TRANSPOWER

Upper South Island Upgrade Stage 1: Major Capex Proposal

Further information following cross-submissions

May 2026

Contents

1 Overview

This addendum represents supplementary information to Transpower's cross-submission on the draft decision approving the Upper South Island Upgrade Stage 1 proposal. The aim of this document is to provide further clarification on Transpower's intention regarding the construction timing of the outputs of the proposal, with specific reference to uncertainty about future regional demand, as highlighted by submissions to the Commission as part of its consultation on the draft decision.

Background

This addendum accompanies Transpower's Upper South Island Upgrade Stage 1 (USI Stage 1) Major Capex Proposal (MCP), submitted in August 2025[1].

In December 2025, the Commerce Commission (Commission) published their draft decision on Transpower's USI Stage 1 MCP. Submissions to the draft decision highlighted concerns over timing – specifically, how soon the USI Stage 1 MCP is required.

In response to submissions, we have further considered the potential for deferral within this project if the need date is revised. We consider that it is in consumers' best interests to continue with some aspects of the project. Completing these aspects will remove elements of the critical path and allow faster delivery when a decision is made to proceed with the full project. The remaining aspects – representing the bulk of expenditure – may be deferred to align with any revision of the need date.

While we set out the deferrable outputs below, we do note that deferral does come with its own set of risks. These include delivery risks, both with supply chains and resource availability with a projected high demand for crews to complete line and substation developments. The current war in the Middle East highlights the potential for supply chain disruption to cause delays and increase costs eroding the benefits from deferral. We are also mindful that from a system perspective, the proposed switching stations will provide additional connection points for new loads and generation developments and therefore encourage development in the Upper South Island. While these impacts are difficult to quantify, we do believe they support a prudent and proactive approach to the timing of this investment.

The purpose of this addendum is to provide transparency on how Transpower would sequence delivery of the Stage 1 investment to avoid committing to major construction work before it is required, while still progressing enabling work that reduces delivery risk and maintains readiness. It provides a breakdown of our proposed Stage 1 outputs (shown in Table 1) into:

- **Non-deferrable activities**: activities that are advisable to pursue irrespective of uncertainties regarding the specific need date, such as preparatory design activities and assessment of under-clearance issues related to the preferred option; and
- **Deferrable activities**: the capital expenditure activities that may potentially be deferred if the investment need date is extended, including instances where shifts result from efficient utilisation of non-transmission solutions.

[1] Upper South Island MCP | Commerce Commission

Table 1 sets out the Stage 1 outputs, including expected costs (real 2025 dollars) and the major capex allowance (MCA, including inflation and interest during construction). This table is the reference point for the categorisation set out in Section 2 of this addendum.

Delivery considerations (including lead-times and resourcing) may mean some commitments need to be made earlier than the updated need date. Therefore, any deferral must ensure that, should the activity be required, sufficient time is allowed for construction and procurement of long lead-time material.

Table 1: Stage 1 outputs

Project output	Expected cost (real 2025 $m)	MCA $m (incl. inflation and interest during construction)	Planned commissioning year	Need date as per our Proposal[2]
Switching station at Orari	41.4	47.6	2029	2028*
Switching station at Rangitata	29.8	34.2	2029	2028*
Lines turn ins to switching stations	31.9	36.6	2029	2028*
Thermal upgrades of the Norwood–Rangitata circuit to 90°C and Orari–Rangitata circuit to 100°C[3]	50.1	58.4	2030	2028/2030[τ]
A total of 150 Mvar shunt capacitor banks at Orari 220 kV	11.4	13.4	2030	2030
Automatic over-voltage shunt capacitor and shunt reactor switching scheme	1.0	1.2	2030	2031
Investigation cost	1.5	1.6	-	
Total	**167.0**	**193.0**		

* We expect commissioning of the two switching stations to be delayed to 2029 due to longer lead times.
[τ] We expect the TTU of Norwood–Rangitata circuit may finish as late as 2030 due to discussions with landowners to ensure under clearance requirements are met

Table 2 categorises the above costs as non-deferrable and deferrable capital expenditure activities. We acknowledge that the major capex allowance (including inflation and IDC) may change if our investments are deferred. For now, we propose to keep this as it is in our application. Inflation and interest during construction are assumed to be prorated between deferrable and non-deferrable capital expenditures.

2 USI-MCP-Attachment-3-Short-list-of-investment-options-August-2025.pdf, Table 6.
3 The works involved with these thermal upgrades include fixing existing under clearance violations, which will not be funded from this MCP. The total cost of these thermal upgrades (including fixing existing violations) is $56.0m ($50.1m MCP funded + $5.9m from other sources).

Table 2: Stage 1 outputs by deferrability (MCA) $million

Project output	Non-deferrable	Deferrable	Total cost
Switching station at Orari	9.0	32.4	41.4
Switching station at Rangitata	6.6	23.2	29.8
Lines turn ins to switching stations	2.5	29.4	31.9
Thermal upgrades of the Norwood–Rangitata circuit to 90°C and Orari–Rangitata circuit to 100°C	5.4	44.7	50.1
A total of 150 Mvar shunt capacitor banks at Orari 220 kV	6.0	5.4	11.4
Automatic over-voltage shunt capacitor and shunt reactor switching scheme	1.0	-	1.0
Investigation cost	1.5	-	1.5
Total cost (real 2025 dollars)	**32.0**	**135.1**	**167.0**
Inflation and interest during construction	**5.0**	**20.9**	**25.9**
Total MCA (incl. inflation and interest during construction)	**37.0**	**156.0**	**193.0**

2 Categorisation of work activities

This section categorises each capital expenditure activity in USI Stage 1 MCP to non-deferrable or deferrable activities. Note that activities that are shown as deferrable now may not be deferrable in later years due to deliverability constraints.

To provide transparency on how these activities relate to the Stage 1 investment, this section presents detailed output tables for each of the main Stage 1 outputs (with major construction elements) outlined in Table 1.

We also consider the following expenditures are non-deferrable:

- **Investigation costs** ($1.5m) – this covers the development of the scope, timeline and costs for the preferred option and the development of this MCP.
- **Automatic over-voltage shunt capacitor and shunt reactor switching scheme** ($1m) – we plan to install this by 2030 so it can be carried out at the same time as an RCP4 protection replacement work for delivery efficiency.
- **Non-transmission solutions** ($7m) **–** we plan to use this for a further deferral of the USI Stage 1 MCP if an economic non-transmission solution is found.

2.1 Switching stations

For Orari & Rangitata switching stations, we have identified the following activities to pursue irrespective of uncertainties regarding the specific need date:

- Ordering primary plant materials with long lead time e.g., circuit breakers and instrument transformers.
- Preparatory design activities.
- Minor digital substation expenditures e.g., building consents.
- Environmental costs, overhead and risk allowance associated with the above activities.

Table 3 and Table 4 provide detailed breakdown of these non-deferrable capital expenditure activities.

Table 3: Cost estimate (Orari switching stations), real 2025 $million

Description	Non-Deferrable	Deferrable	Total costs
Civil Works	-	8.2	8.2
Primary Plant	5.0	6.3	11.4
Protection	-	2.3	2.3
Secondary Equipment	-	0.7	0.7
Communications	-	2.5	2.5
Digital Substation	<0.1	1.6	1.6
Miscellaneous and minor Works	-	0.1	0.1
Switching Cost	-	<0.1	<0.1
Freight on Materials	-	0.5	0.5
Design Allowance	2.2	-	2.2
Transpower Overhead	0.3	3.4	3.7
Contractor's Overhead	-	5.1	5.1
Environmental Costs	<0.1	0.1	0.2
Risk Allowance	1.3	1.5	2.8
Total Project Cost (P50 unless stated otherwise)	**9.0**	**32.4**	**41.4**

Table 4: Cost estimate (Rangitata switching stations), real 2025 $million

Description	Non-Deferrable	Deferrable	Total costs
Civil Works	-	5.3	5.3
Primary Plant	3.5	3.5	7.0
Protection	-	1.3	1.3
Secondary Equipment	-	0.3	0.3
Communications	-	3.2	3.2
Digital Substation	<0.1	1.6	1.6
Miscellaneous and minor Works	-	0.1	0.1
Switching Cost	-	<0.1	<0.1
Freight on Materials	-	0.3	0.3
Design Allowance	1.6	-	1.6
Transpower Overhead	0.2	2.5	2.7
Contractor's Overhead	-	3.8	3.8
Environmental Costs	<0.1	0.1	0.2
Risk Allowance	1.2	1.2	2.4
Total Project Cost (P50 unless stated otherwise)	**6.6**	**23.2**	**29.8**

2.2 Line connections & thermal upgrades

For line connections to the two new switching stations and thermal upgrades of the Norwood–Rangitata & Orari–Rangitata circuits, we have identified the following activities to pursue irrespective of uncertainties regarding the specific need date:

- Clearance rectifications & tower strengthening enabling works that require outages.
- Preparatory design activities.
- Liaising with landowners.
- Overhead and risk allowance associated with the above activities.

Table 5 and Table 6 provide detailed breakdown of these non-deferrable capital expenditure activities.

Table 5: Cost estimate (Line connections for switching stations), real 2025 $million

Description	Non-Deferrable	Deferrable	Total costs
Clearance Rectifications	0.1	8.1	8.2
Tower strengthening enabling works	<0.1	0.6	0.6
Foundation strengthening	-	3.8	3.8
Stringing	-	1.8	1.8
Protection and Temporary Work	-	0.2	0.2
Earth Potential Rise (EPR)	-	<0.1	<0.1
Access	-	0.8	0.8
Materials	-	1.1	1.1
Demolition costs	-	1.2	1.2
Miscellaneous	-	0.6	0.6
Freight on Materials	-	0.4	0.4
Design Allowance	1.6	-	1.6
Transpower Overheads	0.3	3.2	3.5
Contractor Overheads	<0.1	4	4.1
Property and/or Easements and Acquisition	-	0.1	0.1
Stakeholder and community engagement	-	0.4	0.4
Risk Allowance	0.5	3.0	3.5
Total Project Cost (P50 unless stated otherwise)	**2.5**	**29.4**	**31.9**

Table 6: Cost estimate (TTU of Norwood-Rangitata and Orari-Rangitata[4]), real 2025 $million

Description	Non-Deferrable	Deferrable	Total costs
Clearance Rectifications	0.7	9.5	10.2
Tower strengthening enabling works	0.2	1.3	1.5
Foundation strengthening	-	6.0	6.0
Stringing	-	0.8	0.8
Protection and Temporary Work	-	1.6	1.6
Earth Potential Rise (EPR)	-	<0.1	<0.1
Access	-	7.3	7.3
Materials	-	0.7	0.7
Demolition costs	-	<0.1	<0.1
Miscellaneous	-	0.5	0.5
Freight on Materials	-	<0.1	<0.1
Design Allowance	2.5	-	2.5
Transpower Overheads	1.1	4.3	5.4
Contractor Overheads	0.4	8.1	8.5
Property and/or Easements and Acquisition	-	0.6	0.6
Stakeholder and community engagement	-	0.6	0.6
Risk Allowance	0.5	3.2	3.7
Total Project Cost (P50 unless stated otherwise)	**5.4**	**44.7**	**50.1**

2.3 Shunt capacitor banks

For the shunt capacitor banks at Orari, we have identified the following activities to pursue irrespective of uncertainties regarding the specific need date:

- Ordering materials with long lead time e.g., capacitor banks.
- Preparatory design activities.
- Overhead and risk allowance associated with the above activities.

Table 7 provides a detailed breakdown of these non-deferrable capital expenditure activities.

Table 7: Cost estimate (shunt capacitors), real 2025 $million

Description	Non-Deferrable	Deferrable	Total costs
Primary Plant	4.5	2.1	6.6
Switching Cost	-	<0.1	<0.1
Freight on Materials	-	0.4	0.4
Design Allowance	1.2	-	1.2
Transpower Overhead	0.2	1.1	1.3
Contractor's Overhead	-	0.6	0.6
Risk Allowance	0.1	1.2	1.3
Total Project Cost (P50 unless stated otherwise)	**6.0**	**5.4**	**11.4**

[4] This estimate covers the TTU scope to be funded by this MCP only.

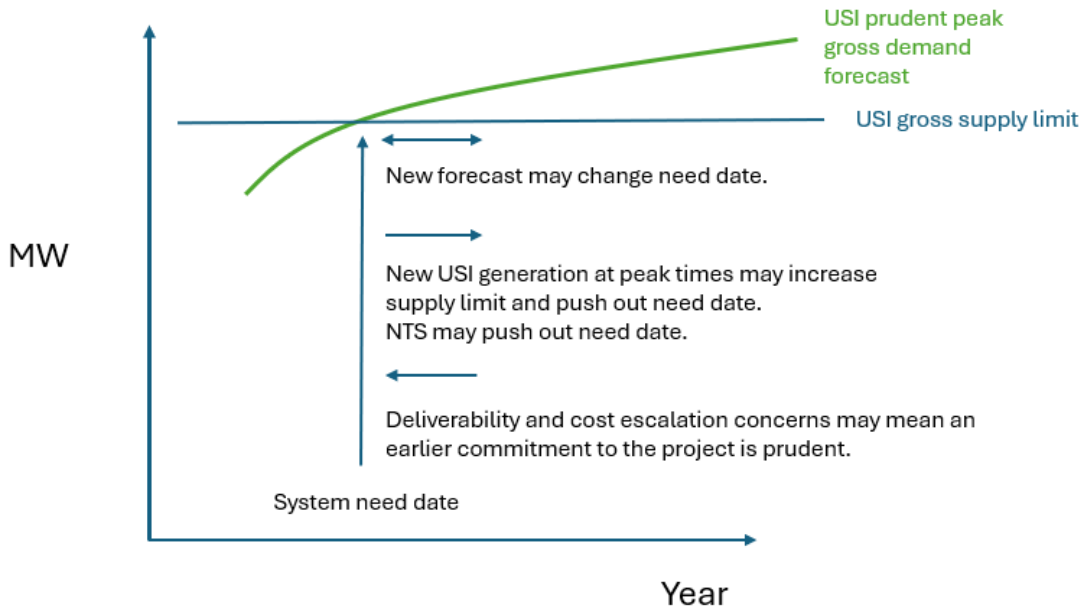
3 Next steps

We will continue to regularly reassess the USI Stage 1 MCP need dates, and adjust our delivery schedule as appropriate to ensure we do not spend capital before it is required. To reassess need dates we will closely monitor load and generation developments, including through a review later this year. This will allow us to consider the latest information before committing to the full investment. In our review, we will consider:

- the latest information about demand growth and generation development in the region
- the potential for NTS to defer aspects of the project
- other aspects associated with the deliverability of the project e.g., cost escalation, resources availability.

The figure below illustrates the impact of various factors on the potential need date for investment. Some factors have the potential to push out the need date and others have the potential to bring the need date forward.

Figure 1: Illustration of the considerations for triggering the deferrable project elements



Given there is a range of potential factors influencing the timing for investment it is difficult to have a mechanical investment trigger. For example, if our need date is pushed back by a year, it might be sensible to commence deferrable work early due to cost escalation risks or due to resource availability.

Instead, we propose the trigger is based on a demonstration of the need to undertake the construction (deferrable) phase to the Commission and stakeholders. We will engage (on an ongoing basis) with stakeholders as part of the review process and keep the Commission informed of the outcomes of the review. New information about demand is becoming available all the time. Recent increases in fuel prices are likely to encourage faster electrification (including large step loads such as Fonterra's processing plants) and support increases in demand. We will also update

stakeholders and the Commission on cost escalation and deliverability constraints that may require us to start the work.

New generation has the potential to defer the need for investment. However, a key question is the degree to which new intermittent generation should be relied on to supply peak load when the sun is not shining and the wind may not be blowing. We did consider a 15% summer availability of ~300MW of solar generation and found the need date did not change significantly.[5] We do note the change in ownership of Mt Cass and the increased likelihood that this project will go ahead. Again, we consider that we need to take a cautious approach to assessing the availability of this intermittent generation when assessing the need for investment.

We consider that we can best manage the timing of the project with regulatory approval for the expenditure. We note that there was general support of our investment proposal with the main issue raised being the timing of the project. With regulatory approval, we can plan and manage the timing of investment for the benefit of consumers. A process that required us to undergo further regulatory processes would reduce our agility and could lead to higher costs and/or timing delivery risks. We note that we may need to deliver early:

- if that is when we have the resource available to do so; or
- if it is more economic to deliver early due to expected cost escalation or interest during construction.

Decisions on whether to progress or defer these activities will be informed through the need-date review process, using updated information on demand and generation (including the timing of projected step-loads). Transpower will also continue to seek NTS opportunities to help manage uncertainty in demand growth and delivery risk. If an economic NTS is found, Transpower will use available recoverable cost funding (currently drafted at $7m) to procure NTS.

[5] USI-MCP-Attachment-10-Power-Systems-Analysis-Report-August-2025.pdf, Section 7

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