Introduction

Our first integrated transmission plan (ITP), which we completed in 2013, was embedded within our regulatory proposal for the five-year control period beginning 1 July 2015 (RCP2). The ITP 2015 update was our first stand-alone ITP.

ITP 2016 demonstrates further development of our plans, our asset management planning and our documentation. It meets the requirements of clause 3.1.1 of the Transpower Capital Expenditure Input Methodologies Determination (Capex IM) to provide our second update on the 2013 ITP.

The Capex IM requires us to submit the documentation to the Commerce Commission by the last working day of September of each disclosure year:

(a) ITP supporting documents
(b) an updated ITP narrative that takes account of:

(i) any material changes to matters covered in the ITP narrative most recently submitted to the Commission
(ii) the content of the ITP supporting documents.

We must also make this material available on our website.

Our approach to the 2016 ITP

We have structured the 2016 ITP and supporting documents to make them accessible and useful to us and our stakeholders. We have built on our 2015 ITP and refined the structure and content to reflect new thinking and to support our overall aim of building towards a robust RCP3 proposal in 2018. We are working towards a more substantial update in 2017 that will include fuller application of new tools and processes and further refinement of plans for RCP3.

Figure 1: Progress towards our RCP3 proposal

Requirements for an ITP and supporting documents

The regulatory requirements for the ITP are set out in Schedule E of the Capex IM. The following pages reproduce these in table form with a commentary explaining how our 2016 ITP documents meet the requirements.
Schedule E2 clauses (ITP Narrative)

E2 Information to be included in the ITP narrative

(1) with reference, where relevant, to the information contained in the ITP supporting documents, a high level-
(a) overview of the expenditure and outputs which are proposed for the first regulatory period to which
the ITP narrative relates coinciding with the disclosure year and forecast expenditure needs and outputs
over the next regulatory period;
  • ITP Narrative: Chapter 4 — Expenditure overview
  • ITP Narrative: Chapter 3 — Service performance

(b) overview of the key assumptions and scenarios used to determine forecast expenditure and grid
outputs;
(c) assessment of the key uncertainties in the key assumptions, and forecast expenditure and grid
outputs;
(d) assessment of the key risks affecting forecast expenditure;
(e) assessment of how the key uncertainties and key risks will affect Transpower’s ability to deliver the
forecast grid outputs;
(f) description of the proposed measures to manage and mitigate the key uncertainties and key risks; and
(g) description of the key relationships, including any synergies or trade-offs, within and between the
following:
  (i) projects and programmes assumed for the purpose of determining the forecast expenditure;
  and
  (ii) the forecast grid outputs.

The above requirements are addressed by a number of sections, including:
  • ITP Narrative: Chapter 2 — includes context and background on our plans
  • Via reference AMP: Chapters 2-4 — context and background on our renewal plans
  • ITP Narrative: Chapter 4 — uncertainties across our main expenditure categories
  • ITP Narrative: Chapter 5 — assumptions and uncertainties for development investment
  • ITP Narrative: Chapter 6 — assumptions and uncertainties for renewals and Network Opex
  • Via reference AMP: Chapters 8-24 — renewal Capex assumptions
  • Via reference AMP: Chapters 5-24 — overviews of projects and programmes in our forecasts
Transpower must **publicly disclose**, in or as a companion to the **integrated transmission plan** for the second disclosure year of a regulatory period submitted under clause 3.1.1(1) of the Capex IM and each **integrated transmission plan** submitted under clause 2.1.1(1) of the Capex IM, the following **information** relating to **transmission lines services** supplied by Transpower for that **disclosure year**:

13.1 Schedule G6 - Asset Health and Age;
- This information will be included as part of our annual Information Disclosure package, due to be published by 21 October 2016.

13.2 Schedule G7 - Asset Management Maturity Assessment Tool (AMMAT);
- This information will be included as part of our annual Information Disclosure package, due to be published by 21 October 2016.

13.3 Schedule G8 - AMMAT Results Summary;
- This information will be included as part of our annual Information Disclosure package, due to be published by 21 October 2016.

13.4 Forecast expenditure for the following categories, including in 5 year intervals from years 10 to 20 and forecast expenditure for greater than 20 years:
- 13.4.1 HVDC;
- 13.4.2 power transformers;
- 13.4.3 high voltage cables;
- 13.4.4 dynamic reactive support; and
- 13.4.5 reconductoring;
- **ITP Narrative: Chapter 6 — Long-term Capex Forecasts.**

13.5 All material changes that have occurred since the last published **integrated transmission plan** that will affect the expenditure trends or amounts of expenditure, and sufficient explanations of the reasons for the changes and their likely impact. This includes, but is not limited to changes to:
- 13.5.1 **Transpower’s** strategic direction;
- 13.5.2 **Transpower’s** treasury policy; and
- 13.5.3 **Transpower’s** strategies, policies and processes.
- Relevant changes are discussed in both the ITP Narrative and AMP, for example we explain updates to our strategies direction in **Chapter 2** of the ITP Narrative.

13.6 To meet the requirements of clause 13.2 and 13.3, Transpower may **publicly disclose** an asset management audit report, provided the report addresses all of the assessment areas in the AMMAT, and both the narrative and numerical results are presented in a consistent format throughout the report and in subsequent reports.
- We have decided to complete the AMMAT schedules (G7 and G8) rather than publicly disclosing our PAS 55 audit reports, because the PAS 55 reports are written for our senior management’s review only. They name staff and disclose information from conversations that are not intended for public release.

### Supporting documents

**ITP Clause E3(a-c)**
The following documents, prepared or updated no more than two years before the submission date:
- an asset management plan that includes the information specified in clause E4
  - **Asset Management Plan (AMP) dated August 2016**
- a planning report that includes the information specified in clause E5, and
  - **Transmission Planning Report (TPR) dated July 2015**
• a report setting out Transpower’s output and performance objectives, that includes the information specified in clause E6.

**Services Report (SR) dated September 2015**

### Schedule E4 (Asset Management Plan)

**E4 Information to be included in the asset management plan**

1. overall asset management strategy and objectives;
   - AMP Part 1—Framework, Objectives and Overview
2. overall asset risk management framework; and
   - AMP Section 2.4—asset risk management
3. asset management plans for each asset class covering;
   - specifications for asset life cycle activities;
   - general condition of existing assets;
   - intended programmes of asset management works;
   - routine maintenance and repair plans for assets; and
   - programmes for routine maintenance and repair plans.
   - AMP Chapter 3 — Lifecycle activities
   - AMP Part 3 — Asset class management plans
   - AMP Part 4 — ICT framework
   - AMP Part 5 — Business Support Plan

### Schedule E5 (Planning Report)

ES Information to be included in the planning report

1. the capabilities of the existing grid;
   - TPR Chapter 3 — existing national grid
   - TPR Chapters 6 — grid backbone
   - TPR Chapter 7 to 19 — regions

2. demand and generation forecasts for the forthcoming 10 years;
   - TPR Chapter 4 — demand
   - TPR Chapter 5 — generation
   - TPR Chapter 7 to 19 — regions
   - TPR Appendix A — generation scenarios

3. the grid’s ability to meet future demand and generation needs;
   - TPR Chapters 6 — grid backbone
   - TPR Chapter 7 to 19 — regions

4. the role of the grid in facilitating generation; and;
   - TPR Chapter 2 — facilitating New Zealand’s energy future
   - TPR Chapters 6 — grid backbone
   - TPR Chapter 7 to 19 — regions

5. grid investment that may be required to meet future needs for the next 10 years and beyond, by way of,
   (a) grid backbone transmission plans for the main North and South Island transmission corridors and for the HVDC link;
      - TPR Chapters 6 — grid backbone
   (b) a set of regional plans;
      - TPR Chapter 7 to 19 — regions

Schedule E6 (Report on Output and Performance Objectives)


1. a longer term view of the grid outputs and associated grid performance that will be economic to achieve, taking account of-
   (a) performance expectations of end users of electricity, including in relation to the value of unserved energy;
   (b) the costs of delivering changes in the level of grid outputs;
   (c) the impact of committed expenditure on grid outputs; and
   (d) any forecast degradation in asset condition or performance which will affect grid outputs.
   - Services Report Chapter 3 — measures and targets

2. a detailed description on the analysis, assumptions and approach used to determine the longer term view; and
   - Services Report Chapter 3 — measures and targets

3. an approach to convert the longer term view to appropriate shorter term objectives for grid outputs.
   - Services Report Chapter 3 — measures and targets