Major Electricity Users' Group

12 April 2021

Rebecca Osborne
Head of Grid Pricing Strategy
Transpower
By email to TPM@transpower.co.nz

Dear Rebecca

TPM: Grid and EDB connected utility scale storage devices and residual charges

1. This is a submission from the Major Electricity Users' Group (MEUG) on Transpower's consultation paper "TPM Development, Residual Charges and the Treatment of Batteries Options Consultation" published 22nd March 2021 along with a letter from the Electricity Authority (EA) and a report by Sense Partners commissioned by the EA[1]. Also relevant is the original enquiry to the EA from Contact Energy and the reply from the EA dated 16th November, and 9th December 2020, respectively[2].

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

3. The views in this submission may change after we have considered the views of other submitters. References in parenthesis to "Qu." refer to the questions, and numbers in square brackets refer to paragraph numbers in the consultation paper.

4. We have used the convention in the consultation paper [6] to "use the generic term grid-connected battery to refer to any type of grid-connected storage device or embedded utility-scale storage device."

5. The consultation paper invites feedback on two high-level questions as follows along with MEUG's response [7.1]:

    - Are there "… potential problems with the application of the residual charge to grid-connected batteries under the new TPM" [7.1]. MEUG's response is no.
    - Whether "… the TPM could or should provide for different treatment of grid-connected batteries with respect to the residual charge, e.g., through an exemption for grid-connected batteries when they are charging for storage" [7.2]. MEUG's response is no.

[1] All at https://www.transpower.co.nz/industry/transmission-pricing-methodology-tpm/tpm-development-residual-charges-and-treatment

[2] Document URL's https://www.ea.govt.nz/assets/dms-assets/27/Contact-Energy-letter-to-the-Authority.pdf and https://www.ea.govt.nz/assets/dms-assets/27/Authority-response-to-Contact-Energy.pdf respectively.

The role of grid-connected batteries

6. Batteries and other storage technologies (such as pumped storage and flywheels), along with existing mature and potentially new demand side management technologies including distributed generation (DG) and small-scale distributed generation (SSDG) behind a consumer's meter, have a potential role in the efficient operation of the electricity sector (Qu. 4.1.1).

7. Batteries and other storage technologies have a potential role in achieving carbon emissions reductions in New Zealand's energy system (Qu. 4.1.2) subject to one important caveat. That caveat is that batteries are being charged solely by zero carbon generation, i.e., hydro and or solar and or wind generators. If thermal generators are being used when batteries are being charged, then that increases green-house gas emissions.

Contact's concerns

8. MEUG has two comments about the concerns raised by Contact Energy (Qu. 5.1.1):

   - There is nothing in Contact's letter to the EA of 16th November or in the consultation paper that would meet the test set out in the EA's response to Contact of 9th December "… about whether, in allocating the residual charge, there is justification for treating batteries differently to other load for the purpose of preserving competitive neutrality between batteries and generation in the wholesale market."

     In other words, MEUG does not believe there has been any evidence provided to justify treating batteries different from other load in relation to TPM residual charges. As well as there being no special reason to differentiate utility scale batteries from other load in relation to residual charges, MEUG notes that batteries should also be subject to all the other relevant requirement's load are subject to including load bidding for non-conforming GXP, AUFLS and prudential requirements, unless there is evidence to justify those being carved-out. There is a parallel consultation on the treatment of batteries in relation to interruptible load that MEUG is considering, and we will be applying the same test.

   - If a carve-out for batteries were implemented then it must not breach the EA's preference to be technology agnostic as the EA stated in their letter of 9th December, "… we do not agree that any new TPM should essentially subsidise grid-connected batteries, in preference to other technologies or solutions for emissions reduction. We are particularly concerned that favourable treatment to encourage grid-connected batteries under any new TPM could result in an enduring subsidy, payable by all New Zealand electricity consumers, to investors like Contact Energy."

     An example of such a subsidy would be if grid-scale batteries were exempt from paying residual charges because of the peak-transmission saving benefit that batteries can deliver. However, existing large grid connected consumers with demand response can deliver the same benefit but must pay residual charges. It would be bizarre if an existing large grid connected consumer decided to quit New Zealand partly because of the residual charge only to have the peak transmission benefit provided instead by batteries exempt from residual charges.

Note MEUG is not suggesting consumers that have demand response, DG or SSDG that can provide the same services as a battery should also be exempted from residual charges. That option though would be a logical option to consider should Transpower decide an exemption should be considered to ensure the "concept of competitive neutrality" [37].

Assessment of the potential problems

9. Section 6 of the consultation paper only considers generators as competitors to the services that batteries can provide. Hence the focus on the different treatment of residual charges between grid-connected generators and utility scale batteries. There is no discussion of end consumers also being competitors to batteries. This omission has left readers of the paper with an incomplete picture. As illustrated in the preceding paragraph it would be bizarre if end consumers that could provide identical services as a battery went out of business because they had to pay residual charges and batteries started up because they were exempt from paying residual charges. MEUG therefore does not agree that there are battery specific policy issues in relation to residual charges (Qu. 6.3.1) as set out in the consultation paper. There are, as we explain in the last section of this submission, broader generic policy questions around the scale of residual charges relevant to all end consumers including battery owners.

10. There are no other battery specific policy issues in relation to residual charges not identified in the consultation paper (Qu. 6.3.2). Note we discounted a broad exemption for other service providers if batteries are granted an exemption from residual charges in the last bullet point of paragraph 8 above.

11. Following on from the responses to the questions in the preceding two paragraphs, MEUG's answer on the materiality of potential problems (Qu. 6.3.3), is that the question is irrelevant as there are no obvious policy issues.

Options for the treatment of grid-connected batteries

12. MEUG has not identified other options to consider (Qu. 7.5.1), prefers option1, i.e., no exemption (Qu. 7.5.2), and therefore has no views on options 2 and 3 (Qu. 7.5.3).

A common problem is the initial quantum of residual charges

13. Over the long-term the residual will vanish. Between now and then residual charges will decrease in both absolute values (as assets depreciate), and provided nationwide Anytime Maximum Demand increases, in dollar per unit terms. Two common problems for all load consumers of transmission services including battery owners are that first, the opening value of the aggregate residual charges from 2022 when the new TPM comes into effect will be disproportionately high compared to benefit-based charges. Second there is an unknown fraction of residual charges for assets and services that no end consumer benefits from. If government wishes to consider a "fix" for the distortionary effects of residual charges that affect all load consumers and battery owners, then government has the power to write down the value of assets recovered by residual charges.

Yours sincerely

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