufficient to introduce a payment mechanism"[7]<br>~ Third "to equitably spread the burden of AUFLS provision across all consumers."<br>This is the only policy intent the consultation paper finds is met "Consequently the extended reserve manager considers it is in the long term benefit of consumers to spread the cost of the scheme across all North Island consumers, despite the additional cost of managing payments. From a national perspective a more efficient selection of demand units is possible while providing for equity through payments so that the extended reserve service is provided for a lower net cost overall."[8]<br>MEUG suggest a more efficient way to recover costs would be to charge exacerbators because they will recover costs in their energy offer costs (for generators) or as a pass through cost by Transpower. We acknowledge more detailed analysis would be needed to consider how exacerbators could be charged and the incentives that might be facilitated by use of an approach such as the current IR pro rata allocation with use of event charges as proxy for marginal price signals or a runway cost allocation approach and no event charge considered by the Wholesale Advisor Group.<br>Longer term possible providers of DU may be individual or aggregated consumer owned DU rather than indirectly through EDB. In such a scenario exacerbators paying directly ER regime total costs will have an incentive to ensure the overall ER regime structure and all feasible non-EDB DU providers are considered for selection.<br>Note that even if it is found that there will be weak incentives on exacerbators to facilitate lower cost and innovation over the long term for the ER scheme that is no worse than the proposed payment scheme that has weak incentives as noted in the first two bullet points in the preceding page. |

[7] Ibid p78.
[8] Ibid p79.

| Question | | Yes/No | MEUG comments |
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| | | | MEUG notes the selection tool correctly includes a value for DU interruption costs (ie VoLL) as part of the DU Interruption Payment (DUIP) variable used in the optimisation calculations. Direct connects with DU selected will receive directly a DUIP. The same does not apply to MEUG members and all other consumers connected to EDB supplied through feeders that have been selected as DU. Consequently the new payment regime does not overcome the existing problem of some consumers bearing actual AUFLS event interruption costs but not others. MEUG recommends the EA as part of facilitating EDB develop cost-reflective and service based pricing require consumers that may be part of providing ER to be compensated for that by having their share of DUIP passed through. Until those consumers can be paid DUIP it may be best to exclude DUIP payments to EDB in the cost allocation formula though retain DUIP in the DU optimisation selection formula. |
| 27. | Can you identify incentives including perverse incentives or 'gaming' opportunities in the extended reserve selection process, whether there is a payment mechanism or not? | - | Refer comment on Q26. |
| 28. | On the assumption that there is a compensation payment regime do you agree with the proposed compensation details? | - | Refer comment on Q26. |
| 29. | Do you have any other comments to make on the proposed methodology? | - | Refer comment on Q26. |

8. As can be seen in the responses above there are still areas of uncertainty on the rationale for certain policy choices and the mechanics of how the new ER regime will be implemented. MEUG is open to finding pragmatic solutions because changing from 2 block to the new 4 block AULFS with all of its additional features that will give more certainty to the System Operator to manage an extreme event is urgent. Pragmatic does not mean resorting to be-spoke exceptions or changes to the proposal that will not be sustainable over time should demand, generation and transmission patterns change in the North Island.

9. It may be appropriate to re-consult on selected parts of the proposal where, based on the very good experience we had discussing how AUFLS and PROPs fit together, consultation could be specialist topic work-shops ahead of formal a written submission round.

Yours sincerely

Ralph Matthes
Executive Director