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2/12/2021

Rob Bernau
Director Network Pricing
Electricity Authority
PO Box 1021
Wellington 6140.

By email to TPM@ea.govt.nz

Dear Rob,

UNISON SUBMISSION ON TRANSPOWER'S PROPOSED TPM

We appreciate the opportunity to submit on the proposed TPM.

Overall, we note that the proposals and models to determine transmission charges are complex and, from a customer perspective, this makes it challenging to make an informed comment on the proposals. We think it will be important for the Authority and Transpower to review the TPM after a period of experience (especially following the determination of future benefit-based charges) to ensure that it is delivering outcomes that are consistent with the policy intents and delivering outcomes to consumers that are logical and durable. In particular, we note the policy intents that:

1. Transmission investments that benefit particular parties should be paid for by those parties in proportion to expected benefits; that charge allocations should be relatively enduring; and subject to infrequent adjustment;

2. By adopting a benefit-based charge, parties would be incentivised to scrutinise investment proposals and reveal accurate information to assist the investment decision-making process.

Unison's submission focusses on two key matters:

1. The criteria that Transpower must apply in developing factuals, counterfactuals and scenarios to establish the expected net private benefits of BBIs; and

2. Managing the risks associated with determining critical assumptions for use in establishing benefits-based charges.

Development of factuals, counterfactuals and scenarios

The inclusion of the CUWLP case-study has proved to be a useful test of the proposals and in our view has highlighted some potentially problematic aspects of the approach to calculation and allocation of benefits. During the consultation process we asked a number of questions in relation to the CUWLP to enable us to assess how the allocation of CUWLP charges might change in response to the evolution of the market. Our questions and response are reproduced here to assist in the development of our submission points below:

> Question - Unison
>
> I am interested in exploring how the allocation of CUWLP charges might evolve depending on the scenario that plays out. I understand that the CUWLP case study is not the final proposed allocation, but if we assumed that it was, I'm interested to understand what would happen to charges under the two scenarios as one or other plays out in reality.
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> Notably:
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> - under the Tiwai Stays scenario, as far as I can see from Transpower's modelling outputs, load customers generally disbenefit from the CUWLP investment and the gross benefits are very modest because far fewer constraints are relieved;
> - under the Tiwai Leaves scenario load customers benefit significantly from the export constraint being relieved through lower wholesale prices;
> - because the benefits in the Tiwai Leaves scenario are substantially greater than the Tiwai Stays scenario, by weighting the benefits 50:50 between the two scenarios load customers end up paying the majority of the costs of the CUWLP;
> - accordingly, if Tiwai stays then load consumers would end up paying for an investment that they disbenefit from, which would seem contrary to the "beneficiaries pays" principle that underpinned the development of the TPM guidelines, although perhaps it could be argued that it is still consistent with an "<u>expected</u> beneficiaries pay" principle and consumers are simply out of luck that Tiwai Stays. (I do note that when Transpower consulted on whether it should continue with the CUWLP, load customers requested Transpower to delay the investment until there was certainty about Tiwai's exit, so "luck" is probably the wrong word).
>
> When I read the TPM Guideline on Adjustments and Transpower's table on proposals for adjustments (page 10.8 onwards), if a load customer <u>stays</u> it would not seem possible to seek an adjustment to the allocation. This seems problematic for an investment that was fundamentally driven by the prospect of the load customer leaving.

My questions are:

- Question 1: Am I right that under the current proposal if "Tiwai Stays" then no adjustment is possible?
- Question 2: If an adjustment is possible, could Transpower set out how the adjustment would come into effect and what the charge allocations would be?
- Question 3: If the benefits under the Tiwai Stays scenario are smaller than the costs of the CUWLP what would happen to the difference? Do those parties gaining some benefits from the CUWLP have to pay for it all even if the net benefits are negative? You mentioned that once an investment is a benefit-based investment it must be recovered from beneficiaries and there is no basis for any of it to be recovered from residual charges.
- Question 4: Per my comment above about actual benefits being different from expected benefits, if the initial allocation is based on a weighting of scenarios, such that weighted expected benefits of the investment exceed the investment cost, on what basis would there ever be a basis for an adjustment? Does it end up being "bad luck" if a particular scenario doesn't play out even if the initially deemed beneficiaries end up disbenefitting?
- Question 5: Suppose that Tiwai did exit, but Meridian and Contact were able to secure a substantial new load (e.g., hydrogen production facility) such that the generation is effectively contractually locked up again, so load customers do not see lower wholesale prices, would there be a basis for an adjustment in this scenario?
- Question 6: When calculating the allocation of charges, the model calculates the benefits for each grid location for each scenario and then applies a 50:50 weighting to the benefits to determine expected benefits for each location. Then the investment costs are allocated in proportion to expected benefits at each location. An alternative is to calculate the allocations in proportion to benefits at each location in each scenario and then apply the scenario 50:50 weightings to the allocations. Why does Transpower propose the calculation order set out in the proposed TPM?

The basis for my questions is to see how benefit-based charges evolve with changing circumstances. It would seem to me that the CUWLP case study is perhaps at the extreme end of scenarios because the beneficiaries change dramatically between the two main scenarios, but it is a good test of whether the "beneficiaries pays" principle can be efficiently and effectively applied over time. If it works logically for the CUWLP then we can have some degree of confidence that it will work in other scenarios.

Answer

Our answers below are within the specific context of the CUWLP case study and the specific situation you describe in your question. Note that our answer should only be considered within the specific context of this question and should not be interpreted as general advice. For example, the CUWLP case made a number of simplifications which might not apply when Transpower prepares the actual CUWLP pricing proposal for consultation. There may also be changes to the proposed TPM before it is incorporated into the Code in response to consultation feedback.

Under the proposed new TPM, once the allocation of the benefit-based charge (BBC) for an investment between customers is set, it does not change, unless there is a specific provision which allows it. The rationale for this approach is explained on pages 145 to 150 of the 2019 Issues Paper. www.ea.govt.nz/assets/dms-assets/26/26354TPM-supplementary-consultation-Feb-2020.pdf(external link)

There are however a number of exceptions to this general rule where the benefit-based charge or its allocation can be altered. These are set out principally in part F: Adjustments, part G: Reassignment and part I: Prudent Discount Policy of the proposed new TPM.

Below we respond to your specific questions.

Response to question 1:

Tiwai not leaving would not be a BBC adjustment event under clause 82(1) of the proposed TPM so there would be no adjustment to the CUWLP allocations under Part F of the TPM. However, it is possible that reassignment (Part G of the TPM) might eventually apply (depending on any further assumptions that could be made in your illustrative CUWLP example), but not until around 10 years after CUWLP is commissioned. An eligible BBI will be reassigned if its post-reassignment value is less than 80% of the BBI's current depreciated value and the circumstances justifying reassignment are sustained. The post-reassignment value of the BBI depends on a "BBI reassignment factor" calculated by reference to expected future loading and replacement costs for the grid investments comprised in the BBI. This is discussed in Chapter 11 of Transpower's 30 June 2021 Reasons paper.

Response to question 2:

If reassignment applied, the CUWLP allocations would not change. The reassignment adjustment would be a scaling down of the covered cost of CUWLP, which would then be reflected in the same scaling down of all beneficiaries' benefit-based charges for CUWLP (clauses 100 and 101 of the proposed TPM).

Response to question 3:

To clarify the results of the case study, in the Tiwai stays scenario, load customers in the upper South Island and the North Island disbenefit from CUWLP more frequently than they benefit so disbenefit on average in that scenario. Conversely, load customers in the lower

South Island benefit more frequently from CUWLP than they disbenefit so benefit on average in the Tiwai stays scenario. However, given a 50:50 weighting across the two scenarios, load customers in the lower South Island (with the exception of Tiwai) disbenefit on average from CUWLP (and therefore do not receive an allocation) because the benefits they receive in the Tiwai stays scenario are lower than the disbenefits they receive in the Tiwai leaves scenario. Tiwai benefits (and receives an allocation) because its benefits are only assessed in the scenario in which it exists (i.e. a party can't receive disbenefits if it doesn't exist).

Unless one of the adjustments applies, the assessed beneficiaries must continue to pay the full charges, ie, there is no shifting of the charges from the initially assessed beneficiaries to other customers via the residual charge. This applies even if benefits estimated ex-post to a customer were assessed to be less than the charges to a customer. Benefit-based charges for post-2019 investments are not capped at the value of positive net private benefits.

If reassignment applies, the reduction in benefit-based charges would be funded by load customers through the residual charge.

In relation to your comment "you mentioned that once an investment is a benefit-based investment it must be recovered from beneficiaries and there is no basis for any of it to be recovered from residual charges": if reassignment applies, the benefit-based investment does not cease to be a benefit-based investment (and therefore does not have its costs recovered through residual charges). Only the recovery of any revenue in relation to the adjustment (scaling down of the covered cost/benefit-based charges) is recoverable through residual charges.

Response to question 4:

The allocations of the BBC are determined by the ex-ante expected net private benefits. Pages 136 and 145 to 150 of the 2019 Issues Paper discusses the situation where the benefits estimated ex-post differs from the ex-ante estimated benefits (on which the allocations are based) and why the benefits estimated ex-post are not relevant to the allocation of charges.

Absent a substantial sustained change in grid use (SSCGU, discussed below), the only possible adjustment resulting from benefits estimated ex-post being lower than expected benefits is reassignment as described above.

For a future major capex proposal, if the customers that are assessed to be beneficiaries of the BBI consider that the risks and costs of it outweigh the benefits, they could provide feedback to that effect as part of the Commerce Commission's consultation on it.

Response to question 5:

If there is a SSCGU and the requirements of clause 93(2)(a) of the proposed TPM are met for a benefit-based investment, there is a full reallocation of the investment's benefit-based charges based on forward-looking net benefits.

Tiwai exit would not be a SSCGU for CUWLP because Tiwai exiting is a market scenario factored into the original allocation (clause 93(2)(a)(iii)). The arrival of replacement load of a comparable size could be a SSCGU for CUWLP if the replacement happens after the previous Tiwai load is no longer captured in capacity measurement period (CMP) F (clause 3), such that the arrival of the replacement load is capable of meeting the first limb of the definition of SSCGU.

Response to question 6:

Refer to Chapter 7, Part D, section 13.3 of Transpower's TPM proposal reasons paper. Specifically, paragraphs 222-224 (copied below) explain why it is proposed that positive and negative benefits are summed across time and scenarios before allocations are determined. To expand, "expected net" from clause 8 of the Guidelines is interpreted to mean the probability-weighted mean of benefits and disbenefits – this interpretation is considered to be consistent with conventional cash flow analysis of an investment.

224. *The Guidelines specify charges will be based on positive net benefits. Some transmission upgrades result in disbenefits to some parties in the grid. For example, an upgrade that removes transmission constraints will decreases prices downstream of the constraint – benefitting load customers – but resulting in a disbenefit for generation customers in this region.*

225. *Furthermore, some transmission upgrades may result in the same region having both benefits and disbenefits in different future scenarios. For example, South Island load consumers generally disbenefit from the HVDC in wet hydrological inflow scenarios, but benefit in dry hydrological scenarios when HVDC flow reverses direction.*

226. *We propose to remove negative benefits only after summing them with positive benefits across scenarios and time as it ensures the cost allocation is more consistent with the definition of an expected benefit i.e. a benefit that considers the potential for both positive and negative benefits.*

Firstly, we appreciate the comprehensive response to our questions above. From the response, we conclude that because the original assessment of expected benefits of the CUWLP contemplate a scenario where Tiwai stays, in the event that Tiwai does indeed stay, then load customers who disbenefit from the investment must continue to pay for the investment. This seems problematic and apt to bring the TPM into disrepute, especially in circumstances where load customers' submitted at the time Transpower decided to make the CUWLP investment that it needed to undertake an options analysis to determine the optimal timing of the investment.

Transpower was requested to consider whether waiting for confirmation of Tiwai's exit before committing to the CUWLP would be the optimum strategy that would deliver the highest expected benefit. Transpower never disclosed its timing options analysis. As it turns out, Tiwai has extended its stay and given the global decarbonisation imperative and high aluminium prices, there seems high likelihood that Tiwai may continue further. Accordingly, there is very real risk that the benefits to load customers in a "Tiwai exits" scenario never eventuate and the primary benefits of the investment are relief of import constraints to lower South Island customers.

In assessing these circumstances against the criteria for Transpower to apply in determining a counterfactual in clauses 45 and 46 of the proposed TPM, Unison submits that the criteria for establishing a counterfactual are unduly restrictive of Transpower's options.

Clauses 45 and 46, as currently proposed, state:

> **45 Factual and Counterfactual**
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> (1) Transpower must determine a BBI's factual and counterfactual.
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> (2) Transpower must apply the following principles to determine the BBI's counterfactual unless Transpower determines applying these principles does not produce a reasonably likely future grid state:
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> > (a) if a grid investment comprised in the BBI is an enhancement investment, the counterfactual must include the grid investment not being made:
> > (b) if a grid investment comprised in the BBI is a replacement investment or compliance investment, the counterfactual must include the immediate decommissioning of the relevant grid asset or transmission alternative without replacement:
> > (c) if a grid investment comprised in the BBI is a refurbishment investment, the counterfactual must include leaving the relevant grid asset or transmission alternative in operation without refurbishment until it reaches replacement state and then immediately decommissioning it without replacement.
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> **46 Scenarios**
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> (1) Transpower must determine a BBI's scenarios and probability weightings for the scenarios. The BBI's market scenarios must include variations in load growth, generation expansion and hydrology.
>
> (2) Transpower must apply the same scenarios in a BBI's factual and counterfactual, unless the BBI is a market BBI that is expected to influence materially generating plant investment decisions, in which case Transpower may apply different generation development market scenarios in the BBI's factual and counterfactual.

In the CUWLP case-study, when Transpower determined to proceed with the CUWLP the most relevant counterfactual was that "the investment would proceed in future when higher confidence was reached that Tiwai would exit", not that the investment would never proceed. Clause 45(2)(a) does not clearly permit this as a scenario. Our recommendation is that clause 45(2)(a) include provision that the counterfactual "or include the investment proceeding in future."

Similarly, clause 46(2) is unduly restrictive on Transpower making alternative assumptions about load customers that may be affected by a significant BBI investment, such as the CUWLP. In a Tiwai exits scenario in the presence of the CUWLP there would be a significant quantity of generation that would be available to a large load north of the existing constraint. As established by the Electricity Authority's recent analysis of competition in the wholesale market, there are significant motivations on the part of relevant generators to tie up the lower South Island generation in order to maintain higher wholesale electricity prices. In the CUWLP factual, there is non-zero probability that a large load would be enticed above the lower South Island constraint, however, as currently drafted in clause 46(2) Transpower would also be required to assume this in the counterfactual, which would not necessarily make sense. We recommend that clause 46 be permissive of allowing different load development scenarios between the factual and counterfactual where the BBI would have a material influence on load investment decisions.

Overall, Unison's submission is that Transpower needs to have flexibility (or be directed) to determine investment factuals and counterfactuals that are representative of scenarios that a reasonable person (with good understanding of the electricity industry) would consider are credible and likely. It may be useful to include such a principle within the TPM. As drafted, we think the constraints on Transpower's development of factuals and counterfactuals in some circumstances could constrain it to scenarios that are not credible, which would make the consequential allocations lacking in legitimacy.

Mitigating the potential for costly and prolonged disputes on the determination of critical assumptions

What the CUWLP case study has also highlighted is that material value differences can be driven by the determination of scenarios, scenario probabilities, factuals and counterfactuals and are likely to drive high levels of contention among potential beneficiaries. Consultation on an **assumptions book** and transparency will be important elements of seeking to minimise potential for controversy and dispute, but we submit it may be useful to include either within the TPM or in a separate document a statement of a test and process for the determination of critical assumptions to ensure that:

1. Transpower does not become bogged down in resolving and defending critical assumptions – there should be a reasonable hurdle to challenge the determinations of assumptions; and

2. Decisions on assumptions are seen as legitimate, by ensuring the impartiality of decision-makers on critical assumptions. We note it will be important to have effective management of conflicts of interest as Transpower itself would not always be neutral as to the consequences of choices of critical assumptions. This is certainly the case for the CUWLP.

Closing comment

We look forward to reviewing the submissions on the TPM proposal and the eventual finalisation of the TPM to bring to an end a long period of development.

Yours sincerely

Nathan Strong
GENERAL MANAGER COMMERCIAL