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13 March 2024

Transpower Individual Price-Quality Path 2025 (RCP4): Issues Paper

1. Transpower welcomes the opportunity to respond to submissions to the Commerce Commission's (the Commission) Issues Paper on Transpower's Individual Price-Quality Path from 2025 (aka Regulatory Control Period 4, RCP4).

Revenue path increase

2. Most submitters echoed the Commission in the need to consider whether there would be price shocks from Transpower's potential RCP4 price path on consumers and customers.
3. We agree with the Commission's conclusion that our forecast increases would not be considered to be a price shock for the average household.[1] Transpower is a small proportion of the average household bill, around 8%.[2] A 25% increase in Transmission charges results in an approximate 2% increase (or $4 per month) in a consumer bill which in our view does not, on its own, constitute a price shock for household consumers.
4. We note that the Commission has used an Electricity Authority's estimate of 10.5% as transmission proportion of the average household bill. This estimate is from 2018. We consider using MBIE's publicly available (up to date) data from the Survey of Domestic Electricity Prices is more appropriate.
5. Despite the increase in transmission charges having a relatively small impact on household bills, we acknowledge that the increase for our customers is material. However, as noted by submitters (e.g. MEUG, Mercury, Meridian) the application of the input methodologies has created much of the step up in revenue. Regulatory arrangements have kept prices during RCP3 low as cost increases, such as interest rate increases and CPI, are not passed through until RCP4.

Pricing implications

6. NZAS states that the increase in transmission charges "*goes against the long-run policy intent, across several governments, that the TPM be a benefit-based regime – with those grid users, like generators, who will ultimately be the beneficiary of increased power supply,*

[1] Commerce Commission, Transpower's individual price-quality path for the next regulatory control period – Issues Paper, 25 January 2024, Footnote 208.
[2] Based on MBIE's February 2023 Survey of Domestic Electricity Prices.

paying proportionality." As the NZAS notes, and as noted above, the key drivers of the increase are changes in interest rates and CPI. These are factors outside of Transpower's control and these increases apply uniformly across customers, assuming the Electricity Authority amends the TPM for the weighted average cost of capital (WACC) lag on benefit-based charges.[3]

7. NZAS also states "[i]*t was NZAS' expectation that these charges would continue to decline over time as Transpower allocated less of its revenue recovery to the residual charge 'washed across' customers, and more to those who benefit from on-going grid expenditure.*" This is the case. Forecast RCP4 base capex will be allocated on a benefits-basis (predominately using the simple method). The residual charge increases in the first two years due to the WACC lag issue, after this it decreases as a proportion of aggregate charges.
8. The indicative allocation of charges to customers by GIP/GXP and by charge type is set out in our RCP4 indicative charges (RCP4 Indicative Transmission Charges - Indexed RAB). These were published on our website in December 2023. The annual changes during RCP4 vary by customer reflecting the allocations under benefit-based charges.

Grid Output Measures

9. Several submitters (Consumer Advocacy Council, Meridian, and MEUG) objected to our proposals to remove the quality standard on the AP2 (select HVAC assets) performance measure, concerned that it would reduce our incentives and/or the Commission's ability to monitor our performance.
10. To be clear, our proposal would still require public reporting on the availability performance of the select HVAC assets and would be subject to the revenue impacts under the incentive scheme based on the cap and collar measures of performance.
11. The rationale for our proposal to remove the quality standard is to remove the automatic trigger for Commission investigation. These investigations are time and resource intensive, and, despite Transpower breaching the AP2 quality standard several times over RCP2 and RCP3, have not identified any systematic failings of Transpower to meet good electricity industry practice. The Commission has the power to investigate Transpower's service quality without a quality standard being triggered.
12. The presence of the quality standard with an investigation outcome can distort decisions on any customer works (e.g., new, or enhanced connections) that would require outages on those select HVAC assets. To avoid breaching the quality standard we may need to delay connection-related work.
13. Likewise, our proposal for HVDC unplanned outage to be capped is to remove the potentially perverse incentive on decisions about responding to *other* unplanned outages. As we stated in our Grid Services engagement paper:

> *"When the quality standard for the measure in a year has been exceeded by an extended major unplanned outage there is no further financial incentive to efficiently plan for other work, even though in practice we do continue to efficiently plan.*

[3] Authority identifies issue with WACC that could affect 2025 transmission prices | Electricity Authority (ea.govt.nz)

A capped threshold would ensure the financial incentive to efficiently manage other planned works remains throughout the year and avoids the situation where the target for AP1 is continually beyond reach."[4]

14. We note no substantive submissions were made on the Commission's thinking on new measures AP1.2 (extending the assets included in HVDC operation) and AP2.2 (cost impact of transmission outages). On AP2.2 only, MEUG suggested it would welcome further discussion.

15. Any new measure should be introduced with good analysis and evidence and not in a conceptual rush.

Transpower's historical expenditure *efficiency*

16. NZAS is incorrect in stating that "*the Verifier engaged by Transpower did not benchmark cost performance / efficiency of Transpower.*"[5] The Independent Verification report[6] at section 2.5 acknowledges that Transpower "*undertook economic benchmarking to measure how efficient it is as a supplier over time compared with its peers"* and then steps through that benchmarking process.

17. The Independent Verifier concludes "*the results of economic benchmarking of TNSPs should be used with caution due to difficulty in selecting appropriate outputs and inputs, weighting the outputs and inputs, getting comparable data, and different operating environments of each supplier. There may also be a greater difference in accounting calculation methods, capex and opex definitions and the appropriateness of inputs and outputs and their weightings for comparisons between New Zealand and Australia*."

18. Nevertheless, the Independent Verifier did then turn to benchmarking where it felt it was useful to the verification i.e. "[m]*ore detailed benchmarking or comparisons have been considered in the suite of evaluation techniques and has been used for evaluation of selected work programmes as needed throughout this report*."[7]

Deliverability

19. We strongly support ENA's submission that "*rejecting expenditure on the basis that there may be deliverability challenges, effectively locks in failure and the non-delivery of this investment. Instead, the Commission must give Transpower the opportunity and incentive to rise to the challenge of delivering the infrastructure that will enable decarbonisation*."[8] This likewise applies to the work electricity distribution businesses need to undertake to support electrification.

20. We agree with submissions (Vector and ENA) on the role for an uncertainty mechanism for managing deliverability risk, and that reporting (as supported by MEUG and ENA) is an appropriate mechanism for assessing deliverability.

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[4] Transpower, Grid Service Engagement Paper, May 2022, page 24.
[5] NZAS, Submission on Commerce Commission Issues Paper: Transpower's individual price quality path for the next regulatory control period, 21 February 2024, page 3
[6] GHD, Independent Verification report – RCP4 base expenditure and service measures 2025-30 proposal, 12 September 2023 Section 2.5.
[7] ibid, Section 2.5.3
[8] ENA, Submission to the Commerce Commission on Transpower's individual price-quality path issues paper, 21 February, page 2

Other issues

21. While not explicitly covered in the Commission's Issues Paper, nor any submission, the Commission recommended we use the cross-submission process as an opportunity to address two separate, but related, items:

    21.1. An alternative approach to regulatory asset base (RAB) indexation that still achieves the Commission's policy intent – this is set out in Attachment A.

    21.2. Our early thoughts on amendments to Transpower's wash-up mechanism to best achieve the Commission's objective of ex-ante financial capital maintenance – these are set out in Attachment B.

22. Please contact me if you have any questions on our cross-submission.

Kind regards,

Joel Cook
Head of Regulation

Attachment A – Regulatory asset base indexation implementation

A1. We raised in our submission that "[w]*e intend to engage the Commission shortly on an alternative approach to input methodologies RAB indexation."* We have identified limitations with the practical implementation of the indexation of our RAB as newly set out in the input methodologies.

Background

A2. Under the Commission's S53ZD notice[9] to forecast revenue calculations, we were asked to model forecast revenue calculations accounting for the draft input methodology decisions, including the draft decision to index Transpower's RAB to inflation from RCP4.

A3. To provide the forecast revenue calculations we needed to roll forward the RAB on an indexed basis, inclusive of a revaluation of the RAB for each year from 2026 and a depreciation forecast[10] for each year inclusive of this revaluation. Our first assumption was that we would be able to derive this indexed RAB roll forward from an unindexed roll forward, like the approach adopted by the Australian Energy Regulator (AER) in its post-tax revenue model.[11]

A4. The input methodologies compliant approach is to index the opening RAB to inflation at the end of the disclosure year (except where the asset is at the end of its useful life or has been disposed of or lost during the year). The intent is to maintain the value of the supplier's investment in real terms. However, the effect of this approach is that applying the revaluation on the opening asset value means the revaluation includes the portion of the asset's service potential which has been "used up" (i.e. depreciated) during the year.

A5. At the time, we were unable to derive forecast RAB depreciation fully consistent with the draft input methodologies. This was noted in the Commission's Issues Paper.[12] Instead, we calculated the forecast indexed depreciation as the opening indexed RAB balance divided by the weighted average remaining life for the unindexed RAB. While it was not fully consistent the input methodology approach, it produced a "materially equivalent" outcome, as noted by PwC.

A6. We outline below our proposed approach to indexing the RAB. We consider that there are significant conceptual and administrative advantages of our proposed approach, compared to the input methodologies compliant approach, that better promote the purpose of Part 4 of the Commerce Act.

Our proposed approach

A7. **Our proposal** is to calculate the revaluation on the *opening RAB less depreciation and disposals of existing assets*, rather than just the opening RAB.

[9] Transpower-s53ZD-RCP4-Revenue-Calculations-Notice.pdf (comcom.govt.nz)
[10] Unlike DPP3, Transpower's IPP uses a bottom-up forecast of depreciation (i.e., on an asset-by-asset basis).
[11] https://www.aer.gov.au/documents/transmission-post-tax-revenue-model-version-4-april-2019-appendix-b
[12] Transpower-RCP4-Issues-Paper-25-January-2024.pdf (comcom.govt.nz) para 10.42

A8. Our proposed approach is slightly different to the approach adopted by the AER, and the approach the Commission used when proving NPV-equivalence as part of its consultation on the cost of debt wash-up:[13]

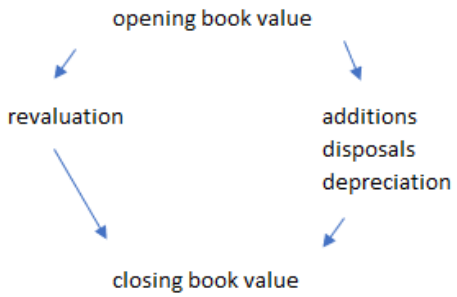
A8.1. The AER calculates depreciation on the *opening RAB plus the revaluation amount*. This approach produces an identical revenue profile to our proposed approach, except has an offsetting increase to the revaluation revenue deduction and depreciation building block. However, we consider our proposed ordering more appropriate.[14]

A8.2. The key difference between our proposed approach when compared to the Commission's approach is that the revaluation calculation is performed iteratively alongside the rest of the RAB roll forward.

A comparison of the input methodologies approach and our proposed approach

A9. In the input methodologies the revaluation is performed separately to the rest of the RAB roll forward.

Figure 1 Input Methodologies approach



A10. As such, the closing book value includes a revaluation amount which is inclusive of the portion of the asset's service potential that had been depreciated. This indexing of the depreciated value ('additional amount') then becomes untethered from the remaining (GAAP) value of the asset as it not attached to any portion of the carrying value of the underlying asset. The 'additional amount' continues to be revalued in future years, and the compounding effect, across many different assets, means that there is no realistic aggregated approach (that we are aware of) to produce an indexed RAB roll forward as required by our input methodologies.

A11. The three-graphic sequence below starts with an unindexed approach to valuation, then the IMs approach, finally our proposed approach.

Unindexed valuation

A12. Consider an asset with a five-year useful life and split into five 'component pieces,' each reflecting one year of service potential:

[13] Commerce Commission - 2023 Input Methodologies Review (comcom.govt.nz)

[14] The revaluation is made at the end of the year and is on the CPI movement within the current year. Therefore, it makes sense for the revaluation to follow any depreciation during the year.

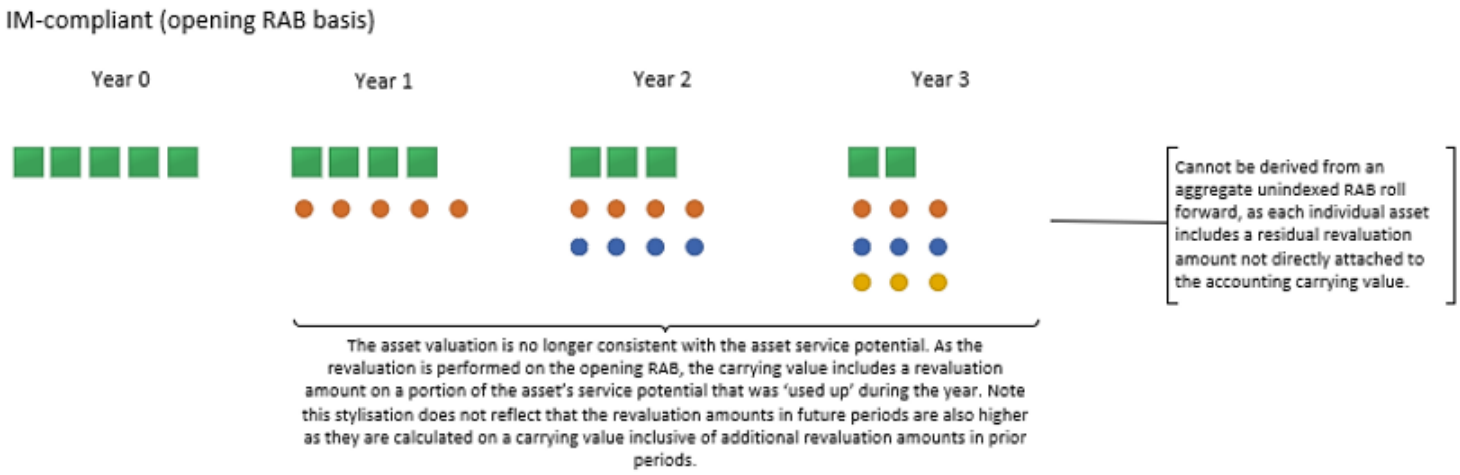
Figure 1: Unindexed

A13. For an unindexed asset, the asset valuation remains consistent with its service potential across all years.

Indexed valuation

A14. Below is the same graphic accounting for indexation under the input methodologies.

Figure 2: Indexation under the Input Methodologies



A15. The asset valuation diverges from its service potential, as the valuation includes the 'additional revaluation amount'. For example, at the end of Year 1, the asset's remaining service potential is four years, however a remaining service potential of five years is reflected in the revaluation.[15]

Our proposed indexation approach

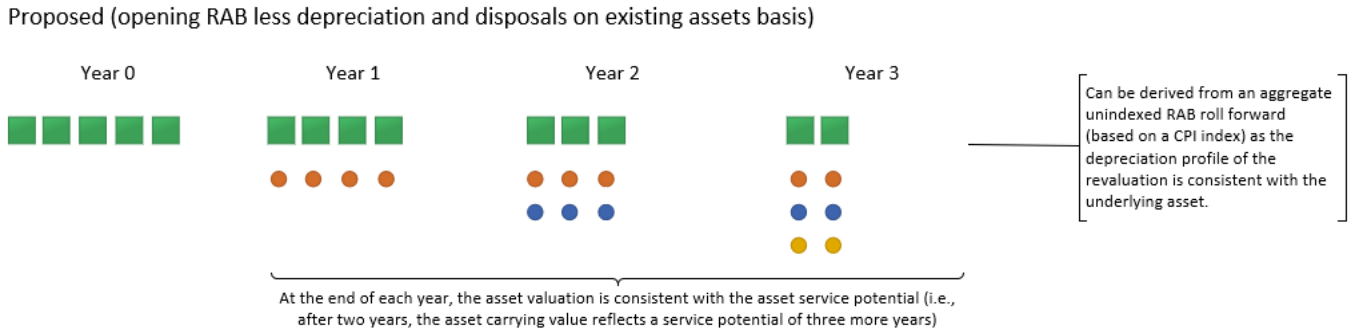
A16. In our proposed approach:

A16.1. revaluation is applied *after* depreciation and disposals; and

A16.2. the revaluation amount is now consistent with the depreciation profile of the underlying asset.

[15] Note the IM-compliant approach ensures NPV equivalence by not applying the revaluation amount in the final year of an asset's life (as per clause 2.2.8 (3) above).

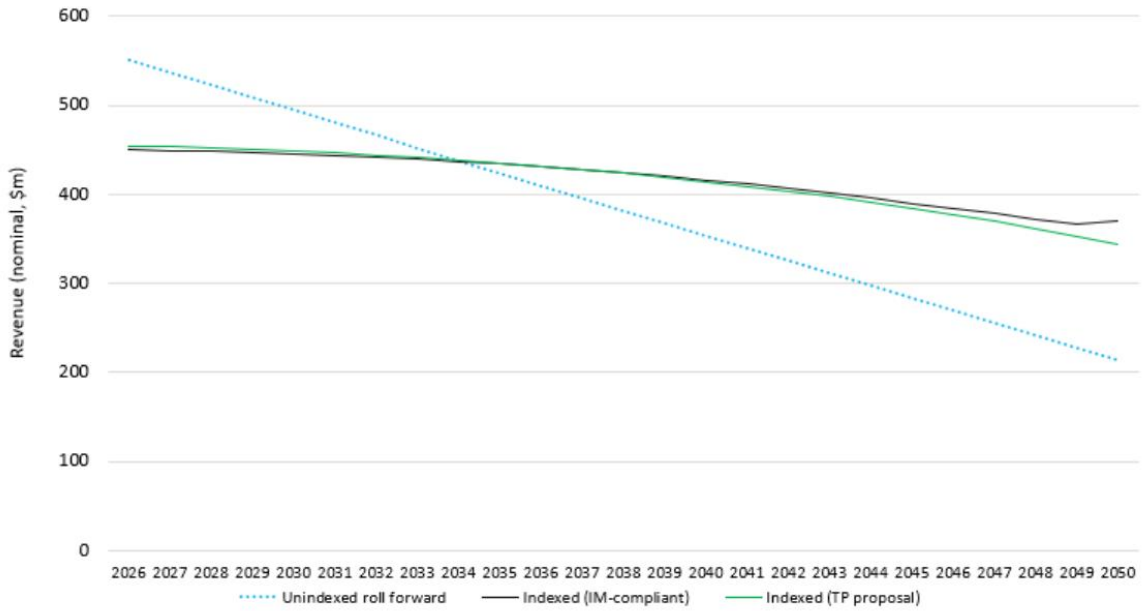
Figure 3: Transpower's proposed indexation approach



A17. Both the proposed approach and the input methodologies approach maintain real financial capital maintenance and produce very similar revenue profiles.

A18. An example is provided in the figure below[16] using a $5b opening RAB, 7% WACC, and 2% inflation:

Figure 4: Revenue profiles from the IM approach and proposed approach (unindexed shown for context)



A19. The proposed approach results ~0.8% more recovery in the first five years as the revaluation revenue reduction is on a smaller base. However, there is no increase in revenue in the final year as clause 2.2.8 (3) is not required as the revaluation amount on an asset's value in its final year will be zero implicitly.[17]

Advantages of our proposal

A20. We consider the proposed amendment is conceptually sounder than the approach in the input methodologies. Additionally, it provides the following advantages:

[16] We have provided an Excel model with our cross-submission which uses a 'random' function input so the model graph and this submission graph will differ depending on the inputs in the excel model

[17] As opening value less depreciation and/or disposal amount will always be zero and so the revaluation amount will be applied against a $0 amount.

A20.1. As the depreciation profile of the revaluation amount is consistent with the underlying asset, it is possible to derive an indexed RAB roll forward from an unindexed (GAAP) roll forward.

A20.1.1. Assets are only required to be bucketed by the year of commissioning and the depreciation amount is inflated by the cumulative impact of CPI between commissioning and the year of depreciation.[18]

A20.1.2. The immediate advantage is that we can produce a precise indexed RAB roll forward forecast from an unindexed roll forward for both our IPP determination and any future indicative customer charges forecasts. We already have established procedures for rolling forward our RAB on an unindexed (GAAP) basis.

A20.1.3. We do not currently have a way to roll forward an indexed RAB on an asset-by-asset basis under the current input methodologies and cannot envisage an approach without significant development cost.

A20.2. The system configuration for this approach will be simpler, as, for example:

A20.2.1. We would not need to develop additional modifications to flag assets reaching the end of their useful life or disposed of as excluded from the revaluation calculation (as clause 2.2.8 (3) is no longer required).

A20.2.2. Any attempts to reconcile the GAAP fixed asset register to the RAB fixed asset register would be more straightforward, likely reducing internal quality assurance and external assurance costs.

[18] Not including first year depreciation, which is already in dollars of the day and not deducted from the opening RAB when calculating the revaluation amount.

Suggested amendment to the Transpower input methodologies for our proposal

A21. We suggest the following change to clause 2.2.8 of the December 2023 Input Methodologies.

Clause 2.2.8 IM determination December 2023	Proposed amendment
2.2.8 Revaluation (1) Unallocated revaluation is the amount determined, subject to subclause (3), in accordance with the formula- **unallocated opening RAB value** × **revaluation rate**. (2) Revaluation is the amount determined, subject to subclause (3), in accordance with the formula- **opening RAB value** × **revaluation rate**. (3) For the purposes of subclauses (1) and (2), where- (a) the asset's **physical asset life** at the end of the **disclosure year** is nil; or (b) the asset is a- (i) **disposed asset**; or (ii) **lost asset**, unallocated revaluation and revaluation are nil. (4) Revaluation rate means, in respect of a **disclosure year**, the rate determined in accordance with the formula- $(CPI_4 \div CPI_4^{-4})$ -1, where- CPI_4 means **CPI** for the quarter that coincides with the end of the **disclosure year**; and CPI_4^{-4} means **CPI** for the quarter that coincides with the end of the preceding **disclosure year**.	2.2.8 Revaluation (1) Unallocated revaluation is the amount determined, subject to subclauses (3) and (4), in accordance with the formula- **(unallocated opening RAB value – depreciation**, including accelerated depreciation, on the **unallocated opening RAB value)** × **revaluation rate**. (2) Revaluation is the amount determined, subject to subclause (3), in accordance with the formula- **(opening RAB value – depreciation**, including accelerated depreciation, on the **opening RAB value)** × **revaluation rate**. (3) For the purposes of subclauses (1) and (2), accelerated depreciation includes (a) the write down of the carrying value of any **disposed asset** included in the opening RAB value; and (b) the write down of the carrying value of any **lost asset** included in the opening RAB value. (4) For the avoidance of doubt, **depreciation**, including accelerated depreciation, for the purposes of subclauses (1) and (2), should not include any value which relates to assets which have a **commissioning date** in the **disclosure year** in question. ~~(3) For the purposes of subclauses (1) and (2), where-~~ ~~(a) the asset's **physical asset life** at the end of the **disclosure year** is nil; or~~ ~~(b) the asset is a-~~ ~~(i) **disposed asset**; or~~ ~~(ii) **lost asset**,~~ ~~unallocated revaluation and revaluation are nil.~~ ~~(4)~~(5) Revaluation rate means, in respect of a **disclosure year**, the rate determined in accordance with the formula- $(CPI_4 \div CPI_4^{-4})$ -1, where- CPI_4 means **CPI** for the quarter that coincides with the end of the **disclosure year**; and CPI_4^{-4} means **CPI** for the quarter that coincides with the end of the preceding **disclosure year**.

Attachment B – Transpower's wash-up approach

B1. A central theme in the Commission's Risks and Incentives topic paper[19] is the principle of ex-ante real financial capital maintenance (FCM).

B2. The Commission defines 'ex-ante real FCM' as the concept that "regulated suppliers should have:

B2.1. the ex-ante expectation of earning their risk-adjusted cost of capital (i.e., a normal return); and

B2.2. an ex-ante expectation of maintaining their financial capital in real terms over multiple periods."[20]

B3. The IM decision to index Transpower's RAB to (actual) inflation helps achieve the second arm. However, on its own, it does not create the expectation of a 'normal return' on that financial capital.

B4. Traditionally the Commission has used a revenue wash-up for inflation[21], in tandem with RAB indexation, to achieve the first arm and maintain the real value of allowed revenues.

B5. The Commission has demonstrated that this approach achieves ex-ante real FCM in much of its modelling over time.[22] However, for the Commission to demonstrate that this approach achieves ex-ante real FCM, or any approach for that matter, proof of concept necessitates the derivation of a 'real' WACC.

B6. Transpower's existing wash-up (i.e., as applied in RCP3) only adjusts Transpower's expenditure profile for inflation. Alongside RAB indexation, this wash-up approach would only partially protect Transpower against inflation[23] as the capital charge is excluded from the wash-up.

B7. We are particularly concerned with the distributional impacts of any wash-up when applied against the TPM. To align with Transpower's revenue, certain elements of the TPM will likely require an amendment for the revaluation amount. This revaluation amount would be calculated on Transpower's actual RAB using actual inflation, however the capital charge building block would continue to use the nominal WACC as set for the regulatory period, of which has an implicit inflation forecast that could differ (significantly) to actual inflation.

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[19] Part-4-IM-Review-2023-Final-decision-Risks-and-Incentives-topic-paper-13-December-2023.pdf (comcom.govt.nz) para 2.8

[20] Part-4-IM-Review-2023-Final-decision-Risks-and-Incentives-topic-paper-13-December-2023.pdf (comcom.govt.nz) para 3.389

[21] For EDBs, GTBs, and Chorus, the Commission washes up total allowed revenues for the difference between forecast and outturn inflation (i.e., simplistically, if real revenues were $100, forecast CPI was 2%, and actual CPI was 5%, then allowed revenues would be $102 and the wash-up outcome $3).

[22] For example, https://comcom.govt.nz/__data/assets/excel_doc/0029/318467/Part-4-IM-Review-2023-Risks-and-incentives-topic-paper_-Demonstration-model_-stylised-impact-of-different-RAB-indexation-approaches-June-2023.xlsm

[23] And therefore, not provide ex-ante real FCM.

B8. A revenue wash-up for inflation (like that applied to the EDBs) and any succeeding (topside) EV account entry may not be allocated in a manner consistent with the intent of the TPM.

B9. We are still investigating the options, however we consider that, for Transpower, the principle of ex-ante real FCM and the intent of the TPM would both best be achieved by either:

B9.1. a determination of the real WACC and removal of the revaluation amount from the revenue building blocks; or

B9.2. derivation of a 'restated' (for outturn CPI) nominal WACC for the purposes of Transpower's wash-up.[24]

B10. Regarding the latter option, the Commission has previously rejected an equivalent proposal[25] (from Incenta and commissioned by Chorus) which recommended washing up for inflation using a determination of a restated nominal WACC, derived from the 'real' WACC implicit in determined the nominal WACC and inflation forecast. The Commission rejected this method because of "additional administrative cost."[26]

B11. We assume the additional administrative cost referred to relate to transitional costs, moving from one wash-up approach to another. For Transpower, there would be no additional administrative cost, as the existing wash-up approach requires amendment anyway.

B12. We also consider that the option outlined in B9.2 above would not require changes to the input methodologies.

B13. Aside from the downstream TPM impact, we consider that the Commission's revenue wash-up does not necessarily achieve its intent of inflation protection. For example, we are not convinced by its assumption that all building blocks are exposed to the delta in inflation.[27]

B14. Our proposed wash-up approach would wash up for the differences between:

B14.1. The return on Transpower's forecast RAB using the determined nominal WACC and Transpower's actual RAB using the derived 'restated' nominal WACC.

B14.2. The revaluation amount on Transpower's forecast RAB using forecast CPI and the revaluation amount on Transpower's actual RAB using actual CPI.

B14.3. Forecast depreciation and actual depreciation.

B14.4. Forecast and actual inflation in the operating expenditure allowance.

B14.5. Forecast and actual pass-through and recoverable costs.

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[24] This 'restated' nominal WACC would be determined mechanically by removing forecast inflation from the nominal WACC and adding outturn inflation using the Fisher equation.

[25] Chorus-Options-to-address-the-gap-in-CPI-inflation-correction-11-July-2022.pdf (comcom.govt.nz) section 4.3

[26] Part-4-IM-Review-2023-Final-decision-Risks-and-Incentives-topic-paper-13-December-2023.pdf (comcom.govt.nz) para 4.116

[27] This does not seem to be the case for depreciation, nor the tax depreciation included in the tax allowance building block. Both elements are driven by past period investment, and not influenced by in-year inflation. We are unsure if washing up these amounts for the in-year inflation delta makes sense.

B14.6. The difference between the allowed tax building block and a recalculated tax allowance, based on the effect of the above.

B15. Initial modelling indicates this approach would deliver ex-ante real FCM in the most transparent and practical manner. Except for the capital charge and revaluation components[28], the wash-up mechanism would otherwise be consistent with that applied to Transpower in RCP3.

B16. As an aside, and notwithstanding our previous endorsement for a return to an annual wash-up[29], we are noticing downstream impacts to TPM charge types through delaying the wash-up of the EV account to the next period. These impacts do not appear to be in line with the policy intent of the TPM.

B17. We are continuing to work through the TPM impact of this input methodologies decision and we will continue engage with Commission and the Electricity Authority.

[28] And tax, by extension.

[29] Transpower-Ltd-Submission-on-IM-Review-2023-Draft-Decisions-19-July-2023.pdf (comcom.govt.nz) from para 174